

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE

FACULTY Of HOMOEOPATHY B.H.M.S. New Syllabus



BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

Accredited by NAAC with 'A+" Grade
'A' GRADE BY GOVT. OF INDIA
'A+"Accredition (Third Cycle by NAAC in 2017

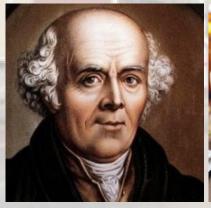
Faculty of Homoeopathy

BACHELOR OF HOMOEOPATHIC MEDICINE AND SURGERY (B.H.M.S.)

Direct Degree Course, Curriculum (Rules and Regulations)
(N. C. H. 2022 Course)









SYLLABUS AND EXAMINATION PATTERN

BHARATI VIDYAPEETH UNIVERSTY, PUNE

It had been a long standing dream of our founder to get the status of a University to Bharati Vidyapeeth. That dream was realized when the Ministry of Human Resource Development [Department of Education, Government of India] on the recommendation of the University Grants Commission, New Delhi through their notification No.F.9-15/95-U.3 dated 26th April,1996 declared a cluster of institutions of Bharati Vidyapeeth at Pune as Deemed to be University.

Thus there are 32 institutions which are the constituent units of Bharati Vidyapeeth (Deemed to be University).

As is widely known, the Central Govt. had constituted & high power Task Force consisting of very eminent and experienced academicians to evaluate the academic performance of deemed universities in the country. The Task Force appreciated the report submitted by the University and also the presentation made by Prof. Dr. Shivajirao Kadam Vice Chancellor. The Task Force noted the University's excellent performance with regard to teaching-learning process, research scientific publications by faculty and their impact and potential, innovative academic programmes, enriched infrastructure and recommended to the Ministry of Human Resources Development, Govt. of India to award 'A' Grade status. The Central Government has accepted the recommendation of the Task Force and awarded 'A' Grade status to this University.

Ours is the only University established under section 3 of the UGC. Act having under its umbrella institutions of diverse disciplines of professional technical and traditional categories such as Medicine, Dentistry, Physical Education, Natural and Physical Sciences, Social Sciences, Commerce, Law and Humanities, pharmaceutical Sciences, Management Studies, Engineering and Technology. The UGC has recognised this University u/s 12 'B' of UGC Act.

This University is a Member of Association of Indian Universities and also a member of Association of Commonwealth Universities.

Bharati Vidyapeeth (Deemed to be University) Pune

Bharati Vidyapeeth, the parent organization of this University is one of the largest educational organizations in the country. It has 180 educational units under its umbrella including 80 Colleges and Institutes of conventional and professional education.

The Department of Human Resource Development, Government of India on the recommendations of the University Grants Commission accorded the status of "Deemed to be University" initially to a cluster of 12 units of Bharati Vidyapeeth. Subsequently, 17 additional colleges / institutes were brought within the ambit of Bharati Vidyapeeth (Deemed to be University) wide various notifications of the Government of India. Bharati Vidyapeeth (Deemed to be University) commenced its functioning on 26th April, 1996. Namely

- 1. Medical College, Pune.
- 2. Dental College & Hospital, Pune.
- 3. College of Ayurved, Pune.
- 4. HOMOEOPATHIC MEDICAL COLLEGE, PUNE.
- 5. College of Nursing, Pune.
- 6. Y M College of Arts & Commerce, Pune.
- 7. New Law College, Pune.
- 8. Social Science center, Pune.
- 9. Yashwantrao Chavan institute of social science, Studies & Research, Pune.
- 10. Research & Development Centre, applied chemistry, Pune.
- 11. College of Physical Education, Pune.
- 12. Institute of Environment Research & Education, Pune.
- 13. Institute of management & Entrepreneurship development, Pune.
- 14. Poona College of Pharmacy, Pune.
- 15. College of Engineering, Pune.
- 16. Interactive Research School for Health Affairs, Pune.
- 17. Rajiv Gandhi Institute of Information Technology & Biotechnology, Pune.
- 18. College of Architecture, Pune.
- 19. Abhijeet Kadam Institute of management & Social Sciences, Solapur.
- 20. Institute of Management, Kolhapur.
- 21. Institute of Management & Rural Development Administration, Sangli.
- 22. Institute of Management & Research, New Delhi.
- 23. B V Institute of Hotel Management and Catering, Pune.
- 24. Y M Institute of Management, Karad.
- 25. Medical College & Hospital, Sangli.
- 26. Dental College & Hospital, Mumbai.

- 27. College of Engineering, New Delhi.
- 28. Institute of Computer Application & Management, New Delhi.
- 29. Dental College & Hospital, Sangli.
- 30. College of Nursing, Sangli.
- 31. College of Nursing, New Mumbai.

During the last 21 years or so, the University has achieved higher pinnacles of academic excellence and has established its reputation to such an extent that it attracts students not only from various parts of India but also from abroad. According to a survey conducted by Association of Indian Universities, this University is one among the top ten Universities in the country preferred by the overseas students for admissions. At present, there are more than 850 overseas students from 47 countries on the rolls of constituent units of this University.

During the last 21 years, there has been tremendous academic expansion of the University. It now conducts in all 305 courses in its constituent units, of them 108 are Post Graduate, 45 are Under Graduate and

55 Diploma level courses. 12 Fellowship and 5 certificate courses. All the professional courses which the University conducts such as those of Medicine, Dentistry, Engineering etc., have approval of the respective statutory councils, viz., Medical Council of India, Dental Council of India, All India Council for Technical Education etc.

The University is a throbbing center of research activities and has launched Ph.D. programmes in 77 subjects and M.Phil. in 3 subjects. It has also introduced quite few innovative academic programmes such as Masters in Clinical Optometry, M.Tech. in Nano Technology etc.

The University's performance and achievements were assessed by the "National Assessment and Accreditation Council" and it was accorded "A" Grade in 2005 for five years. Reaccredited with Grade 'A' in 2011. Recently the University is accredited with prestigious 'A+' Grade for 3rd cycle accreditation by NAAC, Banglore in 2017. Some Programmes of the constituent units such as College of Engineering at Pune, Management Institute in Delhi and others have also been accredited by "National Board of Accreditation". Three constituent units of Bharati Vidyapeeth (Deemed to be University) are also the recipients of ISO 9001-2001 certifications.

Distinct Features of this University (not as per copy given, many changes)

The University

- The University has been Accredited by the NACC with prestigious 'A' grade (2004) and reaccredited with 'A' grade (2011) and reaccredited in 3rd Cycle in A+ grade 2017 with 3.53 CGPA in seven point scale awarded "A" Grade by Ministry of Human Resources Govt. of India.
- Is one of the largest Universities in terms of Constituent Units established u/s. 3 of the UGC Act, 1956.
- Is a multi- faculty University with Twelve Faculties: (1) Arts, Social Sciences and Commerce, (2) Science, (3) Law, (4) Medical Sciences, (5) Dentistry, (6) Ayurveda, (7) Homoeopathy, (8) Nursing, (9) Pharmaceutical Sciences, (10) Management Studies, (11) Engineering and Technology, (12) Interdisciplinary Studies I.
- Offers a wide range of academic programmes to the students. The number of Undergraduate, Postgraduate, and Diploma Programmes are 45, 108 & 55 respectively.
- Is according to a survey conducted by the Association of Indian Universities, New Delhi, among the top ten universities and preferred by the overseas students for admissions. During the year 2009-10 there are 800 overseas students from 32 countries enrolled with constituent units.
- Has eight campuses located in different cities including New Delhi.
- Is probably the only University having three self-financing research institutes devoted exclusively for researches in health related sciences, pharmaceutical sciences and social sciences.
- Has established a separate Sports Department to promote sports activities.
- Has established a Centre for Performing Arts, which runs graduate programmes in various performing arts including dance, drama, and music.
- Three Constituent Units of the University are assessed by the National Board of Accreditation and are accredited with prestigious grades. Some constituent Units have also obtained ISO 2001-2009 certification.
- Has organized several international and national level Seminars, Conferences, etc.
- Is a University which academically and intellectually very productive whose faculty members have very laudable record of research publications and patents.
- Has digitalized libraries of its constituent units.
- Has created excellent infrastructure for all its constituent units, including wellstructured specious buildings continuously updated laboratories and libraries and hostels with all the necessary amenities and facilities for both boys and girls.

- Has built a specialized research institute accommodating 18 laboratories for the researches in pharmaceutical sciences. [Interactive Research School for Health Affairs]
- Has launched laudable outreach programmes through NSS units.
- Is proud of its Institute of Environment Science and Research Education, which has been identified as a nodal agency by the Government of India for its programmes of biodiversity and environmental products. It has adopted several primary schools with a view to create environmental consciousness among their students.
- Has established Women's Creativity Development Centre to undertake researches regarding women, particularly, those of disadvantage groups and to promote creativity among them.
- Among top 10 universities preferred by overseas students.
- BVU is a member of Association of Indian Universities [AIU] & Association of Commonwealth Universities [ACU]
- All professional programmes are approved by respective Statutory Councils.
- 29 Constituent Units spread over 8 campuses
- 12 faculties offering 281 Programmes.
- 23000 + Students & 1600 + Teachers.
- Students from almost all the states in India & from 48 Countries.

Our Campuses

Bharati Vidyapeeth (Deemed to be University) has campuses in Pune, Mumbai, Solapur, Kolhapur, Sangli, Karad and New Delhi, the capital city of India. It's two Medical Colleges are located each in Pune and Sangli. Three Dental Colleges each of Pune, Sangli & Mumbai. One each of Ayurved and Homoeopathy is in Pune.

Homoeopathic Medical College & Homoeopathic Hospital

Bharati Vidyapeeth Homoeopathic Medical College was established on 10th May 1990, on the auspicious occasion after the Silver Jubilee celebration of the Bharati Vidyapeeth. Earlier College was affiliated to University of Pune on a permanent basis. It is now a constituent unit of Bharati Vidyapeeth University. The Homoeopathic Medical College is located in a educational campus at Pune Satara Road, Pune-43 in well-designed building.. The College building area 35000sq.ft. accommodates well-equipped laboratories, dissection halls, spacious demonstration halls and a library with a reading hall facility. The Under Graduate

and Post Graduate courses of the College are having permanent Recognition of the Central Council of Homoeopathy, New Delhi and with capacity of 100 intake for Under Graduate and capacity of 30 intake in Post Graduate. Both the qualification are included in the second schedule HCCAct 1973 of CCH, New Delhi

The Academic Year 2015-2016 Bharati Vidyapeeth (Deemed to be University) Homoeopathic Medical College, Pune - 43 celebrated SILVER JUBILEE year.

Aims & Objects

Post-graduation course in the field of Homoeopathy is the highest step in this science. The objective of this course is to produce excellent professional thinkers, practitioners, researchers and teachers in Homoeopathy. With special emphasis in the subject of their choice.

Govt. of India, Ministry of Health & Family Welfare; Dept. of AYUSH, New Delhi has accorded permission to our college to start P.G. Courses in Homoeopathy [M.D.(Hom.)] from the academic year 2006-2007 in five selected specialties with six (06) regular admissions in each Speciality. Our University has launched Ph.D. in Homoeopathy in 4 specialty subjects

Homoeopathic Medical College is one of the prominent colleges in the country. It has all the infrastructural facilities as specified by the norms of Central Council of Homoeopathy, New Delhi. Our faculty consists of senior teachers, who are enthusiastic, highly qualified, experts in their respective subjects and are student oriented.

The College maintains a herbal garden having more than 400 medicinal plantssome of which are rare species.

The College Library is very spacious having more than 13508 volumes on Homoeopathic and allied Medicine along with 2357 P.G books including 257 titles. We also subscribe to important national and international periodicals and scientific journals.

The College runs exclusive Homoeopathic Hospital with 100 bed strength which is approved by **Pune Municipal Corporation**. Our OPD and IPD attracts large number of patients and students get good clinical exposure.

The college has undertaken many research projects for which Govt. of India

has sanctioned grants worth Rs, 25 lakhs,

The College not only provides better teaching and clinical facilities to the students, but also organizes various kinds of academic activities including the state and national level seminars and workshops to enrich academic experience two our students. Regularly urban & rural camps are organized.

Benefits of such camps are mainly for students & interns for imparting their respective clinical training. General public & patients are getting more benefit of these camps, as they are conducted on basis of No profit No loss. These cases followed regularly by follow-ups. Re-Orientation programme in Obst. & Gynae. Sponsored by Dept. AYUSH conducted in the college from 27th Sept. to 2nd Oct. 2010, successfully with grant of Rs. 3.5 lacks. Dept. of Ayush sanctioned 1.80 lacks Grant for Mother and Child health care to this institute in Sept- 2010.

During the study on the courses all the students are involved in various academic, Research, Teaching & Training exclusively on practical oriented acumen in association with various Experts / Eminent Homoeopaths in this field to augment standardized knowledge on the specialty subject. For all purposes our students are acquiring latest up to date knowledge through manyexperts in the field by conducting various Educational Tours, Eminent lectures series to become good Professional Thinkers, Research Workers and practitioners of tomorrow to alleviate human suffering from our society. We are running various educational activities from time to time for which certain photographs are appended as are conducted by our P.G. students. On the occasion of commencement of GOLDEN JUBILEE celebration (50th year 2013- 14) of BHARATI VIDYAPEETH, Pune a parent body of the Bharati Vidyapeeth (Deemed to be University) Pune (India), has awarded a vehicle for Mobile Clinic cum Ambulance to the Scholars of Post Graduate Degree Course to cater to the rural population through rural OPDs at 8 directions in 8 main centers covering 12 to 15 villages & treating good number of patients per week. The aim is to reach the homoeopathic treatment in remote areas at concessional rates. It equally helps to built-up confidence in the minds of scholars about rural setup of treatment and to spread the homoeopathic treatment at social cause to the needy population. "Under the Scheme of -Homoeopathy at your Home".

1. Facilities for faculty and staff

- Faculty members get facilities to attend seminars /conference / Symposium / Workshop / ROTP / CME/ Medical Technology programmes. Special leaves and financial assistance for such a programme as per University rules are been extended.
- Staff gets loans from Bharati Bank like personal loan, Housing loan, educational loan, Car loan etc.
- Staff quarters are provided.
- Indoor sports gymkhana, recreation club, Medical health scheme, Sevak Kalyan Nidhi and alike schemes provide promotional facilities for faculties.

2. Facilities for students

- Hostel Boys and Girls have separate Hostel facilities in the campus with dining facility.
- Separate common rooms are provided for Boys and Girls in college and Hospital.
- Gymkhana (Indoor / Outdoor Games) facilities are provided.
- Canteen for students is available in the campus.
- Students can study in library even after office hours till midnight 12.00 especially during examination days.
- Extra-curricular activities i.e. sport, cultural and NSS facilities are provided to students. Interested students fully utilise these facilities.
- Concessions in fees are extended to needy students.
- Book bank facility is provided for general and backward class students.

NATIONAL COMMISSION FOR HOMOEOPATHY NOTIFICATION

New Delhi, the 6th December, 2022

- **F. No. 3-34/2021/NCH/HEB/CC/10758.**—In exercise of the powers conferred by sub section (1) and clauses (h), (i), (q), (s) and (t) of sub-section (2) of section 55 of the National Commission for Homoeopathy Act, 2020 (15 of 2020) and in supersession of Homoeopathy (Degree course) B.H.M.S. Regulations, 1983, except as respects thing done or omitted to be done before such supersession, the Commission hereby makes the following regulations, namely: -
 - 1. **Short title and commencement**. (1) These regulations may be called National Commission for Homoeopathy (Homoeopathy Graduate Degree Course Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). Regulations- 2022.
 - (2) They shall come into force on the date of their publication in the Official Gazette.
 - 2. **Definitions.** (1) In these regulations, unless the context otherwise requires, -
 - (i) "Act" means the National Commission for Homoeopathy Act, 2020 (15 of 2020);
 - (ii) "Annexure" means an Annexure appended to these regulations;
 - (iii) "Appendix" means an Appendix appended to these regulations;
 - (iv) "Commission" means the National Commission for Homoeopathy constituted under section 3 of this Act;
 - (v) "Electives" means the course of study devised to enrich the educational expression of the student.
 - (2) Words and expressions used herein and not defined but defined in the Act shall have the same meanings as respectively assigned to them in the Act.
 - 3. Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course.- The Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) shall produce Graduates, having profound knowledge of Homoeopathy with contemporary advancement in the field, supplemented with knowledge of scientific and technological advancement in modern health science and related technology along with extensive practical training, be able to function as an efficient holistic health care practitioner in health care service in the urban and rural areas.
 - **4.** Eligibility criteria for admission and manner of admissions. -(1) The eligibility for admission in Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) Course shall be, namely:-
 - (a) the candidate shall have passed 10+2 or its equivalent examination from any recognised Board with Physics, Chemistry, Biology and have obtained minimum of fifty percent. marks taken together in Physics, Chemistry and Biology/Biotechnology in case of student belonging to general category and forty percent. marks in case of student belonging to the Scheduled Castes, Scheduled Tribes and Other Backward Classes:

Provided that in respect of person with disability specified under the Rights of Persons with Disabilities Act, 2016 (49 of 2016), the qualifying marks in the examinations shall be forty-five percent. in case of General category and forty percent. in case of the Scheduled Castes, Scheduled Tribes and Other Backward Classes.

- (b) Biology/Biotechnology studied as Additional Subject at 10+2 level also shall not be considered for such admission:
- (c) Candidate passed 10+2 from Open School or as Private candidate shall not be eligible to appear for National Eligibility-cum-Entrance Test.
- (d) No candidate shall be considered for admission in Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) Course unless the candidate attains the age of seventeen years on or before the 31st day of December of the year of admission in the first year of the Course;
- (2) There shall be a uniform Entrance Examination for all Homoeopathy Medical Institution namely National Eligibility-cum- Entrance Test (NEET) for admission to under-graduate course in medical institution in each academic year and shall be conducted by an authority designated by the National Commission for Homoeopathy:

Provided that for foreign national candidate, any other equivalent qualification approved by the Central Government may be allowed for admission and sub-regulation (2) of regulation 4 shall not be applicable in this behalf.

(3) No candidate obtaining less than marks at 50th percentile in the National Eligibility-cum-Entrance Test for undergraduate course conducted for the said academic year shall be considered for such admission:

Provided that the candidate belonging to the Scheduled Castes, Scheduled Tribes and Other Backward Classes obtain marks not less than 40th percentile and the candidate belonging to person with the disability as specified under the Rights of Persons with Disabilities Act, 2016 (49 of 2016) obtains the marks not less than 45th percentile in case of General category and not less than 40th percentile in case of the Scheduled Castes, Scheduled Tribes and Other Backward Classes shall be considered for admission.

Provided further that the Commission may, in consultation with the Central Government lower the marks required for admission to undergraduate course for candidate belonging to respective category and marks so lowered by the Commission shall be applicable for that academic year.

- (4) An All-India common merit list as well as State-wise merit list of the eligible candidate shall be prepared on the basis of the marks obtained in the National Eligibility-cum-Entrance Test conducted for the academic year and the candidate within the respective category shall be considered for admission to undergraduate course from the said merit list.
- (5) The seat matrix for admission in the Government institution, Government-aided institution and private Institution shall be fifteen percent. for all-India quota and eighty-five percent. for the State quota and Union territory quota as the case may be:

Provided that, -

- (a) the all India quota for the purpose of admission to the Deemed University both Government and private shall be hundred percent.;
- (b) The university and institute having more than fifteen percent. all India quota seat shall continue to maintain that quota;
- (c) five percent. of the annual sanctioned intake capacity in Government and Government aided institution shall be filled up by candidate belonging to persons with disability as specified under the provisions of the Rights of Persons with Disabilities Act, 2016 (49 of 2016)

Explanation.- For the purposes of this regulation, the specified disability contained in the Schedule to the Rights of Persons with Disabilities Act, 2016 (49 of 2016) specified in *Appendix "A"* and the eligibility of candidate to pursue a course in Homoeopathy with specified disability shall be in accordance with the guidelines specified in *Appendix "B"*.

- (6) The designated authority for counseling of State and Union territory quota for admission to undergraduate course in medical institution in State and Union territory including institution established by the State Government, University, Trust, Society, Minority Institution, Corporation or Company shall be the respective State or Union territory in accordance with the applicable rules and regulations of the concerned State or Union territory, as the case may be.
- (7) (a) The counselling for admission to Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) course for seats under all India quota as well as the all-medical institution established by the Central Government shall be conducted by the authority designated by the Central Government in this behalf;
 - (b) The counselling for admission to Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) Course for hundred percent. seats of Deemed University both Government and Private shall be conducted by the authority designated by the Central Government, in this behalf.
- (8) The admission shall be done;-
 - (a) through counseling except foreign nationals;
 - (b) by any means other than manner specified in these regulations shall not be approved and any institution found admitting the students in contravention of the provisions of these regulations shall be denied permission for taking admission for subsequent academic year;

- (c) the medical institution shall have to submit the list of admitted students in the format decided by the Commission on or before six p.m. on the cutoff date for admission decided by it from time to time for verification;
- (d) the medical institution shall approve the admission of the candidate except foreign national who has been allotted seat through counseling (Central, State or Union territory, as the case may be).
- (9) The candidate who fails to obtain the minimum eligibility marks as referred to under subregulation (3) shall not be admitted to undergraduate course in the said academic year.
- (10) No authority or medical institution shall admit any candidate to the under-graduate course in contravention of the criteria or procedure specified in these regulations and any admission made in contravention of these regulations shall be cancelled by the Commission forthwith.
- (11) The authority or medical institution which grants admission to any student in contravention of the provisions of these regulations shall be dealt as specified under the Act.
- (12) The medical institution shall send the list of admitted students to the Commission within one month of his admission and the Commission may verify the medical institution to ensure the compliance of the provisions of the regulations at any time.
- **5. Duration of Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course** -The duration of the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course shall be five years and six months as specified in the table below, namely:-

	n	

Serial Number	Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course	Duration
(1)	(2)	(3)
(1)	First Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)	Eighteen Months;
(2)	Second Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)	Twelve Months;
(3)	Third Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)	Twelve Months;
(4)	Fourth (Final) Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)	Twelve Months;
(5)	Compulsory Rotatory Internship	Twelve Months.

- **6. Degree to be awarded**. -The candidate shall be awarded Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Degree after passing all the examinations and completion of the laid down course of study extending over the laid down period and the compulsory rotatory internship extending over twelve months.
- **7. Pattern of study**. -The Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course shall consist of main programme and electives and the pattern of study shall follow the following manner, namely:-
 - (1) Main programme:-
 - (a) after admission, the student shall be inducted to the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course through a Foundation Programme not less than ten working days/sixty hours based on the 'Content for Foundation programme' which intends to introduce newly admitted student to Homoeopathy system of medicine and skills required to make him well aware of the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course he is going to undergo for next five years and six months.
 - (b) during the Foundation Programme, the student of Homoeopathy shall learn history of Homoeopathy, get oriented with development of homoeopathic science across the globe, understanding on improvising interpersonal communication skills, management of stress and time, basic life support and first-aid along with other subjects as per syllabus specified in Annexure -I

- (c) total teaching hours for first professional session shall be not less than two thousand one hundred and six (2106) while for second, third and fourth professional session, a minimum of one thousand four hundred and four (1404) hours teaching in each professional session to complete.
- (d) working hour may be increased by the University or medical institution as per requirement to complete the stipulated period of teaching and requisite activity.

Explanation. - For the purposes of this sub-regulation, -

- (a) "Lectures" means Didactic teaching such as classroom teaching,
- (b) Non lecture includes Practical or Clinical and Demonstrative teaching and the Demonstrative teaching includes Small group teaching or Tutorials or Seminars or Symposia or Assignments or Role play or Drug Picture presentation or Pharmacy training or Laboratory training or Dissection or Field visits or Skill lab training or Integrated learning or Problem based learning or Case based learning or Early clinical exposure or Evidence based learning etc. as per the requirement of the subject and in Non-lectures, the Clinical or Practical part shall be seventy percent. and demonstrative teaching shall be thirty per cent.
 - (e) new department and subject like fundamentals of Psychology, Yoga, essentials of Modern Pharmacology and Research Methodology and Biostatistics are introduced in degree course to provide holistic and integrated knowledge of the health science along with development of research aptitude.
 - (f) the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course shall consist of following Departments/Subjects, namely: -

	Tuble 2				
Serial Number	Name of Department				
(1)	(2)				
1	Homoeopathic Materia Medica;				
2	Organon of Medicine and Homoeopathic Philosophy and Fundamentals of Psychology;				
3	Homoeopathic Pharmacy;				
4	Homoeopathic Repertory and Case Taking;				
5	Human Anatomy;				
6	Human Physiology and Biochemistry;				
7	Forensic Medicine and Toxicology;				
8	Pathology and Microbiology;				
9	Community Medicine, Research Methodology and Biostatistics;				
10	Surgery;				
11	Gynaecology and Obstetrics;				
12	Practice of Medicine with Essentials of Pharmacology;				
13	Yoga for health promotion;				

Table 2

(g) The following subjects shall be taught in first professional session as per the syllabus laid down by Homoeopathy Education Board and approved by the Commission, namely:--

Table-3

Serial Number	Subject Code	Subject
(1)	(2)	(3)
1	HomUG-HMM-I	Homoeopathic Materia Medica;
2	HomUG-OM-I	Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology;
3	HomUG-R-I	Homoeopathic Repertory and case taking;

4	HomUG-HP	Homoeopathic Pharmacy;
5	HomUG-AN	Human Anatomy;
6	HomUG-PB	Human Physiology and Biochemistry;
7	HomUG-Yoga I	Yoga for health promotion.

(h) The second professional session shall ordinarily start after completion of first professional examination and the following subjects shall be taught as per the syllabus laid down by the Homoeopathy Education Board and approved by Commission, namely: -

Table-4

Serial Number	Subject Code	Subject		
(1)	(2)	(3)		
1.	HomUG-HMM-II	Homoeopathic Materia Medica;		
2.	HomUG-OM-II	Organon of Medicine and Homoeopathic Philosophy;		
3.	HomUG-R-II	Homoeopathic Repertory and case taking;		
4.	HomUG-FMT	Forensic Medicine and Toxicology;		
5.	HomUG-Path M	Pathology and Microbiology;		
6.	HomUG-Sur-I	Surgery;		
7.	HomUG-ObGy-I	Gynecology & Obstetrics;		
8.	Hom-UG PM-1	Practice of Medicine;		
9.	HomUG-Yoga-II	Yoga for health promotion.		

(i) The third professional session shall ordinarily start after completion of second professional examination and following subjects shall be taught as per the syllabus laid down by Homoeopathy Education Board and approved by the Commission, namely: -

Table-5

Serial Number	Subject Code	Subject	
(1)	(2)	(3)	
1	HomUG-HMM-III	Homoeopathic Materia Medica;	
2	HomUG-OM-III	Organon of Medicine and Homoeopathic Philosophy;	
3	HomUG-R-III	Homoeopathic Repertory and case taking;	
4	HomUG-PM-II	Practice of Medicine ;	
5	HomUG-Mod.Phar	Essentials of Pharmacology;	
6	HomUG-Sur-II	Surgery;	
7	HomUG-ObGy-II	Gynecology and Obstetrics;	
8.	HomUG-CM-I	Community Medicine;	
9.	HomUG-Yoga -III	Yoga for health promotion;	

⁽j) The fourth professional session shall ordinarily start after completion of third professional examination and following subject shall be taught as per the syllabus laid down by Homoeopathy Education Board and approved by the Commission, Namely:-

Table-6

Serial Number	Subject Code	Subject
(1)	(2)	(3)
1	HomUG-HMM-IV	Homoeopathic Materia Medica;
2	HomUG-OM-IV	Organon of Medicine and Homoeopathic Philosophy;
3	HomUG-R-IV	Homoeopathic Repertory and case taking;
4	HomUG-PM-III	Practice of Medicine;
5	HomUG-CM-RM-Stat- II	Community Medicine, Research Methodology and Biostatistics;
6	HomUG-Yoga - IV	Yoga for health promotion.

- (k) Clinical training. -Clinical training of the student shall start from the first professional session after second term and subject related clinical training shall be provided in the attached hospital by the concerned faculty and department in non-lecture hour as per the requirement of the subject as mentioned below-
- (i) During first professional session, clinical training shall be provided in Outpatient Department (OPD), Inpatient Department (IPD), community and peripheral clinics and clinical exposure may also be arranged through appropriate audio-visual media or simulated patient.
- (ii) Students shall be placed in Hospital Pharmacy to get familiar with prescription patterns, medicine names, dosage, dispensing of medicines etc.
- (iii) During second, third and fourth professional session, clinical training shall be provided through the specialty Outpatient Department (OPD) and Inpatient Department (IPD), peripheral Outpatient Departments (OPDs) and community posting wherein teacher of the above departments shall be consultant. The students shall be involved in screening patients in Outpatient Department (OPD); case taking, analysis, evaluation and totality of symptoms, clinical examination, repertorisation and investigation including Radiology, Hematology and Pathology Laboratory and prescription writing.
- (iv) Training/ orientation on add on therapy: Training for Yoga, Physiotherapy and diet and nutrition shall be provided to the student by the concerned professional.
- (v) Clinical training shall be on rotation basis as per the non-lecture/clinical batches and in accordance with the clinical/ non-lecture teaching hour stipulated for the following subjects, namely: -
 - (A) Homoeopathic special and general Outpatient Department (OPD) and Inpatient Department (IPD), peripheral Outpatient Department (OPD), community Outpatient Department (OPD), with compulsory repertorisation through software.
 - (B) Practice of Medicine: Outpatient Department (OPD), Inpatient Department (IPD) and specialty clinics like Pediatrics, Pulmonology, Cardiology, Nephrology, Gastroenterology, Dermatology, Psychiatry, Oncology or any other, functioning under the department, in attached hospital/Super specialty hospital with Memorandum of Understanding (MoU).
 - (C) Surgery: Eye, Ear Nose Throat (ENT), Dental Outpatient Department and any other related specialty clinics; Operation Theater Unit, Preparation room, postoperative recovery room, Sterilization, wound care & infection control, biowaste management and any specialty units in the attached hospital/Super specialty hospital with Memorandum of Understanding (MoU).
 - (D) Gynecology and Obstetrics: Outpatient Department (OPD), Inpatient Department (IPD), Labour room, procedural room, and other related specialty clinics for reproductive, mother &child health, if any.

- (E) Department of Community Medicine will provide training through specialty clinics, adopted villages /health programmes i.e. awareness camps, campaigns and public health programs and Inpatient Department (IPD) for waste management, prophylaxis and health education programs. Inpatient Department (IPD) Nutritional assessment and diet requirement of cases admitted in Inpatient Department (IPD) shall be determined by the dietitian of the Hospital. Awareness about nutritional disorders and balanced diet shall be included in the training programme.
- (F) Clinical Outpatient Department (OPD), Inpatient Department (IPD) and clinics functioning under School Health programme.
- (vi) Clinical training for the fourth professional session shall be provided in Outpatient department (OPD), Inpatient department (IPD), and Physiotherapy room in accordance with the requirement of subject, and shall be on rotation basis as per the non-lecture/clinical batches and also in accordance with the clinical/ non-lecture teaching hour stipulated for the following subjects, namely: -
 - (A) General and special Homoeopathic Outpatient Department (OPD) and Inpatient Department (IPD)
 - (B) Emergency/Casualty department in hospital
 - (C) Skill lab in hospital;
 - (D) Practice of Medicine: Outpatient Department (OPD), Inpatient Department (IPD) and specialty clinic (Pediatrics, Pulmonology, Cardiology, Nephrology, Gastroenterology, Dermatology, Psychiatry, Oncology) functioning under the department if any, in attached hospital /Super speciality hospital with Memorandum of Understanding (MoU).
- (2) Electives- (a) It constitutes an optional course of study devised to enrich the educational experience of the student and each discipline has distinctive requirements not adequately covered by the regular courses.
 - (b) The Electives shall be conducted as an online programme by the Commission:
 - (i) Each student from first professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course to third professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course shall opt two electives in each academic year.
 - (ii) The electives shall start from the second term of first professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course.
 - (iii) One elective shall be compulsory in each professional year for student and he may select any one elective from the list provided by the Commission for a particular professional year.
 - (iv) Completion of two electives shall be compulsory for passing the respective academic year.
 - (v) Each elective may vary in terms of duration of the academic year but shall be available and divided into component of approximately two or more hours and the content or presentation shall be hosted on the online portal of the commission.
 - (vi) Each component shall comprise an audio-visual component in the form of lecture/demonstration, some suggested reading material/activity and an assessment.
 - (vii) The student may progress from one component to the next after satisfactorily completing each assessment.
 - (viii) At the end of each elective, the commission shall issue an elective completion certificate online to the student and the certificate, having the grade, shall be submitted to the medical institution authority as proof of completing the electives and same shall be sent to affiliating university.
 - (ix) The student who fails to complete the electives shall not be allowed to appear in annual university examination.
 - (x) The commission shall provide a unique number to the student to log in the portal.

8. Methodology for supplementing modern advancement, research and technology in Homoeopathy (SMART-Hom.).-

- (1) To accomplish the supplementation of modern advancement, scientific and technological developments in Homoeopathy System of Medicine, all the thirteen departments as mentioned in table 2 of regulation 7, shall be supplemented, enriched and updated with relevant and appropriate advancement or development in the area of diagnostic tools, conceptual advancement and emerging areas as under-
 - (a) Innovations or advancement or new development in basic sciences like Biology, Chemistry, Physics, Mathematics, Microbiology, Bioinformatics, Molecular biology etc.
 - (b) Diagnostic advancements;
 - (c) Pharmaceutical technology including quality and standardization of drugs, drug development etc.;
 - (d) Teaching, Training methods and Technology;
 - (e) Research Methods, Parameters, Equipment and Scales etc.;
 - (f) Technological automation, software, artificial Intelligence, digitalisation, documentation etc.;
 - (g) Biomedical advancements;
 - (h) Medical equipment;
 - (i) Any other innovations, advancement, technologies and development useful for understanding, validating, teaching, investigation, diagnosis, treatment, prognosis, documentation, standardisation and conduction of research in Homoeopathy.
 - (2) There shall be multidisciplinary Core Committee constituted by the Commission for the purpose of supplementation of modern advancement, scientific and technological developments in Homoeopathy, that identify the advancement and developments that are suitable and appropriate to include in anyone or multiple departments.
 - (3) There shall be an Expert Committee for each department constituted by Commission, to define and suggest the method of adaptation and incorporation of the said advancement and developments and also specify the inclusion of the same at undergraduate or postgraduate level and the expert committee shall develop detailed methodology for usage, standard operating procedure and interpretation as required.
 - (4) Teaching staff, practitioner, researcher, student and innovator etc. may send his suggestions through a portal specified by National Commission for Homoeopathy regarding supplementation of modern advancement, scientific and technological development in Homoeopathy and suggestion shall be placed by Homoeopathy Education Board before core committee for consideration.
 - (5) The modern advancement shall be incorporated with due interpretation of the said advancement based on the principles of Homoeopathy, supported by the studies and after five years of inclusion of such advancement in syllabus, they shall be considered as part of Homoeopathy syllabus.
 - (6) Once Core Committee approves the recommendations of the Expert Committee, National Commission for Homoeopathy shall direct the Homoeopathy Education Board, to include the same in curriculum of undergraduate or postgraduate course as specified by the Expert Committee and the Commission shall issue guidelines or if required to conduct orientation of teacher for incorporation of the recommended modern advancement or scientific and technological development.
 - (7) (a) There shall be a Core Committee for each department comprising of the following persons, namely -
 - (i) President, Homoeopathy Education Board-Chairman;
 - (ii) four experts from Homoeopathy (one expert from Materia Medica, Organon of Medicine, Repertory and Practice of Medicine)—members;
 - (iii) one expert (either retired or in service) each from Central Council for Research in Homoeopathy (CCRH), National Institute of Homoeopathy

(NIH), pharma industry, public health – member;

- (iv) one educational technologist-member;
- (v) Member of Homoeopathy Education Board-Member Secretary:

Provided that the core committee may co-opt an expert as per the needs and with permission of the Commission.

- (b) Terms of reference. (i) The term of the Committee shall be three years;
 - (i) The committee shall meet at least twice in a year.
 - (ii) The committee shall identify any modern advancement, scientific and technical development as specified in the sub-regulation (1) of regulation for; -
 - (A) understanding of validating conduction of research activities in Homoeopathy;
 - (B) diagnosis or prognosis in a specific clinical condition and treatment;
 - (C) teaching and training;
 - (D) health care services through Homoeopathy.
 - (iii) The committee shall ensure the applicability of the identified modern advancements or scientific and technical development to basic principles of Homoeopathy with the help of the four expert members of Homoeopathy.
 - (iv) The Core Committee shall identify and recommend suitable expert for the Expert Committee to develop methodology for identification of modern advancement or development.
 - (v) The Core Committee shall suggest the application of the advancements or developments in terms of its usage in specific department or to incorporate in under-graduate or post-graduate syllabus etc. as the case may be.
 - (vi) The Core Committee shall identify the outdated part of the modern science and technology and suggest the Commission to replace it with the appropriate modern advancements.
- (8) (a) There shall be an expert committee for each department consisting of the following persons namely:-
 - (i) Subject Expert as recommended by Homoeopathy Education Board– Chairman;
 - (ii) Two experts from relevant Homoeopathy subjects, one from under graduate (UG) and one from post graduate (PG) –members;
 - (iii) One expert from relevant modern subject-member;
 - (iv) One expert from teaching technology –member:

Provided that the Expert Committee may co-opt concerned expert in accordance to the selected area with the permission of the Commission.

- (b) Terms of reference.
 - (i) the term of the Expert Committee shall be three years;
 - (ii) The Expert Committee shall meet as many times as per the direction of the Commission;
 - (iii) The Expert Committee shall work on the suggestion from the core committee and decide how to incorporate it in the syllabus, its mode of teaching (i.e., lecture/non-lecture) and the assessment with the help of educational technologist, experts;
 - (iv) The Expert Committee shall first understand the application of modern advancement that are identified to incorporate and its relevance to the basic principles of Homoeopathy;
 - (v) The Expert Committee shall also identify the need of advance technology in Homoeopathy particular to that vertical and identify the suitable technology and recommend its usage along with the standard operating procedure or methodology;

(vi) The Expert Committee shall suggest Core Committee regarding the modern advancement and technology to be included at undergraduate or post graduate level.

9. General guidelines for examinations, results and re-admission.-

- (1) The University or agencies empowered by the Commission shall conduct examination for the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Course.
- (2) The examining body shall ensure the minimum number of hours for lectures or demonstrations or practical or seminars etc. in the subject in each Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) examination as specified in these regulations are followed, before allowing medical institution to send the student for university examination.
- (3) The examining body shall ensure that the student of the medical institution, who does not fulfill the criteria laid down in these regulations are not sent for the university examination.
- (4) Each student shall be required to maintain at least seventy five percent, attendance in each subject in theory/lecture hours/ practical and clinical / non-lecture hours separately for appearing at examination.
- (5) Where the medical institution is maintaining physical register, it shall be recorded in cumulative numbering method as per Annexure-III and at the end of the course/ term/ part of the course, after obtaining each student signature, the same shall be certified by respective Head of the Department and approved by Head of the institute.
- (6) The approved attendance shall be forwarded to the concerned university.
- (7) Internal assessment examinations to be conducted by medical institution during first, second, third and fourth Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) professional year.
- (8) The weightage of internal assessment shall be ten percent. of the total marks specified for each subject for main university examination and internal assessment shall be in the forms of practical only.
- (9) Internal assessment examination shall include one periodic assessment and one term test in each term of six months.
- (10) It is compulsory for every student to pass with minimum fifty percent. marks in the internal assessment examination prior to filling the final university examination form of the respective professional year and Head of medical institution shall send the marks of internal assessment and term test to the university prior to final examination of any professional year.
- (11) There shall be no separate class for odd batch student (those students who could not keep the term) and the student must attend the class along with regular batch or with junior batch as applicable.
- (12) To become eligible for joining the Compulsory Rotatory Internship programme, a student must pass all four professional examinations and qualified in six electives and the entire course of Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) including internship shall be completed within a period of maximum ten years.
- (13) The theory examination shall have ten percent. marks for Multiple Choice Questions (MCQ), forty per cent. marks for Short Answer Questions (SAQ) and fifty percent. marks for Long Explanatory Answer Questions (LAQ) and these questions shall cover the subject widely.
- (14) Each theory examination shall be of three hours duration.
- (15) The minimum marks required for passing the examination shall be fifty percent. in theory component and fifty percent. in practical component including practical, clinical, viva-voice, internal assessment and electives wherever applicable separately in each subject.
- (16) Electives shall be assessed in terms of attendance and assessment by grading as following, namely: -
 - (a) Grading shall be only for two electives per professional session and mentioned in the certificate obtained by the student after online teaching and assessment.
 - (b) Grading shall be mentioned in the University mark sheet of student.
 - (c) The examination branch of the institution shall compile the grade of electives obtained by student and submit to university through the head of institution so that the University shall add the same to final mark sheet of the student.

- (17) Grading of electives shall be assessed as following, namely:-
 - (a) Electives shall be assessed online by the resource person who has prepared the contents of elective and assessed to the student.
 - (b) The following points shall be taken in to consideration for grading, namely:-
 - (i) Depth of problem definition 15%
 - (ii) Extent of work undertaken 20%
 - (iii) Innovation 15%
 - (iv) Logical and integrated way of presentation 20%
 - (v) Quality of learning derived 20%
 - (vi) Adequacy of references undertaken 10%
 - (c) The final grades would be as follows, namely: -
 - (i) "A" Excellent (above 70%)
 - (ii) "B" Good (above 60 %)
 - (iii) "C" Average (around 50%)
 - (iv) "D" below average (around 40%)
 - (v) "E" Poor (below 40%)
 - (d) The student shall have to secure at least 'C' grade in all the electives in order to pass the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course.
- (18) The examining body shall hold examinations on such date and time as the examining body may determine and the theory and practical examination shall be conducted on the center approved by the examining body.
- (19) There shall be a regular examination and a supplementary examination in a year and the supplementary examination shall be conducted within three months of declaration of results of regular examination including issuance of mark sheets.
- (20) A candidate obtaining sixty percent. and above marks shall be awarded first class in the subject and seventy five percent. and above marks shall be awarded distinction in the subject.
- (21) The award of class and distinction shall not be applicable for supplementary examination.
- (22) For non-appearance in an examination, a candidate shall not have any liberty for availing additional chance to appear at that examination.
- Any Diploma/Degree qualification, at present included in Schedule II and Schedule III of the Homoeopathy Central Council Act 1973 (59 of 1973) where nomenclature is not in consonance with these regulations shall cease to be recognised medical qualification when granted after commencement of these regulations. However, this clause will not apply to the students who are already admitted to these courses before the enforcement of these regulations.
- (24) (a) No person shall be appointed as an external or internal examiner or paper setter or moderator in any of the subjects of the Professional examination, leading to and including the final Professional examinations for the award of the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) degree unless he has taken at least three years previously, a M.D.(Hom.) degree of a recognised university or an equivalent qualification in the particular subject as per recommendation of the Commission on teachers' eligibility qualification and has had at least three years of teaching experience in the subject concerned in a college affiliated to a recognised university at a faculty position.
 - (b) Non-medical scientist engaged in the teaching of medical students as full time teacher, may be appointed examiner in his concerned subject provided he possess requisite Post Graduate qualification andthree-year teaching experience of medical students after obtaining his postgraduate qualifications:

Provided further that the fifty percent. of the examiner (Internal and External) shall be from the medical qualification stream.

(c) A university having more than one college shall have separate set of examiner for each college, with internal examiner from the concerned college.

- (d) In a state where more than one affiliating university is existing, the external examiner shall be from other university.
- (e) External examiner shall rotate at an interval of two years.
- (f) Any fulltime teacher with teaching experience of not less than three years in a concerned subject in a Homoeopathic Medical Institution shall be appointed internal / external examiner by rotation in his subject.
- **10.** University examination. (1) First Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination:
 - (a) The student shall be allowed to appear for the First Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination provided that he has required attendance as per clause (4) of regulation 9 of head of the medical institution.
 - (b) The process of conduction of examination and declaration of the results of First Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) shall be completed between seventeen to eighteen Months from the date of admission.
 - (c) In order to be declared as "Passed" in First Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination, a candidate shall have to pass all the subjects of university examination including the internal assessments examination.
 - (2) Second Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Examination:
 - (a) No candidate shall be allowed for the Second Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination unless he has passed all the subjects of First Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination and has required attendance as specified in sub section (4) of regulation 9.
 - (b) The process of conduction of examination and declaration of results of Second Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination shall be completed between twenty nine to thirty Months from the date of admission.
 - (c) In order to be declared "Passed" in the Second Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination, a candidate shall have to pass all the subjects of university examination including the internal assessment examination.
 - (3) Third Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Examination:
 - (a) No candidate shall be allowed for the Third Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination unless he has passed all the subjects of the Second Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination and has required attendance as specified in sub section (4) of regulation 9.
 - (b) The process of examination conduction and results of Third Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) shall be completed between forty one to forty two month from the date of admission.
 - (c) In order to be declared as "Passed" in the Third Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination, a candidate shall have to pass all the subjects of university examination including the internal assessment examination.
 - (4) Fourth Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) Examination:
 - (a) No candidate shall be allowed for the Fourth Bachelor of Homoeopathic Medicine and Surgery examination unless he has passed all the subjects of Third Bachelor of Homoeopathic Medicine and Surgery examination and has required attendance as specified in sub section (4) of regulation 9.
 - (b) The process of conduction of examination and declaration of result of Third Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) examination shall be completed between fifty three to fifty four Month from the date of admission.
 - (c) In order to be declared as "Passed" in the Fourth Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) examination, a candidate shall have to pass all the subjects of University examination including the internal assessment examination.

Result: (a) The examining body shall ensure to publish the results within one month from the last date of examination so that student can complete the course in five and half year after admission.

- (b) Who passes in one or more subjects need not to appear in that subject or those subjects again in the subsequent examinations if the candidate passes the whole examination within four chances including the original examination.
- (c) Notwithstanding contained in the foregoing regulations, the student shall be allowed the facility to keep term on the following conditions:
 - (i) The candidate shall pass First Bachelor of Homoeopathic Medicine and Surgery examination in all the subjects at least one term of six months before he is allowed to appear at the Second Bachelor of Homoeopathic Medicine and Surgery examination.
 - (ii) The candidate shall have to pass the Second Bachelor of Homoeopathic Medicine and Surgery examination at least one term of six months before he is allowed to appear at the third Bachelor of Homoeopathic Medicine and Surgery examination.
 - (iii) The candidate must pass the Third Bachelor of Homoeopathic Medicine and Surgery examination at least one term of six months before he is allowed to appear at the Fourth Bachelor of Homoeopathic Medicine and Surgery examination.
- (d) The student who has not passed any of the four professional examinations even after exhausting all four attempts, shall not be allowed to continue his Course:

Provided that in case of any unavoidable circumstances, the vice Chancellor of the concerned university may provide two more chances in any one of four professional examination.

- (e) The examining body may under exceptional circumstances, partially or wholly cancel any examination conducted by it under intimation to the commission and arrange for conducting re-examination in those subjects within a period of thirty days from the date of such cancellation.
- (f) The university or examining authority shall have the discretion to award grace marks not exceeding to ten marks in total if a student fails in one or more subjects.
- **11. Assessment.-** Assessment of students shall be in the form of Formative and Summative Assessments as under-
 - (1) Formative Assessment. Student shall be assessed periodically to assess his performance in the class, determine the understanding of Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) course material and his learning outcome in the following manner, namely: -
 - (a) Periodical Assessment shall be carried out in practical and at the end of teaching of a topic or module or a particular portion of syllabus and the following evaluation method may be adopted as appropriate to the content, namely:-

Table -7

Serial Number	Evaluation Method
(1)	(2)
1.	Practical/Clinical Performance;
2.	Viva Voce;
3.	Open Book Test (Problem based);
4.	Summary Writing (Research Papers or Synopsis);
5.	Class Presentations; Work Book Maintenance;
6.	Problem based Assignment;

7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE),Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion(CBD)
8.	Extra-curricular activities, (Social work, Public awareness, Surveillance or Prophylaxis activities, Sports or Other activities which may be decided by the Department);
9.	Small Project.

- (b) (i) First Bachelor of Homoeopathic Medicine and Surgery(B.H.M.S.) course: There shall be minimum three periodical assessments for each subject (ordinarily at 4th, 9th, and 14thmonth) and two term test (ordinarily at 6th and 12th month) followed by final University examination.
 - (ii) Second, Third and Fourth Bachelor of Homoeopathic Medicine and Surgery(B.H.M.S.) course: There shall be minimum two periodical assessments at 4th and 9th month and one term examination at 6th month followed by final university examination.
 - (iii) The scheme and calculation of assessment shall be as per the following tables, namely:-

Table-8
[Scheme of Assessment (Formative and Summative)]

Seria Numb		Duration of Professional Course				
(1)	(2)	(3)				
		First Term Second T		econd Term	nd Term Third Term and University exa	
		(a)		(b)		(c)
(1)	First Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).				Third PA	First Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). Exam (FUE)
		First Term			Second	Term and
		Un		Univer	versity exam	
(2)	Second Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).	First PA and First T	Γ-1	Secon	nd PA	Second Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) exam (FUE)
(3)	Third Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).	First PA and First T	Т	Seco	nd PA	Third Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) exam (FUE)
(4)	Fourth (Final) Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).	First PA and First T	Т	Seco	nd PA	Fourth (Final) Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) exam (FUE)

PA: Periodical Assessment; TT: Term Test; FUE: Final University Examinations; B.H.M.S: (Bachelor of Homoeopathic Medicine and Surgery).

- (2) Summative Assessment.
 - (a) Final University examinations conducted at the end of each professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) course shall be the Summative Assessment.
 - (b) There shall be double evaluation system and shall be no provision for revaluation.
 - (c) There shall be two examiners (one internal and one external) for university practical/clinical/viva voce examinations for hundred marks and it shall increase to four (two internal and two external) for two hundred marks.
 - (d) During supplementary examination for two hundred marks, if students are less than fifty then examination can be conducted by one internal and one external examiner but if students are more than fifty, then four examiners are required (two internal and two external examiner).
 - (e) While declaring the result of Summative Assessment, Internal Assessment component shall be considered as per the distribution of marks pattern provided in Table-10, Table-12, Table-14 and Table-16.

12. The Profession wise Subjects, Number of Papers, Teaching Hours and Marks Distribution shall be as specified in the Tables below namely: -

Table -09

First Year Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)						
Subject Number of teaching hours						
	(2)					
(1)	Lectures	Non- Lectures	Total			
	(a)	(b)	(c)			
Hom UG-OM-I	180	100	280			
Hom UG-AN	325	330	655			
Hom UG-PB	325	330	655			
Hom UG-HP	100	110	210			
Hom UG-HMM-I	120	75	195			
Hom UG-R-I	21	-	21			
HomUG-Yoga-I	-	30	30			
Total	1071	975	2046			
Foundation Course=10 Working days (60hours) Teaching Hours :2046						

Table - 10

Marks distribution First Year Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)										
Serial Numb er	Subject Code	Papers	Theory		Practical or Clinical Assessment					
(1)	(2)	(3)	(4)		(5)					
				Practical/ Clinical	Viva	IA	Electives grade	Sub total		
				(a)	(b)	(c)	(d)	(e)		
1	HomUG- OM-I	1	100	50	40	10	Elective I -	100	200	
2	HomUG- AN	2	200	100	80	20		200	400	

3	HomUG- PB	2	200	100	80	20		200	400
4	HomUG- HP	1	100	50	40	10		100	200
5	HomUG- HMM-I	1	100	50	40	10		100	200
Grand Total								1400	

Table-11

Second Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). (2 terms) Teaching hours=1404									
Serial Number	Subject Code	Number of teaching hours							
(1)	(2)	(3)							
		Lectures	Non-Lectures	Total					
		(a)	(b)	(c)					
1	HomUG-HMM-II	150	30	180					
2	HomUG-OM-II	150	30	180					
3	HomUG R-II	50	30	80					
4	HomUG-FMT	120	50	170					
5	HomUG-Path-M	200	80	280					
7	HomUG-PM-I	80	92	172					
8	Hom UG Sur- I	92	60	152					
9	Hom UG ObGy- I	100	60	160					
10	HomUG-Yoga-II	-	30	30					
		942	462	1404					

Table-12

Ma	Marks distribution of Second Year Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S)										
Serial	Subject Code	Papers	Theory	Practical	Practical or Clinical Assessment						
Number				Clinical	(6)						
(1)	(2)	(3)	(4)	(5)	Viva	Electives Grade	IA	Sub Total	Grand Total		
					(a)	(b)	(c)	(d)	(e)		
1.	HomUG-HMM-II	1	100	50	40	Electives	10	100	200		
2.	HomUG-OM-II	1	100	50	40	I-	10	100	200		
3.	HomUG-FMT-I	1	100	50	40	Electives II-	10	100	200		
4.	HomUG-Path M	2	200	100	80		20	200	400		
	Grand Total							1000			

Table-13

Third Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). (2 terms) Teaching hours=1404										
Serial	Subject Code		Number of teaching	g hours						
Number			(3)							
(1)	(2)	Lectures	Clinical/ Practical	Total						
		(a)	(b)	(c)						
1	HomUGHMM-III	150	50	200						
2	HomUG-OM-III	150	50	200						
3	HomUG-R-III	100	50	150						
4	HomUG-PM-II	120	100	220						
5	Hom UG Sur- II	120	100	220						
6	Hom UG ObGy- II	110	79	189						
7	HomUG-CM	100	60	160						
8	Hom.UG-Mod. Phar-I	45	-	45						
9	HomUG Yoga-III		20	20						
	Grand Total	895	509	1404						

Table-14

Marks Distribution of Third Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). Subjects													
Serial Number												t	Grand Total
(1)	(2)	(3)	(4)	(5)				(6)				
				Practical or Clinical	Viva	Electives grade	IA	Sub Total					
				(a)	(b)	(c)	(d)	(e)					
1	HomUG-HMM- III	1	100	50	40	Elective I -	10	100	200				
2	HomUG-OM-III	2	200	100	80		20	200	400				
3	Hom-UG-R-III	1	100	50	40		10	100	200				
4	Hom-UG Sur-II	2	200	100	80		20	200	400				
5	Hom-UG ObGy- II	2	200	100	80		20	200	400				
6	Hom-UG-CM	1	100	50	40		10	200	200				
							Gra	and Total	1800				

Table-15

Fourth	Fourth Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) (2 terms)									
Teaching hours=1404										
Serial number	Subject Code	Numb	er of teaching hours							
(1)	(2)	(3)								
		Lectures	Non-Lectures	Total						
		(a)	(b)	(c)						
1	HomUG-HMM-IV	200	83	283						
2	HomUG-OM-IV	100	75	175						
3	HomUG-R-IV	60	120	180						
4	HomUG-PM-III	300	300	600						
5	HomUG-CM II including RM-stat	71	75	146						
6	HomUG-Yoga-II	-	20	20						
	Total	731	673							
		G	rand Total	1404						

Table-16

Serial Numb er	Subject Code	Papers	Theory	Pra	ctical or	Clinical A	Assessment	Grand Total
1)	(2)	(3)	(4)	(5)				(6)
				Practical or Clinical	Viva	IA	Sub Total	
				(a)	(b)	(c)	(d)	
1	HomUG-HMM-IV	2	200	100	80	20	200	400
2	HomUG-OM-IV	1	100	50	40	10	100	200
3	HomUG-R-IV	1	100	50	40	10	100	200
4	HomUG-PM-III	3	300	100	80	20	200	500
5	HomUG-CM-RM- STAT	1	100	50	40	10	200	200
6	HomUG-Ess. of Pharmacology	1	50		40	10	50	100

- **13. Migration of students during the study: -**(1) The student may be allowed to take migration to continue his study in another medical institution after passing the first professional examination, but the student who fails in such examination shall not be considered for transfer and mid-term migration.
 - (2) For migration, the students shall have to obtain the mutual consent of both Medical Institution and University and it shall be against the vacant seat.
 - (3) Migration from one Medical Institution to other is not a right of a student.
 - (4) Migration of students from the Medical Institution to another Medical Institution in India shall be considered by the Commission only in exceptional cases on compassionate ground, if following criteria are fulfilled and routine migrations on other grounds shall not be allowed;
 - (a) Medical Institution at which the student is studying present and Medical Institution to which migration is sought are recognised as per provisions of Commission.
 - (b) The applicant shall submit his application in the Form- 3 for migration, complete in all respects, to the Medical Institution within a period of one month of passing (declaration of result) the first professional Bachelor of Homoeopathic Medicine and Surgery examination.
 - (c) The applicant shall submit an affidavit stating that he shall pursue twelve months of prescribed study before appearing at second professional Bachelor of Homoeopathic Medicine and Surgery examination at the transferee college, which shall be duly certified by the Registrar of the concerned University in which he is seeking transfer and the transfer shall be effective only after receipt of the affidavit.
 - (d) Migration during internship training shall be allowed on extreme compassionate grounds and the migration shall be allowed only with the mutual consent of the medical institution at which the student is studying at present and the medical institution one to which migration is sought are recognised as per provisions of Commission.
 - (5) All applications for migration shall be referred to the Commission by medical institution and no medical institution shall allow migration without the approval of the Commission.
 - (6) The Commission reserves the right not to entertain any application except under the following compassionate grounds, namely: -
 - (a) death of a supporting guardian;
 - (b) illness of candidate causing disability supported by medical grounds certified by a recognized hospital;
 - (c) disturbed conditions as declared by concerned Government in the area where the college is situated.
 - (7) A student applying for transfer on compassionate ground shall apply in Form 3.
- **14.** Compulsory Rotatory Internship Training. There shall be compulsory rotatory internship training, followingly:-
 - (1) (a) Each candidate shall be required to undergo compulsory rotatory internship including internship orientation and finishing programme within one year from passing of fourth Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) examination.
 - (b) Ordinarily the internship training shall commence on first working day of April for regular batch students and first working day of September for supplementary batch students.
 - (c) The student shall be eligible to join the compulsory internship programme after passing all the subjects from First to Fourth (Final) Professional examination including six electives and after getting Provisional Degree Certificate from respective Universities and provisional registration Certificates from respective State Board or Council for Compulsory Rotatory Internship.
 - (2) During internship, the interns belonging to institute of the Central Government, State Government or Union territory as the case may be, and all the private homoeopathic medical colleges/institutions shall be eligible to get the stipend at par with other medical systems under respective Government and there shall not be any discrepancy between medical systems.

- (3) (a) Migration during internship shall be issued with the consent of both the medical institution and university; in the case where migration is between the medical institution of two different Universities.
 - (b) If migration is only between medical institution of the same university, the consent of both the medical institution shall be required.
 - (c) Migration shall be accepted by the university on the production of the character certificate issued by the institute or medical institution and the application forwarded by the medical institution and university with a 'No Objection Certificate' as the case maybe.
- (4) The objective of the orientation programme shall be to introduce the activity to be undertaken during the internship.
 - (a) The interns shall attend an orientation programme regarding internship and it shall be the responsibility of the teaching institution to conduct the orientation before the commencement of the internship.
 - (b) The orientation shall be conducted with an intention to make the intern to acquire the requisite knowledge as following, namely:-
 - (i) Rules and Regulations of the Medical Practice and Profession,
 - (ii) Medical Ethics;
 - (iii) Medico legal Aspects;
 - (iv) Medical Records;
 - (v) Medical Insurance:
 - (vi) Medical Certification;
 - (vii) Communication Skills;
 - (viii) Conduct and Etiquette;
 - (ix) National and State Health Care Programme;
 - (x) Project work.
 - (c) The orientation workshop shall be organised at the beginning of internship and an elog book shall be maintained by each intern, in which the intern shall enter date-wise details of activities undertaken by him/her during orientation.
 - (d) The period of orientation shall be for three days prior to date of commencement of internship.
 - (e) The manual for conducting the orientation as prescribed from time to time by the National Commission for Homoeopathy shall be followed.
- (5) (a) There shall be a finishing programme for three days at the completion of internship.
 - (b) This programme is designed for the interns and will consist of ten sessions spread over a period of three days. The program may include both online and offline modes of training. It is aimed to enlighten the interns on various career opportunities available after successful completion of the program and how to equip themselves to meet the requirements and fulfill their dreams.
 - (c) After successful completion of this training the student will be able to:
 - (i) list the various career opportunities available after successful completion of the degree program.
 - (ii) identify their Strengths and Weaknesses;
 - (iii) choose a career of their choice;
 - (iv) enumerate the requirements to be met to become a successful professional;
 - (v) demonstrate positive outlook and attitude towards the profession;
 - (vi) exhibit better skills in communication, problem solving, writing, team building, time management, decision making etc.;

- (vii) demonstrate ethical and professional values and be a compassionate and caring citizen / professional.
- (6) The finishing programme shall be as follows, namely:-
 - (a) Job opportunities after successful completion of the program
 - (b) Study opportunities in India and abroad after successful completion of the program
 - (c) Entrepreneurship opportunities after successful completion of the program
 - (d) Research opportunities after successful completion of the program
 - (e) Public Service opportunities after successful completion of the program
 - (f) Training and awareness about Competitive exams
 - (g) Self analysis to choose the right option
 - (h) Building Interpersonal & Soft Skills including Interview skills, Leadership skills, Resume writing skills, problem solving and decision making skills
 - (i) Certificate writing and prescription writing and medico-legal issues relevant to the profession
 - Loan assistance and other scholarship facilities available for establishment and study.
 - (k) Ethical / Professional and Social responsibilities after successful completion of internship
- (7) Activities during Internship shall consist of clinical work and project work.
 - (a) (i) Clinical work in the Outpatient Department (OPD)s/ medical institution hospital/ memorandum of understanding hospital/ Primary Health Centre or Community Health Centre or Research institute of Central Council for research in Homoeopathy or Rural Hospital or district hospital or civil Hospital or any government hospital of modern medicine or homoeopathy medicine or National Accreditation Board and for Hospital accredited private hospital of Homoeopathy.
 - (ii) The daily working hours of intern shall be not less than eight hour and the intern shall maintain an e-log book/log book containing all the activities undertaken by him/her during internship.
 - (iii) The medical institution shall opt any one of the Option as specified below for completion of internship and the same shall be mentioned in its prospectus.
 - (A) Option I shall be divided into clinical training of ten months in the Homoeopathy hospital attached to the college and two months in Primary Health Centre or Community Health Centre or Research institute of Central Council for Research in Homoeopathy or Rural Hospital or District Hospital or Civil Hospital or any Government Hospital of Modern Medicine or Homoeopathy Medicine or National Accreditation Board for Hospital accredited private hospital of Homoeopathy.
 - (I) The interns shall be posted in any of the following centers where National Health Programs are being implemented and these postings shall be to get oriented and acquaint with the knowledge of implementation of National Health Programmes in regard to,-
 - (a) Primary Health Centre;
 - (b) Community Health Centre or Civil Hospital or District Hospital;
 - (c) Any recognized or approved Homeopathy Hospital or Dispensary;
 - (d) In a clinical unit/hospital of Central Council for Research in Homoeopathy.
 - (II) All the above institutions mentioned in clauses (a) to (d) shall have to be recognised by the concerned University or Government designated authority for providing such training.

- (III) During the two months internship training in Primary Health Centre or Research institute of Central Council for Research in Homoeopathy or Rural Hospital or Community Health Centre or District Hospital or any recognized or approved hospital of Modern Medicine or Homoeopathy Hospital or Dispensary, the interns shall:-
 - (1) get acquainted with routine of the Primary Health Centre and maintenance of their records;
 - (2) get acquainted with the diseases more prevalent in rural and remote areas and their management;
 - (3) involve in teaching of health care methods to rural population and also various immunization programmes;
 - (4) get acquainted with the routine working of the medical or non-medical staff of Primary Health Centre and be always in contact with the staff in this period;
 - (5) develop research aptitude;
 - (6) get familiarized with the work of maintaining the relevant register like daily patient register, family planning register, surgical register, etc. and take active participation in different Government health schemes or programmes;
 - (7) participate actively in different National Health Programmes implemented by the State Government.
- (IV). The record of attendance during two months in Primary Health Center (PHC)/Community Health Center (CHC)/Dispensary must be maintained by the interns according to his posting and should be certified by the Medical Officer/Deputy medical superintendent/ Research officer/Resident Medical Officer (RMO)/Faculty/Outpatient department in-charge, where student undergone the training and shall be submitted to and counter signed by the principal of medical institution on monthly basis.
- (B) Option II shall consists of clinical training of twelve months in Homoeopathy hospital attached to the medical institution and the record of attendance during twelve months in hospital attached to medical institution shall be maintained by the intern according to his posting and shall be certified by the Medical Officer/Deputy medical superintendent/ Research officer/ Resident Medical Officer (RMO)/Faculty/ Outpatient Department (OPD) in-charge, where the intern undergo the training and shall also be submitted to and counter signed by Dean/ Principal of medical institution on monthly basis.
- (V) Division of Clinical work during posting in Option I and Option II. The clinical work during internship shall be conducted as per the following table, namely:-

Table-17

(Distribution of Internship duration)										
Serial Number	Departments	Option I	Option II							
(1)	(2)	(3)	(4)							
1.	Practice of Medicine Outpatient Department including Psychiatry and Yoga, Dermatology, and related specialties and respective section of Inpatient Department	two month;	three months;							
2.	Surgery Outpatient Department including Operation theatre, related specialties and Ophthalmology, Ear Nose Throat(ENT) and respective section of Inpatient Department	two month;	two months;							

3.	Gynecology and Obstetrics Outpatient Department, related specialties including Operation theatre, and respective section of Inpatient Department	two month;	two months;
4.	Pediatric Outpatient Department related specialties including Neonatal Intensive Care Unit, and respective section of Inpatient Department	one month;	two months;
5.	Community Medicine Outpatient Department, related specialties including Rural/Public Health /Maternal and Child Health and respective section of Inpatient Department	two month;	two months;
6.	Casualty	one month;	one month;
7.	Primary Health Centre or Community Health Centre or Research institute of Central Council for Research in Homoeopathy or Rural Hospital or District Hospital or Civil Hospital or any Government Hospital of Modern Medicine or Homoeopathy Medicine or NABH (National Accreditation Board for Hospitals) accredited private hospital of Homoeopathy	two month;	

(D)The intern shall undertake the following activities in respective department in the hospital attached to the College, namely: -

- (1) The intern shall be practically trained in practice of medicine to acquaint with and to make him competent to deal with following, namely: -
 - (a) all routine works such as case taking, investigations, diagnosis and management of patients with homoeopathic medicine;
 - (b) routine clinical pathological work such as hemoglobin estimation, complete haemogram, urine analysis, microscopic examination of blood parasites, sputum examination, stool examination, interpretation of laboratory data and clinical findings and arriving at a diagnosis and all pathological and radiological investigations useful for monitoring the status of different disease conditions;
 - (c) training in routine ward procedure and supervision of patients in respect of his diet, habits and verification of medicine schedule.
- (2) The intern shall be practically trained in Surgery to acquaint with and to make him competent to deal with following, namely:-
 - (a) Clinical examination, diagnosis and management of common surgical disorders according to homoeopathic principles using homoeopathic medicines;
 - (b) Management of certain surgical emergencies such as fractures and dislocations, acute abdomen;
 - (c) Intern shall be involved in pre-operative and post-operative managements;
 - (d) Surgical procedures in ear, nose, throat, dental problems, ophthalmic problems;
 - (e) Examinations of eye, ear, nose, Throat and Refractive error with the supportive instruments in Out-Patient Department; and
 - (f) Practical training of a septic and antiseptic techniques, sterilization;
 - (g) Practical use of local anesthetic techniques and use of anesthetic drugs;
 - (h) Radiological procedures, clinical interpretation of X-ray, Intra venous Pyelogram, Barium meal, Sonography and Electro Cardio Gram;
 - (i) Surgical procedures and routine ward techniques such as-
 - (i) suturing of fresh injuries;
 - (ii) dressing of wounds, burns, ulcers and similar ailments;
 - (iii) incision and drainage of abscesses;

- (iv) excision of cysts and;
- (v) venesection;
- (3) The intern shall be practically trained in Gynecology and Obstetrics to acquaint with and to make him competent to deal with following, namely:-
 - (a) Ante-natal and post-natal problems and their remedies, ante-natal and post-natal care;
 - (b) Management of normal and abnormal labors;
 - (c) Minor and major obstetric surgical procedures;
 - (d) All routine works such as case taking, investigations, diagnosis and management of common gynecological conditions with homoeopathic medicine;
 - (e) Screening of common carcinomatous conditions in women.
- (4) The intern shall be practically trained in pediatrics to acquaint with and to make him competent to deal with following, namely:-
 - (a) Care of newborns along with immunization programme:
 - (b)Important pediatric problems and their homoeopathic management;
- (5) The intern shall be practically trained in Community Medicine to acquaint with and to make him competent to deal with following, namely:-
 - (a) Programme of prevention and control of locally prevalent endemic diseases including nutritional disorders, immunization, management of infectious diseases, etc.;
 - (b) Family Welfare Planning programme;
 - (c) All National Health Programme of Central Government at all levels
 - (d) Homoeopathic prophylaxis and management in cases of epidemic/endemic/pandemic diseases.
- (6) The intern shall be practically trained in Emergency or Casualty management to acquaint with and to make him competent to deal with all emergency condition and participate actively in Casualty section of the hospital for identification of casualty and trauma cases and his first aid treatment and also procedure for referring such cases to the identified hospital.
- (b) The project work shall consist of the following, namely:-
 - (a) Each intern will undertake a project utilizing the knowledge of Research Methodology and Biostatistics acquired in IVth Bachelor of Homoeopathic medicine and Surgery (B.H.M.S)
 - (b) It would be the responsibility of the intern to choose the topic of the subject (clinical/community/education) within the first month of the internship and shall communicate to guide/mentor allotted by Principal.
 - (c) The project shall run through three phases of planning (three months), data collection (three months) and finalization and writing (three months).
 - (d) The writing shall be as per the format taught in the course on research methodology and will be minimal one thousand five hundred words and it shall be type written and submitted in a spiral bond form as well as in the electronic format.
 - (e) The project shall end with a brief presentation to the IV Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S.) students.
 - (f) The principal shall assign a teacher to evaluate the project which will be with respect to the following:
 - (i) Originality of the idea
 - (ii) Scientific methodology followed in formulating the ideas and the designs

- (iii) Analysis
- (iv) Results and conclusion
- (v) Merits of writing
- (vi) The grades shall range from A (70% and above), B (60 70%), C50-60%) and D (below 50%)
- (c) A Certificate shall be awarded to the intern stating the title of the project and grade received.
- **15. Electronic Logbook** / **Logbook**. -(i) It shall be compulsory for an intern to maintain the record of procedures done/assisted/observed by him on day-to-day basis in a specified elogbook/ logbook as the case may be and the intern shall maintain a record of work, which shall be verified and certified by the concerned Medical Officer or Head of the Unit or Department under whom he is placed for internship.
- (ii) Failure to produce e-logbook/ logbook, complete in all respects certified by the concerned authority to the Dean / Principal / Director at the end of Internship Training Programme, may result in cancellation of his performance in any or all disciplines of Internship Training Programme.
- (iii) The institution shall retain soft copy of the completed and certified —e log book/ logbook and available for further verification, if required.
- **16. Evaluation of Internship program.** –(1) The evaluation system shall assess the skills of an intern while performing the minimum number of procedures as enlisted with an objective that successful learning of these procedures will enable the interns to conduct the same in his/her actual practice.
 - (2) The evaluation shall be carried out by respective Head of Department at the end of each posting and the reports shall be submitted to Head of the institute in Form-1.
 - (3)On completion of one year of compulsory rotatory internship including submission of project, the Head of the Institute shall evaluate all the assessment reports as specified in Form-1, as provided by Head of the Department at the end of respective posting and if found satisfactory, the intern shall be issued Internship Completion Certificate in Form-2 within seven working days.
 - (4)If performance of an intern is declared as unsatisfactory upon obtaining below fifteen marks as per Form-2 or less than fifty per cent. of marks, in an assessment in any of the Departments, he shall be required to repeat the posting in the respective department for a period of thirty percent. of the total number of days, laid down for that department in Internship Training and posting.
 - (5)The intern shall have the right to register his grievance in any aspect of conduct of evaluation and award of marks, separately to the concerned Head of the Department and Head of the Institution, within three days from the date of completion of his evaluation, and on receipt of such grievance, the Head of the Institution in consultation with the Head of the concerned Department shall redress and dispose of the grievance within seven working days.
- **17. Leave for interns.**-(1) During compulsory rotatory internship of one year, fifteen days of leaves shall be permitted.
 - (ii) Any kind of absence beyond the period of fifteen days shall be extended accordingly.
- **18.Completion of internship.**-(1) If there is any delay in the commencement of internship or break during internship due to unavoidable conditions, in such cases, internship period shall be completed within maximum period of twenty four months from the date of passing the qualifying examination of Fourth Final Professional Bachelor of Homoeopathic Medicine and Surgery and in such case, the student shall take prior permission from the Head of the institution in writing with all supporting documents thereof:
 - (2) It shall be the responsibility of the Head of the institution/college to scrutinise the documents, and assess the genuine nature of the request before issuing permission letter;
 - (3) if the student rejoins internship, he shall submit the request letter along with supporting document, in this regard to the head of institution/college.

- **19. Academic calendar**: University, Institution/ College shall prepare academic calendar of a particular batch in accordance with the template of tentative academic calendar specified in Annexure II in these regulations and the same shall be circulated to students, hosted in respective websites, and followed accordingly.
- **20. Tuition fee.** -Tuition fee as laid down and fixed by respective state fee regulation committee as applicable, shall be charged for four and half years study period only and no tuition fee shall be charged for extended duration of study in case of failing in examination or for any other reason and there shall not be any fee for doing internship in the same institute.

Dr. TARKESHWAR JAIN, President, (Homoeopathy Education Board)

[ADVT.-III/4/Exty./453/2022-23]

Appendix A

(See sub regulation (5) of regulation 4)

SCHEDULE relating to "SPECIFIED DISABILITY" referred to in Clause (zc) of Section 2 of the Rights of Persons with Disabilities Act, 2016 (49 of 2016), provides asunder:-

- 1. Physical disability-
- (a) Locomotor disability (a person's inability to execute distinctive activities associated with movement of self and objects resulting from affliction of musculoskeletal or nervous system or both), including-
 - (i) "Leprosy cured person" means a person who has been cured of leprosy but is suffering from
 - a) Loss of sensation in hands or feet as well as loss of sensation and paresis in the eye and eye-lid but with no manifest deformity;
 - b) Manifest deformity and paresis but having sufficient mobility in their hands and feet to enable them to engage in normal economic activity;
 - c) Extreme physical deformity as well as advanced age which prevents him/her from undertaking any gainful occupation, and the expression "leprosy cured" shall construed accordingly.
 - (ii) "Cerebral palsy" means a group of non-progressive neurological condition affecting body movements and muscle coordination, caused by damage to one or more specific areas of the brain, usually occurring before, during or shortly afterbirth.
 - (iii) "Dwarfism" means a medical or genetic condition resulting in an adult height of 4 feet 10 inches (147 centimeters) or less.
 - (iv) "Muscular dystrophy" means a group of hereditary genetic muscle disease that weakens the muscles that move the human body and persons with multiple dystrophy have incorrect and missing information in their genes, which prevents them from making the proteins they need for health of muscles. It is characterized by progressive skeletal muscle weakness, defects in muscle proteins, and the death of muscle cells and tissues.
 - (v) "Acid attack victim" means a person disfigured due to violent assaults by throwing acid or similar corrosive substance.
- (b) Visual impairment-
 - (i) "blindness" means a condition where a person has any of the following conditions, after best correction
 - a) Total absence of sight, or
 - b) Visual acuity less than 3/60 or less than 10/200 (Snellen) in the better eye with best possible correction, or
 - c) Limitation of the field of vision subtending an angle of less than 10degree.

- (ii) "Low-vision" means a condition where a person has any of the following conditions, namely:
 - a) Visual acuity not exceeding 6/18 or less than 20/60 up to 3/60 or up to 10/200 (Snellen) in the better eye with best possible corrections; or
 - b) Limitation of the field of vision subtending an angle of less than 40 degree up to 10 degree.
- (c) Hearing impairment-
 - (i) "Deaf" means persons having 70 DB hearing loss in speech frequencies in both ears:
 - (ii) "Hard of hearing" means person having 60 DB hearing loss in speech frequencies in both ears,
- (d) "Speech and language disability" means a permanent disability arising out of conditions such as laryngectomy or aphasia affecting one or more components of speech and language due to organic or neurological causes;
- (e) Intellectual disability a condition characterized by significant limitation both in intellectual functioning (reasoning, learning, problem solving) and in a dative behavior which covers a range of every day, social and practical skills, including-
 - (i) "Specific learning disabilities" means a heterogeneous group of conditions wherein there is a deficit in processing language, spoken or written, that may manifest itself as a difficulty to comprehend, speak, read, write, spell, or to do mathematic calculations and includes such conditions as perceptual disabilities, dyslexia, dysgraphia, dyscalculia, dyspraxia and developmental aphasia.
 - (ii) "Autism spectrum disorder" means a neuro-developmental condition typically appearing in the first three years of life that significantly affects a person's ability to communicate, understand relationships and relate to others and is frequently associated with unusual or stereotypical rituals or behaviors.
 - 2. "Mental illness" means a substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgment, behaviors, capacity to recognize reality or ability to meet the ordinary demands of life, but does not include retardation which is a condition of arrested or incomplete development of mind of a person,
 - 3. Disability caused due to-
 - (a) Chronic neurological conditions, such as-
 - (i) "Multiple sclerosis" means an inflammatory, nervous system disease in which the myelin sheaths around the axons of nerve cells of the brain and spinal cord are damaged, leading to demyelination and affecting the ability of nerve cells in the brain and spinal cord to communicate with each other.
 - (ii) "Parkinson's disease" means a progressive disease of the nervous system marked by tremor, muscular rigidity and slow, imprecise movement, chiefly affecting middle-aged and elderly people associated with degeneration of the basal ganglia of the brain and a deficiency of the neurotransmitter dopamine.

(b) Blood disorder-

- (i) "Hemophilia" means an inherited disease, usually affecting only male but transmitted by women to their male children, characterized by loss or impairment of the normal clotting ability of blood so that a minor wound may result in fatal bleeding,
- (ii) "Thalassemia" means a group of inherited disorders characterized by reduced or absence of haemoglobin.
- (iii) "Sickle cell disease" means a hemolytic disorder characterised by chronic anaemia, painful events, and various complications due to associated tissue and organ damage "Hemolytic" refers to the destruction of cell membrane of

red blood cells resulting in the release of hemoglobin,

- 4. Multiple Disabilities (more than one of the above specified disabilities) including deaf, blindness which means a condition in which a person may have combination of hearing and visual impairments causing severe communication, developmental, and educational problems.
- 5. Any other category as may be notified by the Central Government from time to time.

Appendix B

(See sub-regulation (5) of regulation 4)

Guidelines regarding admission of students, with "Specified Disabilities" under the Rights of Persons with Disabilities Act, 2016 (49 of 2016), in Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).

- (1) The "Certificate of Disability" shall be issued in accordance with the Rights of Persons with Disabilities Rules, 2017.
- (2) The extent of "specified disability" of a person shall be assessed in accordance with the guidelines published in the Gazette of India, Extraordinary, Part II, Section 3, Subsection (ii), vide number S.O. 76 (E), dated the 4th January, 2018under the Rights of Persons with Disabilities Act, 2016 (49 of 2016).
- (3) The minimum degree of disability should be forty percent. (Benchmark disability) in order to be eligible for availing reservation for persons with specified disability.
- (4) The term 'Persons with Disabilities' (PwD) shall be used instead of the term 'Physically Handicapped'(PH)

TABLE 18

Serial	Disability	Type of	- I		Disability Range		
Number	Category	Disabilities	Disability	(5)			
(1)	(2)	(3)	(4)	Eligible for Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). Course, Not Eligible for	Eligible for Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). Course, Eligible for Persons with Disabilities Quota	Not Eligible for Course	

				Persons with Disabilities Quota		
1.	Physical Disability	disability, including specified disabilities (a to f).	(a) Leprosy cured person* (b)Cerebral Palsy** (c) Dwarfism (d)Muscular Dystrophy (e) Acid attack victims	Less than 40% disability	40-80% disability- Persons with more than 80% disability may also be allowed on case to case basis and their function of incompetency will the aid of assistive devices, if it is being used, to see if its is brought below 80%	More than 80%

		(f)Other* ** such as Amputation, Poliomyelitis, etc.		possess motor, a required	to pursue and the Course	
		amputation, recommenda ** Attention sh function etc *** Both hand range of me	as well as ations be loo ould be paid c. and corres s intact, wi otion are ess	to loss of senses involvement of ked at. If to impairment of the impairment of the impairment of the intact sensations and Surgery	of eyes and conformation of vision, hearing endations be loons, sufficient dered eligible:	ng, cognitive oked at. strength and for Bachelor
	(B) Visual Impairment(*)	(a) Blindness (b) Low vision		Less than 40% disability (i.e Category (10%)' I(20%)' & II (30%)		Equal to or more than 40% disability (i.e. Category III and above)
	(C) Hearing Impairment@	(a) Deaf (b) Hard of hearing	ıg	Less than 40% disability		Equal to or more than 40% disability
		(*) Persons with may be made elig Surgery (B.H.M.S. condition that the benchmark of 40 magnifier.	tible to pursus). Course at visual disa	ue Bachelor of land may be given bility is brough	Iomoeopathic In reservation, so	Medicine and ubject to the less than the
		@ Persons with hearing disability of more than 40% may be made to pursue Bachelor of Homoeopathic Medicine and Surgery (B.H. Course and may be given reservation, subject to the condition the hearing disability is brought to a level of less than the benchmark of with the aid of assistive devices. In addition to this, the individual should have a speech discrimination.				
	(D) Speech &	score of more that Organic/neurolog	n 60%.	Less than 40%	To a specell di	Equal toor
	language					more than

	disability	disability	40%
			disability

For admission to Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). course the Speech Intelligibility Affected (SIA) score shall not exceed 3 (which will correspond to less than 40%) to be eligible to pursue the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course. The individuals beyond this score will not be eligible for admission to the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course.

Persons with an Aphasia Quotient (AQ) upto 40% may be eligible to pursue Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). course but beyond that they will neither be eligible to pursue the Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course nor will they have any reservation.

2.	Intellectual disability	(a) Specific learning disabilities (Perceptual	# Currently there is no quantification scale available to assess the severity of SLD; therefore the cut-off of 40% is arbitrary and more evidence is needed.			
		(Perceptual disabilities, Dyslexia, Dyscalculia, Dyspraxia & Developmental aphasia)#	Less than 40% disability	Equal to or more than 40% disability but selection will be based on the learning competency evaluated with the help of the remediation/assisted technology/aids/ infrastructural changes by the expert panel.		
		(b) Autism spectrum disorders	Absence or Mild Disability, Asperser syndrome (disability of 40-60% as per ISAA) where the individual is deemed fit for Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S). course by an expert panel	Currently, not recommended due to lack of objective method. However, the benefit of reservation/quot a may be considered in future after developing better methods of disability assessment.	Equal to or more than 60% disability or presence of cognitive/intellectual disability and/ or if the person is deemed unfit for pursuing Bachelor of Homoeopathic Medicine and Surgery course by an expert panel.	

3.	Mental Behaviour	Mental illness	Absence or mild disability: less than 40% (under IDEAS)	Currently, not recommended due to lack of objective method to establish presence and extent of mental illness.	Equal to or more than disability or if the person
				However, the benefit of reservation/quota may be considered in future after developing better methods of disability assessment.	

4.	Disability caused due to	(a) Chronic neurological conditions	(i) Multiple Sclerosis (ii) Parkinsonism	disability disability 80		More than 80% disability
		(b) Blood disorders	(i) Hemophilia	Less than 40%	40%80%	More than
			(ii) Thalassemia	disability	disability	80% disability
			(iii)Sickle cell disease			
5.	Multiple disabilities including deafness blindness		More than one of the above specified disabilities	Must consider all above while deciding in individual cases recommendations with respect to presence any of the above, namely, visual, hearing, speech &language disability, intellectual disability, and mental illness as a component of multiple disabilities. Combining formula as notified by the related Gazette Notification issued by the Govt. of India: a+b (90-a)		as with respect amely, visual, e disability, al illness as a es. by the related
				(where a=higher value of disability % and b=lower value of disability % as calculated for different disabilities) is recommended for computing the disability ar when more than one disabling condition is present in a given individual. This formula may be used in cases with multiple disabilities, and recommendations regarding admission and/or reservation made as per the specific disabilities present in a given individual		calculated for ended then more than ent in a given used in cases commendations vation made as

Note: For selection under PwD category, candidate shall be required to produce Disability Certificate before his scheduled date of counsellingissued by the disability assessment boards as designated by concerned authority of Government of India.

Note: 2- if the seats reserved for the persons with disabilities in a particular category remain unfilled on account of unavailability of candidates, the seats shall be included in the annual sanctioned seats for the respective category.

Annexure -I

Foundation Programme

[See clause (b) of sub-regulation (1) of regulation 7]

BACKGROUND

Homoeopathic medical education in India requires orientation of the new entrants to a basic philosophical orientation, a need to think in an integrated and holistic manner, an ability to function in a team at the bedside and a capacity to invest in a life-long learning pattern. Homoeopathy, though more than 225 years old, is relatively young as a scientific discipline and has attracted several negative community exposure due to a variety of reasons. In India, we are aware that the students who enter the portals of a homoeopathic college rarely do so out of their volition. It is often an exercise as the last choice or one which is adopted as a stepping stone to a 'medical' degree. Hence, the mind-set of the new entrants is rarely informed, positive, and self-affirming.

However, we know that like all medical disciplines, homoeopathy training includes a wide spectrum of domains that involves exposure to human interactions and interpersonal relationships in various settings including hospital, community, clinics etc. The training is intense and demands great commitment, resilience and lifelong learning. It is desirable to create a period of acclimatization and familiarization to the new environment. This would include an introduction to the course structure, learning methods, technology usage, and peer interactions which would facilitate their smooth transition from junior college to homoeopathic college.

This is planned to be achieved through a dedicated 10 days exclusive "Foundation Programme", at the beginning of the BHMS course to orient and sensitize the students to various identified areas.

Goals and Objectives

Broad goals of the Foundation Programme in Homoeopathy include:

- 1. Orienting the students to various aspects of homoeopathic system of medicine;
- 2. Creating in them the conscious awareness of the 'Mission' as defined by Master Hahnemann;
- 3. Equipping them with certain basic, but important skills required for going through this professional course and taking care of patients;
- 4. Enhancing their communication, language, computer and learning skills;
- 5. Providing an opportunity for peer and faculty interactions and introducing an orientation to various learning methodologies.

Objectives

(a) The Objectives of the Foundation Programme are to:

Orient the learners to:

- (i) The medical profession and the mission of a homoeopath in society
- (ii) The BHMS Course
- (iii) Vision and Mission of the institute
- (iv) Concept of holistic and positive health and ways to acquire and maintain it
- (v) History of Medicine and Homoeopathy and the status of Homoeopathy in the world
- (vi) Medical ethics, attitudes and professionalism
- (vii) Different health systems available in the country
- (viii) Health care system and its delivery
- (ix) National health priorities and policies
- (x) Principles of primary care (general and community-based care)
- (xi) Concept of mentorship programme
- (b) Enable the learners to appreciate the need to enhance skills in:
 - (i) Language
 - (ii) Observation, documentation& understanding of basic medical technologies
 - (iii) Interpersonal relationships and team behavior
 - (iv) Communication across ages and cultures

- (v) Time management
- (vi) Stress management
- (vii) Use of information technology
- (c) Train the learners to provide:
 - (i) First-aid/Emergency management
 - (ii) Basic life support
 - (iii) Universal precautions and vaccinations
 - (iv) Patient safety and biohazard safety
- (d) Impart Language and Computer skills
 - (i) Local language programme
 - (ii) English language programme
 - (iii) Computer skills

These may be arranged as per the needs of the particular batch and extra coaching may be continued after the Foundation programme

Content and Methodology

The programme will be run in professional session which must be interactive.

The major components of the Foundation Programme include:

1) Orientation Program:

This includes orienting students to all the components mentioned below with special emphasis on the role of Homoeopathy and homoeopath in today's times.

2) Skills Module (Basic):

This involves skill sessions such as Basic Life Support/ Emergency Management, First aid, Universal Precautions and Biomedical Waste and Safety Management that students need to be trained prior to entering the patient care areas.

3) Field visits to Community and Primary Health Centre:

These visits provide orientation to the care delivery through community and primary health centres, and include interaction with health care workers, patients and their families.

4) Professional development including Ethics:

This is an introduction to the concept of Professionalism and Ethics and is closely related to Hahnemann's emphasis on the conduct of a physician. This component will provide students with understanding that clinical competence, communication skills and sound ethical principles are the foundation of professionalism. It will also provide understanding of the consequences of unethical and unprofessional behavior, value of honesty, integrity and respect in all interactions. Professional attributes such as accountability, altruism, pursuit of excellence, empathy, compassion and humanism will be addressed. It should inculcate respect and sensitivity for gender, background, culture, regional and language diversities. It should also include respect towards the differently abled persons. It introduces the students to the basic concept of compassionate care and functioning as a part of a health care team. It sensitizes students to "learning" as a behavior and to the appropriate methods of learning.

5) Enhancement of Language / Computer skills / Learning skills:

These are sessions to provide opportunity for the students from diverse background and language competence to undergo training for speaking and writing English, fluency in local language and basic computer skills. The students should be sensitized to various learning methodologies such as small group discussions, skills lab, simulations, documentation and concept of Self-Directed learning.

Structure of the program for students

Table 19: Foundation Programme						
Serial Number	Торіс	Type of activity	Duration hours			
(1)	(2)	(3)	(4)			
1.	Welcome and Introduction to Vision/ Mission of the Institute	Lecture	1			
2.	Mission and role of Homoeopathy and a Homoeopath in society including showcasing effects of Homoeopathy	Interactive discussion	3			
3.	BHMS Course of study and introducing to first year faculty	Presentation	1			
4.	Visit to institution / campus / facilities	Walking tour	2			
5.	Concept of Holistic and Positive health	Interactive discussion	2			
6.	History of Medicine and Homoeopathy and state of Homoeopathy in the world	Presentation	2			
7.	Adult learning principles	Interactive discussion	2			
8.	Health care system and delivery	Visit to PHC/ Urban Health Centre and interaction with staff	3			
9.	Different health care systems recognized in the country and the concept of pluralistic health care systems	Presentation	1			
10.	Primary community care	Interaction	2			
11.	Basic life support	Demonstration video and practice	4			
12.	Communication – its nature and importance in different social and professional settings	Practical with scenarios and enactment with observation	4			
13.	Medical ethics – role in enhancing patient care	Role play	2			
14.	Who is professional?	Debate between two sides on a topic	2			
15.	Time management	Practical exercise	3			
16.	First aid – principles and techniques	Demonstration and presentation	2			
17.	National health priorities and policies	Presentation	1			
18.	Importance of Mental Health and Hygiene to a medical student in the medical profession Stress management including importance of sports and extracurricular activities	Practical demonstration / video	4			
19.	Concept and practice of mentoring	Interactive discussion	4			
20.	Constitutional values, equality, gender sensitization and ragging policy	Presentation and Interactive discussion	3			
21.	Universal precautions and vaccinations	Presentation followed by discussion	1			
22.	Importance of Observation and Documentation in Homoeopathic practice	Practice exercise through video observation	4			
23.	Team working	Game and debriefing	2			
24.	Patient safety and biomedical hazards	Video and presentation	1			
25.	Computer skills	Demonstration and practice of basic use of word, Excel and PPT	2			
26.	Language skills	Language labs	2			
	TOTAL		60			

Annexure -II

PART A

TENTATIVE TEMPLATE OF ACADEMIC CALENDAR

First Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).

(18 MONTHS)

Serial Number	DATE / PERIOD	ACADEMIC ACTIVITY		
(1)	(2)	(3)		
1.	First working day of October	Course commencement		
2.	10 working days	Foundation Programme		
3	First periodic assessment	January- Internal Assessment (PA-1)		
4.	Fourth Week of March	First Terminal Test -Internal Assessment (TT-1)		
5	Second periodic assessment	June -Internal Assessment (PA-2)		
6.	First week of September	Second Terminal Test -Internal Assessment (TT-2)		
7.	Third periodic assessment	November – Internal Assessment – (PA-3)		
8.	Second week of February to March	University Examination		
9.	First Working Day of April	Start of second professional year		
	 NOTE University / Institution / College shall specify dates and year while preparing academic calendar of that particular batch of students. The same is to be informed to students and displayed in respective websites. Institution/College established in Extreme Weather Conditions may adjust the timings as required by maintaining the stipulated hours of teaching. However, the structure of academic calendar shall not be altered. Academic calendar may be modified according to directions of National Commission for Homoeopathy issued from time to time. 			

PART-B

TENTATIVE TEMPLATE OF ACADEMIC CALENDAR

Second/Third/ Fourth Professional Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S).

(12 MONTHS)

Serial Number	DATE /PERIOD	ACADEMIC ACTIVITY
(1)	(2)	(3)
1.	First working day of April	Course commencement
2. Fourth week of July		First periodic - Internal Assessment (PT-1)
3.	Fourth week of September	First terminal examination- Internal Assessment (TT-1)
4.	Fourth week of December	Second periodic - Internal Assessment (PT-2)
5. Third week of February		University Examination
6.	First Working day of April	Commencement of third/fourth/internship professional year

NOTE. -

- 1. University/ Institution / College shall specify dates and year while preparing academic calendar of that particular batch of students. The same is to be informed to students and displayed in respective websites.
- Institution / College established in Extreme Weather Condition may adjust the timing as required by maintaining the stipulated hour of teaching and however, the structure of academic calendar shall not be altered
- 3. Academic calendar may be modified according to directions of National Commission for Homoeopathy issued from time to time.

Annexure-III

GUIDELINES FOR ATTENDANCE MAINTENANCE (THEORY/PRACTICAL/CLINICAL/NON-LECTURE HOURS)

Institutes/colleges offering education in Homoeopathy are recommended to maintain online attendance system. However, in case physical registers are being maintained for recording attendance of various teaching/training activities, the following guidelines are to be followed:

- (1) Attendance is to be marked in cumulative numbering fashion:
 - (a) In case presence, it is to be marked as 1, 2, 3, 4, 5, 6.....soon;
 - (b) In case of absence, it must be marked as 'A';
 - (c) Example: P PPP A P P AA P P P.... may be marked as (1, 2, 3, 4, A, 5, 6, A, A, 7, 8,9...).
- (2) Avoid strictly marking 'P' for presence.
- (3) Separate register for theory and practical/clinical/non-lecture activities are to be maintained.
- (4) At the end of term or course or part of syllabus, the last number to be taken as total attendance.
- (5) The total attendance after student's signature is to be certified by respective Head of department (HOD) followed by approval by Principal.
- (6) In case of multiple terms, at the end of course all term attendance is to be summarised and percentage is to be calculated separately for theory and practical including clinical & non-lecture hours.

[Note: *If any discrepancy is found between Hindi and English version, the English version will be treated as final.]

FORM 1

[See sub- regulation (2) and (3) of regulation 16]

(NAME OF THE COLLEGE AND ADDRESS)

BACHELOR OF HOMOEOPATHIC MEDICINE AND SURGERY (B.H.M.S) COURSE

DEPARTMENT OF-----

CERTIFICATE OF ATTENDANCE AND ASSESSMENT OF INTERNSHIP

- (1) Name of the Intern:
- (2) Attendance during internship

Period of training From-----to------to------

(a) Number of working days :

(b) Number of days attended :

(c) Number of days leave availed(d) Number of days absent:

Assessment of Internship

Serial Number	Category	Marks obtained
(1)	(2)	(3)
1.	General	Maximum10
(a)	Responsibility and Punctuality	()outof2
(b)	Behavior with sub-ordinates, colleagues and superiors	()outof2
(c)	Documentation ability	()outof2
(d)	Character and conduct	()outof2
(e)	Aptitude for research	()outof2
2.	Clinical	Maximum20
(a)	Proficiency in fundamentals of subject	()outof4
(b)	Bedside manners &rapport with patient	()outof4
(c)	Clinical acumen and competency as acquired	()outof4
	(i) By performing procedures	
	(ii)By assisting in procedures	()outof4
	(iii) By observing procedures	()outof4
	Total Score obtained	()out of 30

Performance Grade of marks

Poor < 8, Below average 9-14, Average 15-21, Good 22-25, Excellent 26 and above

Note: An intern obtained unsatisfactory score (below 15) shall be required to repeat one third of the total period of posting in the concerned department.

Date:

Place: Signature of the Intern

Signature of the Head of the Department and Office Seal

FORM 2

[See sub-regulations (3) and (4) of regulation 16]

(NAME OF THE COLLEGE AND ADDRESS)

$(BACHELOR\ OF\ HOMOEOPATHIC\ MEDICINE\ AND\ SURGERY-(B.H.M.S))\ COURSE\ CERTIFICATE\ OF\ COMPLETION\ OF\ COMPULSORY\ ROTATORY\ INTERNSHIP$

This is to certify that	(name of	the intern)	an intern of ,	(name o	of the college and
address), has completed his/	her Compulsory	Rotatory	Internship at the _	(N	Name of college,
address and place of posting)	for one year	_ to	in following de	partments.	

TABLE 20

Serial Number.	Name of the Department	Period of training (From) (dd/mm/yyyy)	Period of training (to) (dd/mm/yyyy)
(1)	(2)	(3)	(4)
1.			
2.			
3.			
4.			
5.			

6.							
7.							
8.							
I	Ouring the	internship p	eriod, the conduct	of the stu	dent is	·	
	Date:						
	Place:						
			Signature of	the Intern	ship in charge / Principa	l/Dean/Dir	rector with Office seal
				<u>Fo</u>	<u>rm-3</u>		
			{See sub – reg	gulation (4) and (7) of regulation 13	3}	
Migrati	on of Mr.	/ Miss			from		Homoeopathic Medical
College			to		Homoeopathic Medica	al College	
1.	Date of a	dmission in	First Bachelor of	Homoeopa	athic Medicine and Surge	ery (B.H.M	I.S) course
2.	Date of p	assing First	Bachelor of Home	oeopathic	Medicine and Surgery (B	B.H.M.S) U	University examination
3.	Date of a	pplication					
4.	Number of	objection ce	rtificate from relie	ving colle	ge (enclosed) – Yes/No		
5.	Number of	objection ce	rtificate from relie	ving Univ	ersity (enclosed) – Yes/N	No	
6.	Number of	objection ce	rtificate from rece	iving colle	ege (enclosed) – Yes/No		
7.	Number o	objection cer	rtificate from rece	iving Univ	versity (enclosed) – Yes/I	No	
8.	Number objection certificate from State Government wherein the relieving college is located – Yes/ No						
9.	9. Affidavit, duly sworn before First Class Magistrate containing an undertaking that "I will study for full twelve months in existing class of Bachelor of Homoeopathic Medicine and Surgery (B.H.M.S) course in transferred Homoeopathic Medical College before appearing in the IInd Professional University examination" (enclosed) – Yes/No						
10.	Reasons	for migration	n in brief (please e	enclose co	py of proof) – Yes/No		
11.	Permaner	nt address: _			····		

INTRODUCTION TO COMPETENCY BASED DYNAMIC CURRICULUM FOR

FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

INDEX

S.No	Description	Page Number
1	Foreword	02
2	Acknowledgement	03
1	Preamble	04
2	Steps Taken to Formulate CBDC Manual	07
3	Understanding The Competencies Table	20
4	Using The Competencies Table	23
5	Glossary	28

FOREWORD

New Education Policy 2020 has a focus on developing and shaping the education system with focus on pedagogical approach. It mentions that with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable.

In aligning with the NEP 2020, prime objective of National Commission for Homoeopathy is to provide a medical education system that improves access to quality and affordable medical education, ensures availability of adequate and high quality homoeopathic medical professionals in all parts of the country. We are amidst the shift from the traditional approaches of training to a focus on the application of learning through assessing competency acquired by the learner. The curriculum driven instructional model has been the standard method of teaching for more than century, but it is consistently failing to produce well educated citizens and lifelong learners. Medical sciences being high professional courses, there has to be a much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education.

To achieve the prime objective, it's a pleasure and privilege to introduce transformation in curriculum of homoeopathy education which is competency based dynamic.

This curriculum guide can serve a number of purposes. The principal uses are,

- Foundation program in the very beginning after admissions will help students adapting the needs and for their preparedness for the whole course.
- Provide trainers with guidance and resources for conducting or supporting learning activities
- Provide learners with a resource that will support an 'instructor led' delivery and will be a useful reference for future application of the learning
- Providing learners and assessors with resources for understanding and completing assessments
- > Serve as guide or resource for 'self-directed' learning

Each chapter is explicit and easy to digest, provides strategies to inspire conversation and action.

I hope teachers, administrators; leaders will find this guide as helpful for reworking our current educational system into a new, dynamic model of teaching & learning in all facets of Homoeopathy.

Dr. Anil Khurana, Chairperson

ACKNOWLEDGEMENT

The task of formulating the Competency based Dynamic Curriculum (CBDC) in Homoeopathy has been a stupendous effort which would not have been possible without the vision, direction, and unstinting support of a number of eminent persons.

We can start with none other than the Honourable Prime Minister, Shri Narendra Modiji, who has envisioned the future of the youth through the formulation of the National Education Policy 2020 which has helped to bring about a paradigm shift from knowledge centric to competency-based education.

Honourable Minister of AYUSH, Shri Sarbananda Sonowalji and Minister of State for AYUSH, Dr Munjpara Mahendrabhai Kalubhai have taken effective steps for implementing the National Education Policy in the AYUSH sector. Secretary AYUSH, Vaidya Shri Rajesh Kotechaji has consistently emphasized the urgency, given the direction, and provided resources for structuring and implementing the changeover to Competency based Curriculum.

Chairperson of the National Commission of Homoeopathy (NCH), Dr Anil Khuranaji has been personally monitoring and encouraging us for taking orderly steps and planning for the formulation and implementation of the CBDC. All the esteem members of NCH have given their valuable suggestion while making the final draft of CBDC. Advisory Council of the National Commission for Homoeopathy has always supported the progressive changes which the NCH has been bringing about.

Dr Mangesh Jatkar, Member, Homoeopathy Education Board has kept a vigilant eye over the functioning of various committees constituted for formulating CBDC for First BHMS course. Dr. Rupali Bhalerao, for technical & editorial assistance to revamp this document and homoeopathy education board team including Dr. Kanika Malhotra for tirelessly working to meet every timeline of CBDC work.

Subject experts and convener for syllabus/curriculum designing, Dr K M Dhawale for formulating the syllabus and content which formed the base for this competency based dynamic curriculum.

Members of the core CBDC committee, Dr Munir Ahmed R, Dr Payal Bansal and Convener Dr. Bipin Jain for setting the framework and spending countless hours selflessly guiding this process. All the experts took out time and got trained in medical education technology and formulated the curriculum of their respective subject in record time. Team from Dr.D.Y.Patil Homoeopathic Medical College, Pune for contributing in the final shaping of this document.

Dr. Tarkeshwar Jain,
President, Homoeopathy Education Board

PREAMBLE TO THE COMPETENCY BASED DYNAMIC CURRICULUM

The National Commission for Homoeopathy (NCH) has undertaken major revisions in the educational regulations in the last year and has devised a new Syllabus to ensure that the student who completes the homoeopathic undergraduate course grows into a homoeopathic physician who is informed and capable of performing as a professional with competency to deliver services as required for addressing the health needs of the person and society at large. It is based on the premise that a correct adherence to homoeopathic principles and knowledge imparted will enable the physician to deliver results in all aspects of health, viz. preventive promotive, curative and rehabilitative.

There is a significant change in the approach and contents in the newly designed curriculum, with the intention of making it more coherent for the present and future needs of society. The designing of curriculum is based on the sound theories of educational methodology as applicable for the health professionals' education, and therefore, the outcomes are quite transparent and achievable.

The Homoeopathic Educational Board (HEB) is obliged by the NCH Act 26 (b) to "develop a competency based dynamic curriculum for Homoeopathy at all levels in accordance with the regulations made under this Act, in such manner that it develops appropriate skill, knowledge, attitude, values and ethics among the graduates, postgraduate and super-specialty students and enables them to provide healthcare, to impart medical education and to conduct medical research".

Competency based medical education (CBME) has been around in the medical world for more than three decades. It has undergone several revisions and adaptations through this period which has placed the NCH in an advantageous position to learn from the varied experiences of curriculum formulation, implementation and assessment.

It should be emphasized that the switch over to CBME involves a sea change in the understanding of the processes and outcomes for which all stakeholders need to be adequately sensitized and the teachers trained to minimize the difficulties inevitable in any transition. The following four pillars need a special mention to grasp the nature of the change being brought about (Frank Jason R, et al 2010).

- The focus is on ensuring that the end user of the health care services is benefited. Hence it
 is important that the outcomes of the training are defined in clear terms so that the
 teacher, the student and the community are aware of what can be expected from the
 training.
- 2. The second logical focus is on bringing the abilities of the physician to the level when the outcomes defined above are realized. This involves the definition of the competencies required in the discharge of various functions of the physician. This would involve certain generic competencies such as problem solving or effective communication and certain specific ones related to the subject of study like. Anatomy, Materia Medica or others. This coupling of the outcome and abilities leads automatically to the third pillar.
- 3. We have been used to consider all training as time bound as the BHMS course is 5 1/2 years duration. But when we realize that the rate of mastering different abilities would vary from

- student to student, we should de-emphasize the fixed period of training and instead look at how the student can be helped to master the specific competency.
- 4. The fourth pillar becomes the student herself/himself. The entire education and training become learner centred and hence the teacher takes a great effort in defining the outcomes, competencies, teaching and learning methods and most important of all, assessment which is predominantly formative and hence intends to shape the evolving capacities of the learner.

While formulating the competency based dynamic curriculum (CBDC) for the homoeopathy undergraduate, we must bear in mind the central role that homoeopathy philosophy and the principle of holistic care plays in the therapeutic actions of the homoeopathic interventions. This is a distinctive aspect which has hardly received the attention it deserves despite Hahnemann's clear recommendations in the first six Aphorisms of the Organon. The revised syllabus has brought this change and the formulation of the competency-based curriculum provides an opportunity to incorporate this approach at all levels of teaching and training. The implications lie in bringing about a sensitive and effective integration (horizontal/vertical/spiral) of all aspects of the syllabus throughout the five and half years of the undergraduate course.

There are five compelling factors that form the fulcrum to drive the change (Harris Peter, et al, 2010):

- 1. <u>Design of curriculum</u>: This needs careful attention due to its novelty. Homoeopathy, as a holistic discipline resting on the foundations of philosophy, needs a holistic approach from the first year itself. Several novel situations will need to be envisaged and catered to. And yet, a number of issues will remain. This is the dynamic nature of the enterprise, and we must be prepared to accept the well-known adage: Change, the only constant!
- 2. <u>Teacher training</u>: Our teachers have discharged the role of information providers and the teaching-learning process calls for a transformation in the role of the teacher (Sidhu Navdeep S. et al2022). The future will need them to wear multiple hats and hence they will need to develop competencies viz. planner, facilitator, assessor, education manager, role model, etc, to be effective for these roles.
- 3. <u>Assessment</u>: Assessment practices must be based on a robust platform of validity, reliability, and objectivity, so that the tools of assessment blend fluidly with the academic flow. In this background, the focus is to shift the assessment approach from the monopoly of summative assessment to a significant allowance for formative assessment, which are supportive for learning and correction on-the-go.
- 4. <u>Student issues</u>: Along with the parents and the community, a significant reorientation is called for while changing it from that of a 'last-minute' sprinter to a long range 'racer'! All stakeholders should be on the same page so that the processes can operate in a well-oiled manner. Glitches are to be expected when a largely 'rights' based social mind set has to shift gears to adopt a competency oriented one. Understanding that change needs patience and good will go a long way to make the latter orientation a way of life.
- 5. <u>Systems</u>: All educational systems from the colleges to universities need to incorporate the multiple changes within their systems. We are used to consider results as 'pass' and 'fail' with the latter carrying the stigma. While there is an

expressed need to wish to cater to all categories of learners – fast, normal, slow – the need to bring about changes in the systems is not so readily accepted. The institutions need to develop as 'learning organisations' that spur the 'growth mind-set' of its members – the teachers, students, and all those who are in the loop of curricular or co-curricular management.

The HEB considers the CBDC as a work in progress. Considerable thoughts and efforts are invested into the design and planning of the curriculum. But as has been mentioned above, this is a pioneering work and would always benefit from suggestions that spring from critical thinking and reflection subsequent to sincere attempts in implementation.

The next sections provide details of operational clarity to implement the program. Training of teachers is the key component which will make all the difference. The NCH is committed to make it happen and the cooperation of all stakeholders is earnestly solicited.

References

- 1. Frank Jason R, et al (2010) Competency-based medical education: theory to practice, *Medical Teacher*, 32:8, 638-645, DOI: 10.3109/0142159X.2010.501190
- 2. Harris Peter, Linda Snell, Martin Talbot, Ronald M. Harden & for the International CBME Collaborators (2010) Competency-based medical education: implications for undergraduate programs, *Medical Teacher*, 32:8, 646-650, DOI: 10.3109/0142159X.2010.500703
- 3. Sidhu Navdeep S. et al (2022): Competency domains of educators in medical, nursing, and health sciences education: An integrative review, *Medical Teacher*, DOI: 10.1080/0142159X.2022.2126758

[I - STEPS TAKEN TO FORMULATE HOMOEOPATHY CBDC MANUAL

In this section we will detail the process undertaken in the formulation of this manual. The account will be of use to the users viz. the academicians, teachers and students to better grasp the significance of the effort and the role that each would have to play. The subsequent section will outline the correct use of the manual in order to derive the maximum benefit.

I - Defining National and Institutional Goals and Programme Outcomes

The process of identifying competency is a complex one. Defining the outcome clearly helps in defining the relevant competency thus enabling a person acquiring it with relative ease. In case of the medical graduate, the outcome or goal is determined by the health care needs of the community as perceived by the statutory authorities and the ability of the particular health care system to respond to this need. India has a pluralistic health tradition and the community accesses the several health care systems to fulfil their multiple health needs. Scientific evidence is generally relied upon to determine and differentiate the role of each system in providing health care. This, however, may not always be forthcoming to the required degree of precision.

Considering the above, the NCH has formulated broad national goals which a Homoeopathic graduate would be expected to be able to achieve.

NATIONAL GOALS:

At the end of undergraduate program, the medical student should be able to:

- a. Recognize the strength of homoeopathy, its applicability and limitations in health care of society and the individual.
- b. Learn the integration of medical services for effective delivery of health care.
- c. Recognize the purpose of the National Health Policy and "Health for all" as a national goal and health right of all citizens and undergo training to achieve the realization of this social responsibility
- d. Achieve competence in the practice of homoeopathy with holistic approach, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- e. Develop a scientific temper, acquire educational experience for proficiency in profession and promote healthy living based on the tenets of homoeopathy.
- f. Become an exemplary citizen by observing medical ethics and fulfilling social and professional obligations so as to respond to national aspirations.
- g. Develop skills to perpetuate homoeopathy & practice it with zeal so that it stands parallel to other scientific healing methods.

In order to realize these goals, Homoeopathic institutions will need to prepare themselves with suitable infrastructure and processes so that the graduate is able to deliver on the National goals. The NCH has laid down the following goals for homoeopathic institutions.

INSTITUTIONAL GOALS:

In consonance with the national goals, each homoeopathic medical institution should evolve institutional goals to define the kind of trained homoeopathic professionals they intend to produce. The undergraduate students coming out of a homoeopathic medical institute should:

- a. Be competent in clinical diagnosis and homoeopathic management of the health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- b. Be competent to use homoeopathic medicines scientifically for health problems in preventive, promotive, curative palliative and rehabilitative mode.
- c. Appreciate the rationale for the use of different therapeutic modalities &engage in cross-referral when required in the interest of the patient.
- d. Be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop a humane attitude towards patients in discharging professional responsibilities.
- e. Be able to identify community health problems and learn to work to resolve these by understanding, designing, instituting corrective steps as per homoeopathic principles and evaluating outcome of such measures.
- f. Develop sensitivity to environmental sustainability and engage in community work towards achieving it with responsibility and commitment.
- g. Be trained in critical thinking, evidence-based practice and possess research aptitude and documentation skills necessary in professional work.
- h. Possess the attitude for lifelong learning and be ready to develop competencies as and when conditions of practice demand it.
- i. Be familiar with the basic factors which are essential for the implementation and integration of the National Health Programmes with homoeopathy including practical aspects of the following: (i) Family Welfare and Mother and Child Health (MCH) (ii) Sanitation and water supply (iii) Prevention and control of communicable and non-communicable diseases (iv) Immunization (v) Health Education.
- j. Acquire basic management skills in the area of human resources, materials and resource management related to homoeopathy in health care delivery, general and hospital management, principal inventory skills and counselling.
- k. Be able to work as an active and responsible partner in health care teams and acquire proficiency in communication skills with colleagues, patients and the community at large.
- I. Be competent to work in a variety of health care settings.

m. Develop personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

When we look at the translation of these set of goals to the individual learner, we will be able to define these as follows:

GOALS OF THE LEARNER

Towards attaining the goals of this program, the homoeopathic graduate must be able to function in the following roles appropriately and effectively:

- a. Clinician who understands and provides holistic preventive, promotive, curative, palliative and rehabilitative care with compassion.
- b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data.
- c. Communicator with patients, families, colleagues and community.
- d. Lifelong learner committed to continuous improvement of skills and knowledge.
- e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

The above goals, though desirable, are broad. To realize them, the student entering into the undergraduate homoeopathic programme needs to be equipped with a set of competencies which would fall in the domains of knowledge, skills and attitudes. The broad goals need to be defined in specific actionable terms which will form the Programme outcomes. These will enable all the stakeholders to be clear of the nature of functioning expected from the homoeopathic physician at the end of the training. Accordingly, the team of resource persons worked together to formulate Programme Outcomes

PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

- 1) Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
- 2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
- 3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
- 4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community

- 5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
- 6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
- 7) Develop the capacity for critical thinking, self-reflection and a research orientation as required for developing evidence based homoeopathic practice.
- 8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
- 9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

Defining the Programme outcomes is a crucial step since this allows us to derive the competencies the homoeopathic graduate should possess at the end of the period of training. Care is taken to ensure that the National goals and Institutional goals are covered as much as possible by the various aspects of the Programme Outcomes. Further, the Outcomes for each academic year and of the period of internship will be formulated separately based on the Courses studied and the nature of clinical or community activities undertaken each year. Accordingly, the corresponding competencies for the respective years have been defined.

II - Deriving Competencies of the Homoeopathic Medical Graduate

Seven broad dimensions of practice were identified in which all actions of the homoeopathic physician in the context of our health care system could be classified (Englander, et al, 2013). The definition of these terms in our medical and social context are as follows:

Table 1: Dimensions of Practice of the Homoeopathic Physician

	Dimensions of Practice	Definition
	of the Homoeopathy	
	Physician	
1.	Knowledge for Homoeopathy Practice	Demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care using homoeopathy as a means of intervention.

2.	Patient Care	Provides patient-centered, individualized care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
3.	Interpersonal and Communication Skills	Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, families, and health professionals.
4.	Professionalism	Demonstrates a commitment to carrying out professional responsibilities and an adherence to ethical principles.
5.	Practice based learning and Improvement	Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.
6.	Health care systems	Demonstrate an awareness of and responsiveness to the larger context and system of health care in the country, as well as the ability to call effectively on other resources in the system to provide optimal health care.
7.	Scholarship	Demonstrate the qualities required to sustain lifelong personal and professional growth.

We now needed to draw up a list of generic competencies relevant for the training of the homoeopathic physician. These would subsequently be mapped on to the Programme Outcomes for each year. The list of generic competencies drawn up were subsumed under the 4 relevant areas of the functioning of the physician viz. cognitive, personal, interpersonal and in the community after referring to Kallioinen (2010), General Medical Council (2017) and Arora (2020).

Table 2: Generic competencies relevant to the functioning of the physician

Areas	Cognitive	Personal	Interpersonal	Community
	Analytical	Self-reflection	Empathetic	Ethical awareness
	Synthetic	Self-Awareness	'	Community awareness
	Objective	Safety compliance	Team work	Safety awareness

Organizing and Planning	Lifelong learning	Collaboration	
Problem Solving	•	Respect for Privacy and autonomy	
		Communication skills - oral and written	
	Healthy coping mechanisms	Executive ability	
Information management	Flexibility		
	Dealing with uncertainty		
Holistic approach			
System based thinking			

This now equips us to chart the generic competencies against the expanded functions of the physician in each of the areas mentioned in Table 1. The components of each of the areas has been expanded to include all actions which the trained physician would be expected to undertake. This also helps us to zero down on the tasks which the physician would need to be trained to perform. The series of seven tables below expands each of the areas, identifies the generic competencies and the component tasks.

Table 3: Charting of Generic Competencies and Tasks against the areas of functioning

	Areas of action	Generic Competencies	Component tasks			
1	Knowledge (K) for Homoeopathy practice					
k-1	Describe the basic scientific principles underlying normal development, structure and function of genes, cells, organs and the body as a whole throughout the life cycle and correlate	3	Information gathering Information management Synthesis of data Holistic approach			
	scientific principles underlying normal development, structure and function of genes, cells, organs and the body as a whole throughout the life	3	Information management Synthesis of data			

k-2	as per Dr Hahnemann and other Homoeopathic masters Describe the aetiology and pathophysiology of major diseases and disorders, and their clinical, laboratory, radiographic and pathologic manifestations and correlate with Homoeopathic concept of disease	Integration of information Problem integration	Information management System based thinking Analysis synthesis
k-3	Describe the epidemiology of disorders in populations and approaches designed to screen, detect, prevent, and treat disease in populations. problem formulation-planning of intervention, treatment, evaluation-interpretation, integration and correlate with Homoeopathic concept of preservation of health and clinical management	Integration of information problem integration communication problem solving leadership skill team work communication	Information gathering Information management System based thinking Analysis Synthesis Organizing and planning Implementation evaluation
k-4	Describe the spectrum of	Problem solving	Information gathering
	1	Page 12 of 22	

therapies for	Information management
common physical	System based thinking
and mental	System based amining
disorders and	Analysis
recognize the	Synthesis
relative efficacies	Synthesis
and common	
adverse effects of	
these and their	
variations among	
different patients	
and populations and	
relate with different	
expression of	
chronic disease	

		Generic competencies	Component tasks
2	Patient care (PC)		
Pc1	Perform both a focused and comprehensive history and physical examination, develop diagnostic hypotheses, order and evaluate diagnostic tests, and formulate an appropriate plan of care using Homoeopathic concept of case taking with individualisation and Management	Problem solving	Information gathering Problem Integration Documentation Information management System based thinking Organising and planning Analysis and evaluation Holistic approach
Pc2	Perform core technical procedures, as would be expected of a beginning intern, and describe their indications,	Problem solving independent study	Information gathering

	contraindications, and potential complications.		Problem integration Problem formulation Implementation of plan and evaluation
Pc3	Recognize acute, life-threatening conditions and perform measures to stabilize the patient.	Problem solving	Information gathering Problem integration Problem formulation Implementation of plan and evaluation Dealing with uncertainty

		Generic competencies	Component tasks
3	Interpersonal and Communication Skil	ls (ICS)	
Cs1	Communicate with patients and their families, counsel them in an effective, caring, and culturally competent manner as per the guidance of Hahnemann and different masters and current advances	Communication Objectivity Flexibility of thought	Information gathering Organising and planning Compassion Empathy Personal integrity Dealing with uncertainty Respect for privacy and autonomy
Cs2	Communicate, consult, collaborate, and work effectively as a member or leader of healthcare teams.	Communication Team member Leadership skills	Organising planning System based thinking Objectivity

Communication written and oral	-
Collaboration	
Executive ability	

		Competency generic	Component tasks
4	Professionalism (P)		
P1	Maintain a professional demeanour, while	Problem solving	Ethical awareness
	demonstrating responsibility, integrity, empathy, reliability, and attention to		Self-awareness
	personal wellness as per the direction from Organon of medicine and homoeopathic masters		Empathy
			Integrity
			Reliability
P ₂	Demonstrate ethical principles that govern	Problem solving	Ethical awareness
	the doctor-patient relationship, medical decision-making, and healthcare delivery.		Respect for privacy and autonomy
P ₃	Provide compassionate, unbiased care to	Problem solving	Compassion
	patients from diverse backgrounds		Objectivity
			Flexibility in thinking

		Generic competency	Component tasks
5	Practice-Based Learning and Improven	nent (PBLI)	
Pbl1	Utilize appropriate information technology for scientific and clinical problem-solving and decision-making	Problem solving Independent study	Information gathering Information management Documentation Creative thinking
Pbl2	Analyze and critically appraise the relevant medical literature	Information management	Analysis,

			Evaluation	
			Critical thinking	
			Creative thinking	
Pbl ₃	Apply principles of evidence-based	Problem solving	Analysis	
	medicine, medical ethics, and cost- effectiveness to diagnosis, prognosis,	Objectivity	Evaluation	
	and therapeutics.	Integration of	Critical thinking	
		information	Plan	for
		Problem integration	implementation	
		integration	evaluation	
Pbl ₄	Demonstrate the ability for lifelong	Problem solving	Analysis	
	self-directed learning.	Objectivity	Evaluation	
		Integration of	Critical thinking	
		information	Plan	for
		Problem	implementation	
		integration 	Evaluation	
		Learning ability	Lifelong learner	

		Generic competency	Component tasks
6	Healthcare Systems (HCS)		
HCS1	Discuss the organization, financing, and delivery of healthcare services with particular awareness of healthcare disparities, the needs of the underserved, and the medical consequences of common societal problems.	Problem solving objectivity	Empathy Compassion Community awareness Analysis
			evaluation of information

			information management
HCS ₂	Define the core principles of healthcare quality, patient safety, and interprofessionalism	Problem solving objectivity	Problem definition Critical thinking Information management
HCS ₃	Participate in national programmes	Problem solving	Team work Communication Empathy Compassion

		Generic competency	Component tasks
7	Scholarship (S)		
S1	Define the scientific and ethical principles of biomedical research, including basic, translational, clinical, and population studies.	Integration of information Problem integration objectivity	Information management Critical thinking
S2	Identify a scholarly area of interest, formulate an investigative question, develop and implement methods to assess it, and communicate the results.	Problem solving objectivity Independent study	Analytical Evaluation Documentation Information management Critical thinking Personal integrity Ethical awareness Communication skill

With this background, we should be able to approach the Manual which is being issued in four parts for each year, the last manual also covering the period of internship. It will be noted that the Generic competencies and the Component tasks as in the Table 3 will be aligned with the specific competencies for each item of learning.

Considerable fresh thought has gone into the framing of this document of CBDC for the Homoeopathic graduate. The existing templates were unable to satisfy the very foundations on which homoeopathic practice rests and which have been extensively elaborated in the Preamble to the new Syllabus introduced in 2022. The two features which may be emphasized here are:

- 1. Close adherence to homoeopathic philosophy and principles at every stage of education and training
- 2. This is turn demands a rare amount of integration at horizontal, vertical and spiral forms

The next section will deal with how the Competency table was formulated and how it should be used.

References

- 1. Englander Robert, Cameron Terri, Ballard Adrian J., Dodge Jessica, Bull Janet, and Aschenbrener, Carol A. (2013)Toward a Common Taxonomy of Competency Domains for the Health Professions and Competencies for Physicians *Acad Med.* 88:1088–1094. doi: 10.1097/ACM.obo13e31829a3b2b
- 2. Kallioinen, Outi (2010) Defining and Comparing Generic Competences in Higher Education European Educational Research Journal9; 1, 56 http://dx.doi.org/10.2304/eerj.2010.9.1.56
- 3. General Medical Council (2017) Generic professional capabilities framework accessed at https://www.gmc-uk.org/-/media/documents/generic-professional-capabilities-framework--2109_pdf-70417127.pdf on 5th December 2022
- 4. Arora Aman (2020) Building Generic Competencies Model Conference: International Conference on Recent Trends and Innovations in Business Management, Social Sciences and Technology - NCIBM 2020, New Delhi accessed at https://www.researchgate.net/publication/345001112 on 5th December 2022

II - UNDERSTANDING THE COMPETENCIES TABLE

The Competency Table has been designed keeping in mind the Generic and specific competencies required by the learner to attain the overall Program Outcomes (PO) as well as Course Outcomes (CO) of all courses.

A. Methodology in preparation of the Competency Table

The following methodology was adopted in preparing the Competencies table for each course (or subject) of the BHMS program once the National and Institutional Goals, Programme Outcomes, Generic Competencies and component tasks were identified:

- Course Outcomes (CO) were identified for each course (or subject) that were in alignment with the National and Institutional Goals, Programme Outcomes (PO)
- ❖ Finalizing the syllabus or the list of topics which will help to achieve not only the Course Outcomes (CO) but also the overall Program Outcomes (PO)
- Identifying the Learning Objectives and Specific Learning Outcome (SLO) for each topic
- Aligning the Specific Learning Outcome (SLO) to the Generic and Specific Competencies that are to be achieved
- Identifying the level of Miller's Pyramid for each Specific Learning Objectives/ Outcome (SLO)
- Classifying each Specific Learning Outcome (SLO) as per Bloom's Taxonomy and Guibert's Level
- Distinguishing the Specific Learning Outcome (SLO) into 'Must know' or 'Desirable to know' or 'Nice to know' categories
- Choosing the appropriate Teaching Learning method/s and the assessment method/s required for achieving each objective or outcome
- Identifying the Horizontal, Vertical and Spiral Integration with other courses (or subjects) required for holistic understanding of the topic

We will now illustrate how the Competency table is to be read with respect to the Repertory Course (subject)

Illustrative Diagrammatic Representation of Competencies Table with example of the Repertory Course

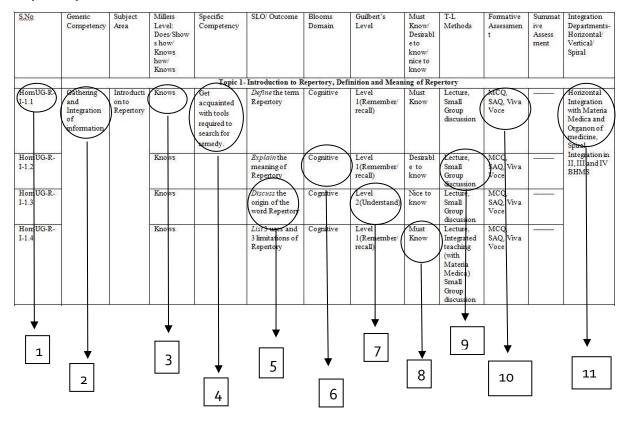


Table 4: Description of the Competencies table

S.No	Description
1	Unique number of the competency /outcome (Hom-UG-R-I-1.1)
	Hom-UG-R-I: Course Code
	1.1: Topic number followed by serial number of the Specific Learning Objectives/ Outcome
	(SLO)
2	Generic Competency to be achieved from the topic
3	Mapping of the Level of Specific Learning Outcome (SLO) to Miller's Pyramid- Knows/ Knows How/ Shows How/ Does
4	Specific Competency to be acquired from the topic
5	Description of Specific Learning Outcome (SLO) for the topic

6	The Blooms Domain addressed by the Specific Learning Outcome (SLO)-Cognitive or Affective or Psychomotor Domain
7	Mapping of the Specific Learning Outcome (SLO) to Guibert's Level of Learning in the Cognitive or Affective or Psychomotor Domain
8	Classifying the Specific Learning Outcome (SLO) into Must know or desirable to know or nice to know areas
9	Teaching Learning methods
10	Assessment methods
11	Subjects that can be vertically or horizontally integrated to improve understanding. If the subject is taught for more than 1 year, it must be integrated spirally in all the years.

B.USING THE COMPETENCIES TABLE

A Competency Based Dynamic Curriculum necessitates that each topic in a course (or subject) be elaborated in terms of the outcomes that are to be achieved by the learner at the end of the particular topic. This in turn will help the learner to achieve the competencies at the course and overall, at the program level.

1. Linking the Specific learning Objective/ Outcome (SLO) to the Generic Competency, Specific Competency and Miller's Level

S.No	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessmen t	Summat ive Assess ment	Integration Departments- Horizontal/ Vertical/ Spiral
				Topic 1-	Introduction to F	epertory, Det	finition and Mean	ing of Rep	ertory			
HomUG-R- I-1.1	Gathering and Integration of information	Introducti on to Repertory	Knows	Get acquainted with tools required to search for remedy.	Define the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Horizontal Integration with Materia Medica and Organon of medicine, Spiral
HomUG-R- I-1.2		8	Knows		Explain the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirabl e to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Integration in II, III and IV BHMS
HomUG-R- I-1.3			Knows		Discuss the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	<u> </u>	
HomUG-R- I-1.4			Knows		List 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce		
					1		1.	I e	and a second	10		

Each Specific learning Objective/ Outcome (SLO) will help the learner to acquire Generic competencies (abilities that a basic homoeopathic doctor would be trusted to have acquired as a consequence of his / her learning) and Specific competencies (abilities that the student is expected to acquire in a focused area of expertise)

In the above table Introduction to a subject will help the learner to acquire a generic competency of gathering and Integrating knowledge & a specific competency of getting acquainted with the tools required to search for a Homoeopathic remedy.

The Specific learning Objective/ Outcome (SLO) also indicates at what level the competency is defined in the Miller's Pyramid which in the above example is at the level of 'Knows' – the ability to recall facts and ideas.

2. Specific learning Objective/ Outcome (SLO) for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessmen t	Summat ive Assess ment	Integration Departments- Horizontal/ Vertical/ Spiral
				Topic 1	Introduction to R	epertory, Def	inition and Mean	ing of Rep	ertory			<i>h</i>
HomUG-R- I-1.1	Gathering and Integration of information	Introducti on to Repertory	Knows	Get acquainted with tools required to search for remedy.	Define the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Horizontal Integration with Materia Medica and Organon of medicine, Spiral
HomUG-R- I-1.2			Knows		Explain the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirabl e to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Integration in II, III and IV BHMS
HomUG-R- I-1.3			Knows		Discuss the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	<u> 2222222</u>)	
HomUG-R- I-1.4			Knows		List 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce		

Specific Learning Objectives / Outcomes (SLOs) start with the "Action Verb" as per the Domain and describe what students should know or be able to do at the end of a learning session. The SLOs are written as per the Blooms Domain (Cognitive or Affective or Psychomotor) under which they are categorized.

In the above example four Specific Learning Objectives / Outcomes (SLOs) have been described that belong to the Cognitive domain.

3. Teaching Learning methods for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	/T-L Methods	Formative Assessmen t	Summat ive Assess ment	Integration Departments- Horizontal/ Vertical/ Spiral
	1	-		Topic 1	- Introduction to F	Repertory, De	finition and Mean	ing of Rep	ertory			
HomUG-R- I-1.1	Gathering and Integration of information	Introducti on to Repertory	Knows	Get acquainted with tools required to search for remedy.	Define the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	<u> </u>	Horizontal Integration with Materia Medica and Organon of medicine, Spiral
HomUG-R- I-1.2			Knows		Explain the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirabl e to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Integration in II, III and IV BHMS
HomUG-R- I-1.3			Knows		Discuss the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	***********	
HomUG-R- I-1.4			Knows		List 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce		

The Teaching- Learning methods have been identified that are most suitable to the Specific Learning Objectives / Outcomes (SLOs) formed for each topic and as per the Domain of each of the Specific Learning Objectives / Outcomes (SLOs).

In the above example, Lectures, Integrated teaching and Small Group Discussion are the Teaching-Learning methods to be adopted for achieving the SLO.

The Teaching Learning Methods will vary as per the Specific Learning Objectives / Outcomes (SLO) and the Domains they cover.

4. Assessment methods for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessmen t	Summat ive Assess ment	Integration Departments- Horizontal/ Vertical/ Spiral
				Topic 1-	Introduction to R	epertory, De	inition and Mean	ing of Rep	ertory			
HomUG-R- I-1.1	Gathering and Integration of information	Introducti on to Repertory	Knows	Get acquainted with tools required to search for remedy.	Define the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	100000000000000000000000000000000000000	Horizontal Integration with Materia Medica and Organon of medicine, Spiral
HomUG-R- I-1.2			Knows		Explain the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirabl e to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Integration in II, III and IV BHMS
HomUG-R- I-1.3		ă	Knows		Discuss the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		
HomUG-R- I-1.4		2	Knows		List 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce		

The Assessment methods have been identified that are most suitable to the Specific Learning Objectives / Outcomes (SLOs) formed for each topic and as per the Domain of each Specific Learning Objectives / Outcomes (SLOs) to assess the learner.

In the above example, Multiple Choice Questions (MCQ), Short Answer Questions (SAQ) and Viva Voce are the assessment methods to be adopted for assessing the SLO. The Assessment Methods will vary as per the SLO and the Domain it covers

5. Integrated Teaching

S.No	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessmen t	Summat ive Assess ment	Integration Departments- Horizontal/ Vertical/ Spiral
				<u> </u>	Introduction to F	1,000	X2					
HomUG-R- I-1.1	Gathering and Integration of information	Introducti on to Repertory	Knows	Get acquainted with tools required to search for remedy.	Define the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	,	Horizontal Integration with Materia Medica and Organon of medicine, Spiral
HomUG-R- I-1.2		57	Knows		Explain the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirabl e to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce		Integration in II, III and IV BHMS
HomUG-R- I-1.3		8	Knows		Discuss the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	**********	
HomUG-R- I-1.4			Knows		List 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce		

Horizontal or Vertical Integrated Teaching with other subjects is required for a holistic understanding of the topic from different points of view.

The above topic should be integrated with other subjects of the same year for better understanding of the topic.

Spiral integration is required as the subject will be taught in II, III and IV BHMS and concepts taught in I BHMS will be utilized for further understanding of the subject.

III - Glossary of terms used in the template.

Goals

These are broad outcomes expected of a student at the end of the course of studies. These are to be contrasted with Objectives/Outcomes which are more specifically and narrowly defined.

Programme

A range of learning experiences offered to students in a formal manner over a period of one-to-four years leading to certificates/ diplomas/ degrees. Examples: BA (Economics) BSc (Physics). All possible formal degree Programmes are identified by UGC. BHMS is one such Programme

Programme Outcome

Programme Outcomes (POs) are what knowledge, skills and attitudes a graduate should have at the time of graduation. The Programme Outcomes of professional disciplines are identified at national level by the concerned accrediting agency. In this case, it would be the National Commission of Homoeopathy which would be involved.

Course

Course for the purpose of this Manual represents a subject e.g. Anatomy. In homoeopathic education some of the courses extend over several years e.g. Materia Medica. The relevance of this is in the formulation of Course Outcome

Course Outcome

Course Outcomes are statements that describe what students should be able to do at the end of a course. Where a Course extends over a number of years, it is necessary to define distinct Course Outcomes over the entire teaching programme of the subject. These will vary in depth and extent of the coverage of the subject.

Competency

An observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition.

Generic competency:

Professional performances are denoted by certain demonstrable attributes that the learners imbibe and internalize as reflex activities. These are the abilities of the professional that characterize the quality and level of performance. The generic competencies therefore are the abilities that a basic homoeopathic doctor would be trusted to have acquired as a consequence of his / her learning. The examples include Information gathering, problem identification, etc. The generic competencies therefore refer to the overall frames of abilities.

Subject area:

Subject area is a chunk of content in a given subject. It could be a chapter, topic, sub-topic, etc.

Millers Levels:

Miller's Pyramid is a diagrammatic representation of the convergence of learning. It maps the pathway of learning to show a person gains the ability and competence in a series of increasingly progressive phases of learning.



The broad base of this pyramid - 'Knows' – has the ability to recall facts and ideas that form the bedrock of professional requirements. 'Knows How' is the next phase of learning, where the students gains the insight into the relationships between the various units of 'knows' and can relate them meaningfully to reach the 'knows how' capacity. These phases would largely be in the Cognitive Domain of Bloom's Taxonomy of Learning Objectives.

Learning is not just about knowing and knowing how, but also to enable that the 'know how' is put into practice. This is the third phase of Miller's Pyramid – the 'Shows How'. During this phase of learning, the student is able to demonstrate the reasoning ability that he / she has acquired in controlled or real situations. This ability also includes the psychomotor dimension of Bloom's Taxonomy. The summit of pyramid, i.e., 'Does' also includes the emotional aspect

of learning in the form of values, attitudes, communication, etc, that denote the 'Affective Domain' of Bloom's Taxonomy.

The Miller's Pyramid is a valuable tool to represent the increasing levels of competencies that the students need to acquire, and also a framework to assess the level of competency that is achieved. Interestingly, the framework focuses on what the learner would be doing, rather than on what the teacher would be doing.

Specific competency:

Specific competencies are the abilities that the student is expected to acquire in a focused area of expertise, which could be a discipline-based knowledge, a skill, an attitude, or a combination of these.

Specific Learning Objectives / Outcomes:

Specific Learning Objectives / Outcomes (SLOs) describe what students should know or be able to do at the end of a learning session, that they couldn't do before. These are written and communicated in a 'low context communication style', that is to say, whoever reads the SLO would have the same understanding that the person who wrote it had. That is, there would be no communication gap.

That is the reason why the SLOs are written specifically and exclusively as units of learning in one of the domains of Bloom, and further at one of the levels of Guilbert. This will ensure that the learning that is expected is clearly communication among all those who refer to it, including those who set the assessment and evaluate the student performance. Further, the SLOs are ALWAYS written with an ACTIVE verb, so as to make the statement observable and measurable.

Bloom's domain:

Bloom's Taxonomy of Educational Objectives is a tool for classifying learning under the categories of 'knowledge', 'skill', and 'attitude / value / communication', represented by the technical terms 'Cognitive', 'Psychomotor', and 'Affective' domains respectively. Each of these domains distinguish the dimension of learning in a particular area. The importance of such classification is that it offers a clear model for both teaching and students' assessment.

Guilbert's level:

Guilbert's Hierarchy is a tool that describes the various levels of learning that can be mapped and managed in the Bloom's domains of learning – cognitive, psychomotor, and affective. This tool also has the additional benefit to identify the appropriate teaching – learning methods / media, and also the assessment strategies.

In the 'knowledge' domain Guilbert's approach to learning proceeds from recall of facts to understanding / interpreting the different sets of data, and finally to the ability to make decisions and solve problems on the basis of the understanding / interpretation. This simple three-step process builds a sequential order of learning; it clearly brings out that decisions shall be made NOT on the basis of facts alone, but through a process of understanding and interpretation.

The 'skill' domain builds the learning from the stage of observing and imitation to gaining control over the skills and culminating in automatism of the skill. In simple terms, any skill will be learnt initially by observing its performance, and imitating the same in the sequential order. In the next phase, the learner tries to gain control over the skill initially under the supervision, and ultimately will be able to perform it independently.

Learning in the affective domain proceeds from the stage where the learner is open and receptive to the stimulus or trigger situation, responding to it in a desirable manner, and finally internalising the responses.

Priority of learning:

The priority of learning is represented as 'Must know', 'Desirable-to-know', and 'Nice-to-know'. Prioritisation is a critical component of curriculum design because it classifies the learning outcomes on the basis of their importance and usefulness for the ultimate professional standards. The priority of learning is objectively assigned by a formula that gives weightage on the basis of 'frequency and impact' of the learning for professional needs.

TL Method / Media:

The teaching-learning (TL) methods and media are the vehicles that enable the acquisition of stated outcomes. Teaching method is simply 'what the teacher does or what the teacher enables the students with', such as giving a lecture, conducting a demonstration, or facilitating a group discussion. Teaching-learning media is 'what the teacher or the students use' to enable the learning; with examples such as a board, or projector, or model, or specimen, among others.

The teaching-learning methods and media are specific to the domains and levels in the domains. It must also be remembered that learning is a continuum, and a range of methods and media would be appropriate in the different phases in the continuum of learning.

Assessment:

Assessment of learning is an important component of curriculum. This measures the performance of the students in comparison to the expected outcomes of learning. Therefore the learning outcomes must be stated and communicated clearly and objectively to all the stakeholders of education. Assessment strategy is based on the domain and the level of domain in which the outcome is to be measured. Assessment could be judgemental for the extent and quality of outcomes, when it is called 'assessment of learning', or it could also be supportive for learning, when it is called as 'assessment for learning'. There are two major approaches to assessment – formative, and summative. The tools of assessment are provided in the annexure.

Formative Assessment:

Formative assessment is NOT judgmental, in that it does not brand the learner as 'pass' or 'fail'. The formative assessments measure the extent and quality of learning with reference to the expected learning outcomes, so that the students can be given feedback to improve on their performance. The formative assessments promote mastery learning, that is to say, each students achieves the stated level of mastery of performance because of the feedback and support. Formative assessment is also called as continuous assessment.

Summative Assessment:

Summative assessment has the mandate to judge the achievement of the learner at the end of a period of learning, and label him / her as 'pass' or 'fail, assign a rank, approve for eligibility to be promoted or eligibility to be admitted to a course. These assessments also serve as quality check to ensure that those who are being certified conform to a minimum standard of professional competence.

Integration:

Integration of learning is an essential requirement for aligning various data points of knowledge and skills for getting a holistic understanding and enabling a unified performance. Integration can be achieved at various dimensions and at various levels.

The dimensions of integration could be temporal in the form of Horizontal, Vertical, or Spiral. Horizontal integration is the alignment of learning on a longitudinal timeline, where the comparable contents of various subjects in the same term or year are integrated, for example the structure from anatomy, function from physiology, symptoms from Materia medica, and rubrics from repertory in the pre-clinical phase of BHMS.

Vertical integration is seen in the subjects that build on the pre-existing knowledge and skills of another subject. For example, the integration between the basic sciences such as anatomy, physiology, and biochemistry for the para-clinical learning such as in pathology, and the integration of basic and para-clinical skills into clinical learning.

Spiral integration is where a subject is recurring at various levels in the same course. For example, Materia medica is learnt from the first to final BHMS, and the focus of the subject is not the same in each year. There would be iteration of the same knowledge from different perspectives and capabilities across the different phases of BHMS.

The levels of integration represent the increasing approximation of knowledge from different subjects, so as to reach an approximation of fusion. The attempt to integration may begin with arranging the comparable contents of different subjects at the same cross sections of timeline. Further, there could be positioning the content of one subject into another subject to bring some kind of co-existence. Still further, the contents can be seamlessly merged to create an aligned learning content. Such integrative efforts can bring about holistic learning for a meaningful homeopathic capacity-building.

CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Anatomy, Histology and Embryology)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

INDEX

SI. No	Description	Page Number
1	Preamble	04
2	Program Outcomes (PO)	<mark>05</mark>
3	Course Outcomes (CO)	<mark>06</mark>
4	Teaching Hours	07
5	Course Content	09
6	Teaching Learning Methods	<mark>27</mark>
7	Content Mapping (Competencies Table)	<mark>29</mark>
8	Practical Topics (Non-Lecture Activities)	103
9	Assessment	<mark>104</mark>
10	List of Recommended Books	114
11	List of Contributors	116

FINAL VERSION OF COMPETANCY BASED CURRICULUM FOR ANATOMY FOR FIRST BHMS COURSE

Subject- Human Anatomy

Subject Code: Hom UG-AN

1. PREAMBLE

Anatomy is a study of the structural organization and development of man from gross to cellular aspects along with exploring the interrelationship of different tissues, organs and systems.

An important aspect for the homoeopathic student to grasp is the essentially holistic approach emphasized by Hahnemann. From that perspective, study of anatomy is not a study of isolated organs, parts or tissues but that of a hierarchical system which is intimately interconnected and functions with a purpose of striking balance when in a state of adaptation. The subtle ways in which this balance is lost through a malfunctioning of the vital force needs to be appreciated. This can occur when anatomy is taught with applied anatomy in the background.

While anatomy explores the structural organization of man, physiology gives us an understanding of the functional organization of the human being. These subjects, which are in reality the two sides of the coin, need to be taught interdependently. This enables the student to develop an insight into the essential interconnection of both in normal health and how both these alter when the disease process gets initiated in the system. This will also reduce the number of teaching hours due to avoiding duplication of information. While the clinical integration is taking place, homoeopathic connection is emphasized when the relevance of the Homoeopathic subjects being taught in the 1st year (Philosophy, Materia Medica, Pharmacy and Repertory), is simultaneously brought to the forefront and hence student-centered teaching of the first BHMS year be achieved.

Advances in the understanding of tissues and cell structures which subsume functions of the organs and systems can afford a fertile area for exploring the action of drugs of Materia medica.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student should;

- 1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles.
- 2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.
- 3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences.
- 4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
- 5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
- 6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.
- 7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.
- 8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of the I BHMS course, I BHMS student should be able to;

- 1. Discuss the evolution of life and the developmental anatomy and genetics of human.
- 2. Explain the ethics of Anatomy, such as Anatomy act, Body donation & receiving procedure and its legal aspects, develop respect to the human cadaver.
- 3. Differentiate the structural organization of man from micro to macro and its evolution from embryo.
- 4. Correlate the structural organization of man with functional organization and its applied aspect.
- 5. Apply anatomy knowledge to achieve vertical integration with clinical subjects.
- 6. Correlate structural organization of man with Homeopathic Philosophy and concept of man, Homoeopathic Materia Medica, Repertory and Pharmacy.
- 7. Correlate structural organization in interpreting different investigations.

4. TEACHING HOURS

SI. No.	Subject	Theoretical Lecture	(Non – Lecture hours) Practical / Tutorials / Seminars / Clinical Postings
01	Anatomy	325 hrs.	33ohrs.

Theory (hrs)	Non-lecture (hrs)					
325	Practical	Non-lecture activities				
3-3	250	80				
Total – 655 hours		,				

a. TEACHING HOURS (THEORY)

	Paper-I							
Sl. No	List of Topics	Term	Teaching Hours					
1	General Anatomy	I	32					
2	Head, Neck & Face	II	50					
3	Central Nervous System	II	30					
4	Upper Extremities	I	35					
5	Embryology	I	20					

	Paper-II		
Sl. No	List of Topics	Term	Teaching Hours
1	Thorax	II	28
2	Abdomen & Pelvis	III	70
3	Lower Extremities	III	40

4	Histology	I	20	

b. TEACHING HOURS (PRACTICAL)

Sl. No	List of Topics	Term	Teaching Hours
1	Head, Neck & Face	II	56
2	Central Nervous System	II	16
3	Upper Extremities	I	34
4	Thorax	II	30
5	Abdomen & Pelvis	III	50
6	Lower Extremities	III	40
7	Histology	I	24

5. COURSE CONTENT: Syllabus Planning

a. Theory:

- **a.** Syllabus should start with revision of some of important topics of BIOLOGY (To connect Biology to Medical Science), origin of Earth and Environment, Origin of LIFE-Evolution of Human Lives.
- **b.** The complete course of Human Anatomy should be subdivided in number of modules according to topics/regions/systems.
- **c.** Syllabus of other subjects of same course should be planned out where the maximum integration (Vertical & Horizontal) of topics is possible.
- **d.** Theory/Practical/Tutorial/Case based learning should be arranged in parallel.
- **e.** Each module should be planned according to the need of system-Corelation with Homoeopathy & time dimension (number of hours).
- **f.** At the end of each module knowledge should be assessed by arranging joint seminars (application of classroom knowledge to practical understanding).
- g. The curriculum includes the following;
 - 1. Anatomy Act.
 - 2. Body donation procedure and its legal aspects.
 - 3. Develop respect to the human cadaver, empathy towards diseased and sense of gratification for the voluntary body donors and their families.
 - 4. Anatomy and Ethics.

b. Practical

- **a.** Dissection of whole Human Body, Demonstration of dissected parts and small group discussions.
- **b.** Identification of histological slides, related to tissue & organs.
- **c.** Students shall maintain Practical/Dissection & Histology record.

THEORY

Sl. No.	Topics	No. of hours	Term
1.	GENERAL ANATOMY		I
	Modern concepts of cell and its components; cell division, types with their significance	2	
	2. Basic tissues	2	
	3. Genetics i. DNA & RNA ii. Chromosomes	6	

Sl. No.	Topics	No. of hours	Term
	iii. Genesiv. Inheritancesv. Genetic basis of diseases and Integration with homoeopathic concept of miasmatic influence		
	 4. Basics of General Anatomy- Definition and subdivisions of Anatomy History of Anatomy Anatomical terms of position amovement Skin, superficial and deep fasciae Muscles Bones Joints Joints Blood vessels Lymphatic system Nerves Glands: types and classification 	1 1 2 2 2 2 2 2 2 2 2	
	5. Revision Total Hours	2 32	
2.	DEVELOPMENTAL ANATOMY (EMBRY	_	I
	 Introduction Spermatogenesis Oogenesis Fertilization Cleavage and implantation Bilaminar germ disc formation Gastrulation: Germ layers & Derivatives Intraembryonic mesoderm derivatives: Somites Ossification Notochord Folding of the embryonic: formation of primitive gut Placenta Revision 	1 1 1 2 2 3 1 1 1 1 2 1 2	
	Total Hours	20	,
3.	HISTOLOGY (General)		I

Sl. No.	Topics	No. of hours	Term
	1. Introduction	1	
	2. Epithelial tissue	2	
	3. Connective tissue	2	
	4. Cartilage	1	
	5. Bone	1	
	6. Muscle	2	
	7. Nervous tissue	1	
	8. Skin	2	
	g. Lymphoid organs	2	
	10. Blood vessels	2	
	11. Glands	2	-
	12. Revision	2	-
	Total Hours	20	-
4.	UPPER EXTREMITY		I
	1. Introduction	1	
	2. Pectoral region and axilla	2	
	3. Mammary Gland	2	
	4. Brachial plexus	2	
	5. Axillary artery	1	
	6. Back and Intermuscular spacesaround scapula	2	
	7. Shoulder Joint	2	
	8. Musculocutaneous and axillary nerves	1	
	9. Arm and cubital fossa; brachial artery	2	
	10. Fore arm: Muscles, nerves and blood vessels (Superficial and Deep Flexors and Extensors)	4	
	11. Radial artery	1	1
	12. Ulnar artery	1	

Sl. No.	Topics	No. of hours	Term
	13. Median nerve	2	
	14. Ulnar nerve	1	1
	15. Radial nerve	2	-
	16. Elbow joint and radio-ulnar articulations	2	
	17. Wrist joint	1	
	18. Flexor and extensor retinacula	1	-
	19. Palmar aponeurosis and spaces in palmar spaces	2	
	20. Venous drainage of upper extremity	1	-
	21. Revision	2	-
	Total Hours	35	-
5-	LOWER EXTREMITY		III
	1. Introduction	1	
	2. Lumbar plexus and femoral nerve	2	-
	3. Front of thigh	2	-
	4. Femoral Triangle and Femoral artery	2	-
	5. Median compartment of thigh and obturator nerve	2	
	6. Gluteal region	2	-
	7. Sacral plexus and sciatic nerve, tibial and common peroneal nerves	4	
	8. Back of the thigh Popliteal fossa	2	-
	g. Hip joint	2	-
	10. Front of the leg and dorsum of the foot: Anterior tibial artery, deep peroneal nerve	4	
	11. Back of the leg: Tibial nerve and posterior tibial artery	3	
	12. Side of the leg: Superficial peroneal nerve	2	1

Sl. No.	Topics	No. of hours	Term
	13. Retinacula around the ankle	1	
	14. Sole of foot	2	
	15. Knee Joint	2	
	16. Ankle joint	1	
	17. Arches of foot	2	
	18. Venous drainage of lower extremity	2	-
	19. Revision	2	-
	Total Hours	40	
6.	THORAX		II
	1. Introduction	1	
	2. Trachea	1	-
	3. Pleura	1	
	4. Lungs	3	
	5. Mediastinum	2	
	6. Pericardium and Heart	4	
	7. Blood supply of heart	2	-
	8. Superior mediastinum: Arch of aorta	1	
	9. Superior mediastinum: Superior Vena cava	1	
	10. Inferior Vena Cava	1	
	11. Posterior mediastinum: Azygous vein & Thoracic duct	2	
	12. Posterior mediastinum: Oesophagus & Descending thoracic aorta	2	-
	13. Diaphragm	1	1
	14. Systemic embryology: Development of Heart and lung	3	
	15. Systemic histology: Trachea and Lung	1	1

Sl. No.	Topics	No. of hours	Term
	16. Revision	2	
	Total Hours	28	
7-	ABDOMEN, PELVIS & PERINEUI	М	III
	1. Introduction	1	
	2. Anterior Abdominal wall	2	-
	3. Peritoneum	2	-
	4. Stomach	2	-
	5. Liver	2	-
	6. Gall bladder and Extrahepatic biliary apparatus	2	-
	7. Spleen	1	-
	8. Duodenum	1	-
	g. Pancreas	2	-
	10. Jejunum and Ileum, Superior mesenteric artery	2	
	11. Caecum & appendix	2	_
	12. Large intestine	2	_
	13. Portal venous system	2	-
	14. Kidney	2	-
	15. Supra renal glands	1	-
	16. Abdominal aorta	1	-
	17. Posterior abdominal wall	1	-
	18. Urinary bladder	2	-
	19. Ureter	1	-
	20. Prostate gland	2	-
	21. Ovary	1	-
	22. Uterus	2	-
	23. Fallopian tube	1	-

Sl. No.	Topics	No. of hours	Term
	24. Scrotum and testis	2	
	25. Vas deferens	1	
	26. Rectum	1	
	27. Anal canal	1	
	28. Walls of pelvis including pelvic diaphragm	2	-
	29. Perineum: superficial and deep perineal pouches	3	
	30. Ischiorectal fossa	1	-
	31. Systemic embryology: Development of digestive system	4	
	32. Systemic embryology: Development of urogenital organs	2	
	33. Systemic histology: Digestive system	4	-
	34. Systemic histology: Urinary system & supra renal gland	2	
	35. Systemic histology: Male reproductive system	2	
	36. Systemic histology: Female reproductive system	2	
	37. Revision	6	-
	Total Hours	70	
8.	HEAD, NECK & FACE		II
	1. Introduction	1	
	2. Scalp	2	-
	3. Face: muscles, nerves and blood vessels	2	
	4. Lachrymal apparatus	1	
	5. Side of the neck: Posterior triangle	1]
	6. Front of the neck: Anterior triangle and its subdivisions	3	

Sl. No.	Topics	No. of hours	Term
	7. Deep cervical fascia	1	
	8. Back of the neck: Suboccipital triangle	1	
	9. Contents of vertebral canal	1	
	10. Parotid gland	1	
	11. Submandibular gland	1	
	12. Muscles of mastication	1	
	13. Temporomandibular joint	1	
	14. Thyroid gland	2	
	15. Cranial cavity: Dura mater, Dural venous sinuses & Pituitary gland	3	
	16. Contents of the orbit	1	
	17. Extraocular muscles	1	
	18. Oral cavity	1	
	19. Soft palate and palatine tonsil	1	
	20. Tongue	1	
	21. Pharynx	2	
	22. Larynx	2	
	23. Nose and paranasal air sinuses	2	
	24. Ear: EAC & middle ear, inner ear	2	
	25. Eustachian tube	1	
	26. Eyeball	2	
	27. Common & Internal carotidartery	1	
	28. External carotid artery	2	
	29. Vertebral artery	1	
	30. Internal Jugular vein	1	
	31. Systemic histology: Thyroid gland, Pituitary gland and Tongue	3	

Sl. No.	Topics	No. of hours	Term
	32. Systemic embryology: Pharyngeal arches: derivatives	1	
	33. Revision	3	
	Total Hours	50 hrs	
9.	CENTRAL NERVOUS SYSTEM: BRA	AIN	11
	1. Introduction	1	
	2. Meninges & CSF	1	
	3. Spinal cord	1	
	4. Medulla oblongata	1	
	5. Pons	1	
	6. Cerebellum	1	
	7. Fourth ventricle	1	
	8. Mid-brain	1	
	9. Diencephalon: Thalamus & Hypothalamus	2	
	10. Third Ventricle	1	
	11. Lateral Ventricle	1	
	12. Cerebrum: external features	2	
	13. Functional areas of cerebral cortex	1	
	14. Basal ganglia	1	
	15. White matter of cerebrum: Corpus callosum & Internal capsule	2	
	16. Blood supply of brain	2	
	17. Cranial nerves	6	
	18. Systemic embryology: Development of Brain	2	
	19. Revision	2	
	Total Hours	30	

Total – 325 hrs

PRACTICAL

Sl. No.	Topics	No. of hours	Term
1.	GENERAL HISTOLOGY		I
	Epithelial tissue: Simple & Stratified	4	
	2. Connective tissue: Loose/Areolar & Adipose	2	
	3. Connective tissue: Cartilages	2	
	4. Connective tissue: Compact bone (L.S, T.S) and Spongy bone	2	
	5. Muscle tissue: Skeletal (L.S, T.S), Smooth and Cardiac	2	
	6. Nervous tissue: Peripheral nerve (T.S) & Nerve fibre (L.S)	2	
	7. Skin: Thick & Thin	2	
	8. Lymphoid organs: Lymph node, Spleen, Thymus & Tonsil	4	
	9. Blood vessels: Large artery, Medium sized artery & Large vein	2	
	10. Glands: Serous, Mucous & Mixed	2	
	Total Hours	24	
2.	UPPER EXTREMITY		I
	1. Introduction	2	
	Osteology		
	2. Clavicle	2	
	3. Scapula	2	
	4. Humerus	2	
	5. Radius	2	
	6. Ulna	2	
	7. Articulated hand	2	

Sl. No.	Topics	No. of hours	Term
	8. Surface Markings in upper extremity	2	
	Dissection		
	g. Pectoral region	2	
	10. Axilla	2	
	11. Back & Shoulder	2	
	12. Arm: Front & Cubital fossa and Back of the arm	2	
	13. Front of Forearm & palm of hand	4	
	14. Back of Forearm & Dorsum of Hand	2	
	15. Joints of upper extremity	2	
	16. Radiology of upper extremity	2	
	Total Hours	34	
3.	HEAD, NECK & FACE	II	
	1. Introduction	2	
	Osteology		
	2. Skull	6	
	3. Mandible	2	
	4. Hyoid bone	2	
	5. Cervical vertebrae: Typical & Atypical	2	
	6. Surface Markings in head, neck & face.	2	
	Dissection	1	
	7. Scalp	2	
	8. Face	2	
	g. Posterior triangle of neck	2	1
	10. Anterior triangle of neck	2	
	11. Back of neck	2	
	12. Cranial cavity & Contents of vertebral canal	4	

Sl. No.	Topics	No. of hours	Term
	13. Deep dissection of neck	2	
	14. Orbit & Eyeball	2	
	15. Ear	2	
	16. Parotid region	2	
	17. Temporal & infratemporal region	2	
	18. Sub mandibular region	2	
	19. Mouth, Tongue & Pharynx	2	
	20. Nose & Larynx	2	
	21. Temporo-Mandibular joint & joints of Neck	2	
	22. Radiological anatomy of Head, Neck and Face	2	
	Systemic Histology-		
	23. Thyroid gland (including parathyroid)	2	
	24. Pituitary gland	2	
	25. Revision	2	
	Total Hours	56	
4.	CENTRAL NERVOUS SYSTEM		II
	1. Introduction	2	
	Demonstration		
	2. Parts of the brain	4	
	3. Spinal cord	2	
	4. Ventricles (model)	2	
	5. Radiology of brain	2	
	Systemic Histology		
	6. Nervous tissue: Cerebrum & Cerebellum	2	
	7. Revision	2	

Sl. No.	Topics	No. of hours	Term
	Total Hours	16	
5.	THORAX		II
	1. Introduction	2	
	Osteology		
	2. Sternum. Ribs: Typical & Atypical	2	
	3. Thoracic vertebrae: Typical & Atypical	2	
	Surface Marking	4	
	Dissection		
	4. Anterior Thoracic wall, Intercostal space & contents	2	
	5. Pleura & Lungs	4	
	6. Contents of superior mediastinum & Pericardium	2	
	7. Heart: External features	2	
	8. Interior of Heart with valves of heart	2	
	9. Contents of posterior Mediastinum	2	
	10. Radiological anatomy	2	
	Systemic Histology		
	11. Trachea & Lung	2	
	12. Revision	2	
	Total Hours	30	
6.	LOWER LIMB		III
	1. Introduction	2	
	Osteology		
	2. Hip Bone	2	
	3. Femur & Patella	2	
	4. Tibia	2	

Sl. No.	Topics	No. of hours	Term
	5. Fibula	2	
	6. Articulated Foot	2	
	7. Surface Marking	2	
	Dissection		
	8. Front of thigh	4	
	g. Medial side of thigh	2	
	10. Gluteal region	2	-
	11. Back of thigh & Popliteal fossa	2	-
	12. Front of Leg & Dorsum of Foot	2	
	13. Leg: Medial, Lateral & Back of Leg	4	
	14. Sole of Foot	4	
	15. Joints of the lower extremity	2	
	16. Radiology lower extremity	2	
	17. Revision	2	-
	Total Hours	40	-
7.	ABDOMEN & PELVIS		III
	1. Introduction	2	
	2. Osteology		
	3. Lumbar Vertebrae	2	
	4. Sacrum and joints	2	
	5. Articulated Pelvis: Male & female	2	
	6. Surface Marking	4	
	Dissection		
	7. Anterior abdominal wall	2	
	8. External genitalia of Male	2	
	9. Abdominal cavity: Positions & Relations of viscera, Peritoneum, Greater & Lesser sac	2	

Sl. No.	Sl. No. Topics		Term
	10. Stomach & Spleen	2	
	11. Small intestine (Jejunum & Ileum) & Large intestine	2	
	12. Duodenum & Pancreas	2	
	13. Liver, Gall bladder & blood vessels of Digestive system	2	
	14. Kidney & Suprarenal gland	2	
	15. Posterior Abdominal wall & Diaphragm	2	
	16. Walls of the pelvis & Pelvic cavity : position & relations of viscera, Perineum	2	
	17. Urinary bladder, Urethra & Prostate	2	
	18. Ovary, Uterus, Fallopian tubes, Vagina	2	
	19. Sigmoid colon, Rectum & Anal canal	2	
	20. Radiological anatomy	2	
	Systemic Histology		
	21. Digestive system: Basic structure of GIT	2	
	22. Digestive system: Liver & Gall bladder, Pancreas	2	
	23. Urinary system: Kidney, Ureter & Suprarenal gland	2	
	24. Male Reproductive system: Testis & Prostate	2	
25. Female Reproductive system: Ovary & Uterus		2	
	Total Hours		
Total Pract	250 Hours		

Non-Lecture activities

SI. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)
1.	Seminars/ Workshops	10
2.	Group Discussions	10
3-	Problem based learning	10
4.	Integrated Teaching	15
5.	Case Based Learning	10
6.	Self-directed Learning	15
7.	Tutorials, Assignments and projects	10
	Sub total	80
8.	Practical	250
	Total	330

Description of Non-Lecture Activities

Sl. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)	Topics
1.	Seminars/ Workshops	10	Seminars: Guest Seminars, Student Seminars of Fast Learners can be conducted on any topic of Anatomy. E.g.: Shoulder joint, Liver etc. Workshop: Workshop can be arranged on important topics of Anatomy. E.g.: Abdomen, Thorax, CNS etc.
2.	Group Discussions	10	Group discussions can be conducted during practical hours on any topic of Practical and dissection. E.g.: Heart, Lungs, actions of joints etc.
3.	Problem based learning	10	Problem based learning can be conducted on any applied anatomy topic. E.g.: Bell's palsy, Frozen shoulder, Varicose veins etc.

4.	Integrated	15	A] Horizontal Integration
	Teaching		Physiology: Any topic related to Physiology can be conducted. E.g.: Anatomy: Physiology Seminar on Respiratory System.
			Homoeopathic Subjects: Any topic related to Homoeopathic Materia Medica, Repertory, Organon of Medicine. E.g.:
			a) Integrated lecture with HMM - Homoeopathic drugs related to organs of Abdomen.
			b) Integrated lecture with Repertory – Rubrics related to structures of Thorax.
			c) Integrated lecture with Organon – Miasmatic influence on heredity.
			d) Integrated lecture with Homoeopathic Pharmacy - Action of Homoeopathic drugs on cellular level.
			B] Vertical Integration
			Gynecology – E.g.: Any topic related on female reproductive System.
			Surgery – E.g.: Integrated lecture on radiology.
			Medicine – E.g.: Embryological basis of major congenital anomalies of heart
5.	Case Based Learning	<mark>10</mark>	Case Based Learning can be conducted on any clinical topic of anatomy by presenting a case scenario with the help of Simulation or Audiovisual aid in the classroom. E.g.: A case of Bell's Palsy for the topic Facial Nerve, A case of Wrist drop for the topic Radial Nerve etc.
6.	Self-Directed Learning	15	Self-Directed Learning can be conducted for any topic of Anatomy. E.g.: Functional

			areas of cerebrum, Actions of Facial muscles.
7.	Tutorials, Assignments, Projects	10	Tutorials, Assignments, projects can be conducted on any topic of anatomy at the end of the topic.

6. TEACHING LEARNING METHODS

General Instructions

- (a) Instructions in anatomy should be so planned as to present a general working knowledge of the structure of the human body both at micro and macro level and should correlate with function. Topics/syllabus should be planned out in parallel with other subjects for better understanding & to achieve integration.
- (b) The amount of detail which a student is required to memorise should be reduced to the minimum but should connect to syllabus of other subjects and applied anatomy.
- (c) Major emphasis should be laid on functional anatomy of the living subject rather than on the static structures of the cadaver and on general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics and study of the cadaver is the only means to achieve this.
- (d) Students should know the basic applied anatomy & should not be burdened with minute anatomical details which have no clinical significance.
- (e) Only such details which have professional or general educational value for the Homoeopathic medical students need to be focused.
- (f) Normal radiological anatomy may also form part of practical or clinical training and the structure of the body should be presented linking functional aspects.
- (g) A good part of theoretical lectures on anatomy can be transferred to tutorial classes with the demonstrations/ Projection / Dissection.
- (h) Case based learning should be conducted for the students on various clinical conditions with the help of case scenario, simulation or Audiovisual aids as a Non-Lecture activity.
- (i) Seminars and group discussions to be arranged periodically with view of presenting these subjects in an integrated manner.
- (j) More stress on demonstrations and tutorials should be given. Emphasis should be laid on the general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics.
- (k) There should be joint seminars with the departments of Physiology and Biochemistry, Repertory, HMM, Philosophy and Pharmacy which should be organized wherever necessary as per the topic.
- (l) There should be a close correlation in the teaching of gross Anatomy, Histology, Embryology and Genetics and the teaching of Anatomy, Physiology including Biochemistry along with Homoeopathic subjects shall be integrated.

Though dissection of the entire body is essential for the preparation of the student for his clinical studies, the burden of dissection can be reduced and much saving of time can be affected with considerable reduction of the number of topographical details while following the above points. The purpose of dissection is to give the student an understanding of the body-Structure from Macro to Micro correlate to its function- Functional anatomy to integrate with Physiology and the dissection should be designed to achieve this goal.

Dissection should be preceded by a course of lectures on the general structure of the organ or the system under discussion and then its function. In this way anatomical and physiological knowledge can be presented to students in an integrated form and the instruction of the whole course of anatomy and physiology made interesting, lively practical or clinical. Syllabus of all the subjects of First BHMS course should be structured to run parallel, horizontally & vertically as far as possible to achieve maximum integration.

Students should be able to identify anatomical specimens and structures displayed in the dissection. Teaching and Demonstration methods should be supported with latest software/Practical/Charts/slides/Working or 3D Diagrams, Audio-Visual/ Multimedia presentation/Simulation to train clinical application.

The Teaching Learning activities in Anatomy requires change in structure & process in order to be more skill based & providing hands on experience.

The Teaching Learning methods with respect to Anatomy may be covered in the following manner:

- a. Class Room Lectures Oral Presentation, Board Work, Power point Presentation.
 Tutorials on the topics covered.
- b. Assignments For Slow Learners
- c. Practical Class Demonstration, Dissection, Surface Marking, Histology, Radiology
- d. **Student Activities** Working out the Assignments, Projects, PowerPoint presentations as assigned
- e. Case based Learning & Problem Based Learning (CBL & PBL) for students to understand the application of knowledge of Anatomy with Clinical subjects.
- f. DOAP (Demonstration Observation Assistance Performance) For Clinical Anatomy.

7. CONTENT MAPPING (COMPETENCY TABLE)

- 1. General Anatomy
- 2. Developmental anatomy (Embryology)
- 3. Regional anatomy (Upper and Lower Extremities, Thorax, Abdomen, Pelvis & Perineum, Head, Neck & Face and Brain)
 - 3.1 Each of the region will be studied under the following headings
 - (a) Osteology
 - (b) Syndesmology and Arthrology (Joints)
 - (c) Myology
 - (d) Angiology
 - (e) Neurology
 - (f) Splanchnology (Viscera/Organ)
 - (g) Histology
 - (h) Surface anatomy
 - (i) Applied anatomy
 - (j) Radiographic anatomy
 - (k) Correlation with homoeopathic subjects

Semester - I

1. Topic: General Anatomy

Learning Outcomes (LO): At the end of general anatomy, I-BHMS student must;

- 1. Describe the structure of a cell, its components and their function.
- 2. Recall the terminologies used in Anatomy.
- 3. Classify bones, muscles, joints and nerves
- 4. Mention the homoeopathy

- 5. hic drugs indicated for particular tissue/organ involvement.
- 6. Practice Ethics related to the learning of Anatomy.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) / Vertical(V)
Hom UG- AN- 1.1	n/ Integration of Information	Anatomy	К	Concept of cell as structural and functional unit of the body	 Define cell Name the components of cell Mention their functions of cell organelle Mention the types of cell division explain their significance 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.2	Problem formulation/ Knowledge/	General A	К	Understanding of the four basic tissues that make up organs and systems	 Describe the structure and location Mention the characteristics Function of each of the basic tissues 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom		Understand	1.	Describe the structure of DNA and		Level 1	1. DK	Lecture	MCQ,	MCQ,	Physiology
UG-		role of DNA in		RNA	Cognitiv	(Remem	2. DK		SAQ.	SAQ.	(H)
AN-		carrying the	2.	List the functions of DNA and RNA	е	ber/		Group		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Maraliaina (VA)
1.3. i	K	genetic code				recall)		discussion		Viva	Medicine (V)
		and RNA in								Voce	
		gene									
		expression									

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 1.3. ii	ion/Integration of nation al	General Anatomy	К	Describe the role of chromosomes in transfer or genetic material & role in cell division	 Definition and number Karyotyping Barr body Chromosomal abnormalities 	Cognitive	Level 1 (Remem ber/ recall)	 MK DK NK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 1.3. iii	Problem formulation/ Int Knowledge/ Information gathering/Practical	General A	К	Explain the concept of Gene as unit of inheritance	 Definition Functions Types and location 	Cognitive	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom		KH		1.	Definition	Cognitive	Level 2	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-			Describe the	2.	Define autosomal		(Remem	2.	DK		SAQ.	SAQ.	(H)
AN-			types of inheritance and		inheritance		ber/		DV			Viva	Medicine (V)
1.3. iv			their role in	3.	Define sex linked inheritance		recall)	3.	DK			Voce	iviculcine (v)
			hereditary diseases	4.	Define mitochondrial inheritance			4.	NK				

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 1.3. v	Problem formulation/ Integration of	General Anatomy	КН	Describe the genetic basis of diseases	 Mention the types of genetic abnormalities Describe the genetic basis of Down's syndrome Explain miasmatic influence on heredity 	Cognitive	Level 2 (underst and/inter pret)	1. DK 2. DK 3. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V) Organon (H)

	etency		stency	ng the end of dent to	nain		esire to know	ning a	essment	ssessment	ertical
Hom UG- AN- 1.4. ii		К	History of Anatomy	 Recall the evolution of anatomy as a science Enumerate the major contributors and their work 	Cognitive	Level 1 (Remem ber)	1. NK 2. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG- AN- 1.4.i		К	Definition and subdivisions of anatomy	 Definition of anatomy List the subdivisions of anatomy Recall the methods of study in each sub division of anatomy 	Cognitive	Level 1 (Remem ber)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/Vertical
Hom UG- AN- 1.4.iii	Problem formulation/ Integration of	General Anatomy	К & КН	Anatomical Terms of position & movement	 Define anatomical terms of position and movement Apply the anatomical terms Demonstrate the movements 	Cognitiv e & Psychom otor	Level 1 (Remember) & Level 2 (understand)	 MK MK MK MK 	Lecture Demonstration Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-

Hom UG- AN- 1.4.iv	K	Skin, Superficial and Deep fasciae	1. 2. 3. 4.	Describe the structure, appendages of skin Mention the functions of skin Describe superficial fascia and its distribution Describe deep fascia and its functions	Cognitiv e	Level 1 (Remember)	1. 2. 3. 4.	MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.4. V	K & KH	Muscles	1. 2.	Classify muscles Classify skeletal muscles based on fascicular architecture and their blood and nerve supply Explain the actions of skeletal muscles	Cognitiv e	Level 1 (Remember) & Level 2 (understand)	1. 2.	DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/Vertical
Hom UG- AN- 14.vi	Problem formulation/ Integration of	General Anatomy	К & КН	Bones	 Describe the structure and functions of bones Classify bones Describe the parts of growing long bone Explain the blood supply of long bone 	Cognitiv e	Level 1 (Remember) & Level 2 (understand)	 MK MK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	s Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 1.4. viii			К	Blood vessels	 Describe the types of blood vessels Explain anastomosis & arteriovenous anastomosis Describe the types of blood circulation Describe foetal circulation 	Cognitiv e	Level 1 (Remember) & Level 2 (understand)	 MK MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.4.vii			К	Joints	 Define joints Classify joints Describe the structure of synovial joint Classify synovial joints Mention the blood and nerve supply of joints 	Cognitiv e	Level 1 (Remember)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG- AN- 14. ix	ledge/ Information Iagement/synthesis		К	Lymphatic system	 Define the lymphatic system and mention its functions Enumerate the components of lymphatic systems Define mucosa associated lymphatic tissue and bronchus associated lymphatic tissue 	Cognitiv e	Level 1 (Remember)	 MK MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.4X	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	General Anatomy	K & KH	Nerves	 Classify nervous system Describe neuron & neuroglia Describe the formation of typical spinal nerve Differentiate sympathetic and parasympathetic nervous systems 	Cognitiv e	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.4. xi	Problem formulatio gathering/Practical		К & КН	Glands	 Define a gland Describe exocrine and endocrine glands Classify exocrine glands Classify endocrine glands 	Cognitiv e	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 1.5			К	Cell, Tissues, organs, Organ System	Describe the action of Homoeopathic drugs on cellular level.	Cognitiv e	Level 1 (Remember/ recall)	NK	Integrate d lecture	Viva Voce	-	Pharmacy , Homoeopat hic Materia Medica (H),

2. Topic: Developmental Anatomy (Embryology)

Learning Outcomes (LO): At the end of embryology, I-BHMS student should be able to;

- 1. Describe evolution of life on earth and the developmental anatomy and genetics.
- 2. Explain the structural organization of man from micro to macro and its evolution from embryo.
- 3. Explain the evolution of different organs and systems from the embryo.
- 4. Enumerate the homoeopathic drugs indicated for particular genetic or developmental defect.

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.1	Knowledge/ Information n management/synthesis		KH &	Introduction to embryology	 Define embryology Enumerate the parts of male and female reproductive systems Correlate meiosis with gametogenesis Describe menstrual cycle 	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Obstetrics and Gynecology (V)
Hom UG- AN- 2.2	egration of Knowlec /Information manag	Embryology	К & КН	Spermatogenesi s	 Define spermatogenesis Describe the process of spermatogenesis Describe spermiogenesis Describe the structure of spermatozoon 	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 2.3	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	ш	К & КН	Oogenesis	 Define Oogenesis Describe the process of oogenesis Describe formation of graafian follicle Compare spermatogenesis and oogenesis 	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Obstetrics and Gynecology (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.4 & 2.5	formation t/synthesis		K & K	Fertilization	 Define fertilization Describe the process of fertilization Describe the process of cleavage and formation of blastocyst Explain the clinical correlation with IVF 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. NK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 2.6	ation of Knowledge/ In ormation managemen	Embryology	К	Formation of bilaminar germ disc	 Describe the formation of amniotic cavity and yolk sac Describe the formation of bilaminar germ disc Describe the formation of extraembryonic mesoderm Define chorion and amnion 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG- AN- 2.7	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information management/synthesis	ш	К	Gastrulation	 Define Gastrulation Describe the formation of prochordal plate Describe the formation of primitive streak Describe the formation of germ layers Mention derivatives of each germ layer 	Cognitive	Level 1 (Remember)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.8	Integration of ion cills/Information	logy	К	Intra embryonic mesoderm and formation of somites	 Describe the parts of intra embryonic mesoderm Describe the formation of somites and their derivatives Define Sclerotome, myotome and dermatome 	Cognitive	Level 1 (Remem ber)	 MK MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 2.9	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information	Embryology	К	Ossification	 Define ossification Mention the types of ossification Describe intramembranous ossification Describe endochondral ossification 	Cognitive	Level 1 (Remem ber)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 2.10			К	Notochord	 Describe the formation of notochord Mention the function and fate of notochord Describe the formation of neural tube 	Cognitive	Level 1 (Remem ber)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.11	formulation/Integration of ge/Information g/Practical Skills/Information	18	К	Folding of the embryonic disc and formation of primitive gut tube	 Explain the sagittal folding of embryo Explain the transverse folding of embryo Describe the parts of primitive gut tube 	Cognitive	Level 1 (Remem ber)	 MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG- AN- 2.12	Problem formulation/Int Knowledge/Information gathering/Practical Skills	Embryology	К	Placenta	 Define amnion and chorion Define decidua Describe the formation of placenta Mention the functions of placenta 	Cognitive	Level 1 (Remem ber)	 DK DK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	-
Hom UG- AN- 2.13			К	Stages of development	Describe the Development of embryo and layers of suppression. Enumerate the homoeopathic drugs indicated for particular genetic or developmental defect	Cognitive	Level 1 (Remem ber/ recall)	1. NK	Integrate d lecture	Viva Voce	-	Organon (H), Homoeopat hic Materia Medica (H)

3. Topic: General Histology

Learning Outcomes (LO): At the end of embryology, I-BHMS student should be able to;

- 1. Describe microscopic structure of the basic tissues and clinically relevant structures.
- 2. Correlate the histological features with their functions.
- 3. Explain the possible changes in cells, tissues and organs due to injury or disease.

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 3.1	dge/ Information Iement/synthesis		К & КН	Introduc tion to histolog y	 Define histology Describe parts of microscope Explain the use of microscope 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. M K 2. M K 3. M K	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 3.2	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information management/synthesis	Histology	K	Epithelia I tissue	 Define epithelium Mention the characteristics of epithelial tissue Classify epithelia 	Cognitive	Level 1 (Remember)	1. M K 2. M K 3. M K	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 3-3	Problem formulation, gathering/Practical Sl		К & КН	Connecti ve tissue	la (laccity connective ticcile	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. M K 2. M 3. M K	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 3·4	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Histology	К	Cartilag e	 Classify cartilages Describe the microscopic structure of hyaline cartilage Describe the microscopic structure of fibro cartilage Describe the microscopic structure of elastic cartilage 	Cognitive	Level 1 (Remember)	1. M K 2. M K 3. M K	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 3·5	Problem formulation/ Integration of K gathering/Practical Skills/Information management/synthesis		К	Bone	 Describe haversian system Describe the microscopic structure of L S and T S of compact bone Describe the microscopic structure of spongy bone 	Cognitive	Level 1 (Remember)	1. M K 2. M K 3. M	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom				1.	Classify muscle tissue	Cognitive	Level 1	1.	М	Lecture	MCQ,	MCQ,	Physiology
UG-				2.	Describe the microscopic structure		(Remember)		K		SAQ.	SAQ.	(H)
AN-					of L S and T S of skeletal muscle			2.	М			Viva	
3.6				3.	Describe the microscopic structure				K			Voce	
					of smooth muscle								
		K	Muscle	4.	Describe the microscopic structure			3.	М				
					of cardiac muscle				K				
								4.	М				
									K				

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 3-7	Problem formulation	Histology	К	Nervous tissue	 Describe nerve Describe T S of peripheral nerve Describe L S of peripheral nerve 	Cognitive	Level 1 (Remem ber)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG- AN- 3.8	K	Skin	 Describe microscopic structure of thin skin Describe microscopic structure of thick skin Describe appendages of skin 	Cognitive	Level 1 (Remem ber)	1. 2. 3.	MK MK MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 3.9	К	Lymphoid organs	 Mention lymphoid organs Describe the microscopic structure of lymph node, Describe the microscopic structure of tonsil Describe the microscopic structure of thymus Describe the microscopic structure of spleen 	Cognitive	Level 1 (Remem ber)	1. 2. 3. 4.	MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

SI. No.	Generic Competency	Subject Area Millers:	K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
---------	--------------------	--------------------------	------------	---------------------	---	----------------	------------------	--	-----------------------------------	----------------------	----------------------	-------------------------------------

Hom			K	Blood vessels	1.	Classify blood vessels	Cognitive	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-	_ u				2.	Describe the microscopic		(Remem	2.	MK		SAQ.	SAQ.	(H)
AN-	dge, atic					structure of large artery		ber)						
3.10	/lec				3.	Describe the histology of			3.	MK			Viva	
						medium sized artery							Voce	
	n of Knowledge/ Skills/Information				4.	Describe the microscopic structure of large vein								
	Ski					structure or large vein			4.	MK				
	gration actical SI													
Hom	egra	Histology	K	Glands	1.	Classify glands based on	Cognitive	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-	rulation/ Integ athering/Prac /synthesis	tole				type of secretion		(Remem				SAQ.	SAQ.	(H)
AN-	on/ ring hes	His			2.	Describe the microscopic		ber)	2.	MK				
3.11	formulation/ on gathering nent/synthes					structure of serous gland							Viva	
	mu gai				3.	Describe the microscopic							Voce	
	for ion					structure of mucous gland			3.	MK				
	em nat ger				4.	Describe the microscopic								
	Problem formulation/ Ir Information gathering/F management/synthesis					structure of mixed gland			4.	MK				
	P. Inf													

4. Topic: Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremities, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the upper extremities, their blood supply and applied anatomy.
- 2. Describe anatomy of the joints of the upper extremities, their blood supply, action and applied anatomy.
- 3. Describe the muscles of the upper extremities, their origin, insertion, nerve supply, action and applied anatomy.
- 4. Explain anatomy of the vessels and nerves of the upper extremities, their course, muscles they supply, relations and applied anatomy.

	anatomy of mammary gland wit	h its applied anatomy.			
6. Describe the	anatomy of axilla.				
7. Enumerate h	omoeopathic drugs and rubrics in	ndicated for particular inv	olvement of bones, muscle	s, joints, nerves, blood vess	els.

Sr No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency		Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level		know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
HomUG- AN-4.2, 4.6, 4.9, 4.10, 4.18 and 4.19	e/ Information ment/ synthesis		K & KH	Anatomic al features of Pectoral region and axilla Back and Intermuscular spaces around scapula Arm and cubital fossa Fore arm Flexor and extensor retinacula Palmar aponeurosis and spaces in palmar spaces	3.	Describe the contents of the regions of upper extremity Recall the attachments, nerve supply and actions of the muscles in the regions Describe the main joint, blood vessels and nerves in the region. Identify the surface land marks in the region for surface marking	Cogniti ve	Level 1 (Remem ber/ recall)	1. 2. 3. 4.	MK MK MK MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
HomUG- AN-4.4, 4.5 4.9 to 4. 12 & 4.20	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	К	Main blood vessels of the upper limb: Axillary artery, brachial artery Radial artery and ulnar artery and superficial veins of upper extremity	2. 3. 4.	Describe the origin, extent, parts, branches and distribution of main arteries Describe superficial and deep palmar arches Describe the venous drainage of upper extremity Describe their applied anatomy		Level 1 (Remem ber/ recall)	5. 1. 2. 3.	MK MK MK MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
HomUG- AN-4.8, 4.10, 4.13 to 4.15	Problem formulatio gathering/Practical		К	Describe the Anatomy of nerves of Upper extremity Median nerve, Ulnar nerve, Radial nerve, Musculocutaneous nerve and Axillary nerve	2.	Describe the formation, course and relations of main nerves of the upper extremity Mention their branches and their distribution Describe the applied anatomy	Cogniti ve	Level 1 (Remem ber/ recall)	1. 2. 3·	MK MK DK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V) Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
HomUG -AN-4.4	rmulation/ Integration of Knowledge/ gathering/Practical Skills/ Information	mity	К	Describe the anatomy of Brachial plexus		Cognitive	Level 1 (Remember/ recall)	1. M K 2. M K 3. M K 4. M K	Lectur e	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiolog y H)
HomUG -AN-4.3	Problem formulation/ Integration Information gathering/Practical Sk	Upper Extremity	К	Describe the anatomy of Breast (Mammary gland)	1. Define location & extent of breast	Cognitive	Level 1 (Remember/ recall)	1. M K 2. M K 3. M K 4. M K 5. DK	Lectur e	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)

HomUG -AN-4.7, 4.16 &4.17	К	Describe the Anatomy of joints of Upper extremity Shoulder, Elbow, Radio-ulnar and wrist joints	extremity 2. Describe the articulating surfaces, ligaments, blood and nerve supply of joints of upper extremity 3. Describe the movements of joints upper extremity	Cognitive	Level 1 (Remember/ recall)	 1. 2. 3. 4. 	M K M K M K DK	Lectur e	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
HomUG -AN- 4.18	К	Structures of upper extremity	 Enumerate the homoeopathic drugs related to structures of upper extremity. Enumerate the rubrics related to structures of upper extremity. 	Cognitive	Level 1 (Remember/ recall)	NK		Integra ted Lectur e	Viva voce		Homoeop athic Materia Medica (H), Repertory (H).

5. Topic: Lower Extremity

Learning Outcomes (LO): At the end of Lower Extremities, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the lower extremities, their blood supply, and applied anatomy.
- 2. Describe the anatomy of the joints of the lower extremities, their blood supply, action and applied anatomy.
- 3. Describe the anatomy of the muscles of the lower extremities, their origin, insertion, nerve supply, action and applied anatomy.
- 4. Describe the anatomy of the vessels and nerves of the lower extremities, their course, muscles they supply, relations and applied anatomy.
- 5. Enumerate the homoeopathic drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels.

Sr. No	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/Vertical
HomUG- AN-5.3 to 5.6, 5.8, 5.10 To 5.14	dge/ Information gement/ synthesis		К & КН	Front of the thigh, Femoral triangle, Medial side of thigh, Gluteal region, Back of the thigh and popliteal fossa, Front of the thigh and dorsum of the foot, Back & side of the leg, retinacula and sole of the foot	 Describe Contents of the regions of lower extremity Recall the attachments, nerve supply and actions of the muscles in the regions Describe the main joint, blood vessels and nerves in the region. Identify the surface land marks in the region for surface marking 	Cogniti ve	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
HomUG- AN-5.4, 5.8 5.10 to 5.11, 5.14 & 5.18	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Lower Extremity	К	Main blood vessels of the upper extremity: Femoral artery, Popliteal artery, Anterior tibial & Posterior tibial and Dorsalis pedis artery	 Describe the origin, extent, parts, branches and distribution of main arteries Describe superficial and deep plantar arches Describe the venous drainage of lower extremity Describe their applied anatomy 		Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
HomUG- AN-5.2, 5.5,5.7, 5.10 to 5.12, 5.14	Problem formulat gathering/Practica		К	Describe morphology nerves of lower extremity Femoral, obturator, Sciatic, common peroneal and Tibial nerves	 Describe the formation, course and relations of main nerves of the lower extremity Mention their branches and their distribution Describe the applied anatomy 	Cogniti ve	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lectu re	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V) Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG-AN- 5.2 & 5.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	emity	К	Describe the anatomy of Lumbar & Sacral plexuses	 Define nerve plexus Enumerate the root value of the plexuses Describe the formation of the plexuses Name the branches of sacral and lumbar plexus Enlist the deformities due to injuries to lumbar & sacral plexuses 	Cognitive	Level 1 (Remember/ recall)	1. M K 2. M K 3. M K 4. M K 5. DK	Lectur e	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiolog y H)
HomUG- AN-5.9, 5.15 to 5.17	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Lower Extremity	К	Describe the Anatomy of joints of Lower extremity Hip, Knee and Ankle Arches of the foot	 Describe the articulating surfaces, ligaments, blood and nerve supply of joints of lower extremity Describe the movements of joints lower extremity Describe the applied anatomy of joints of lower extremity Describe the formation of arches of foot Describe the applied anatomy 	Cognitive	Level 1 (Remember/ recall)	1. M K 2. M K 3. M K 4. DK	Lectur e	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG-AN- 5.18			K	Structures of lower extremity	 Enumerate the homoeopathic drugs related to structures of lower extremity. Enumerate the rubrics related to structures of lower extremity. 	Cognitive	Level 1 (Remember/ recall)	NK	Integra ted Lectur e	Viva voce		Homoeop athic Materia Medica (H), Repertory (H).

6. Topic: Thorax

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to;

- 1. Describe the parts of Respiratory and Cardiovascular system with their applied anatomy.
- 2. Enumerate the homoeopathic drugs and rubrics related to thorax.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 6.1 & 6.2	ion/ Integration of Information	Thorax	К	Introduction & Trachea	 Describe the Boundaries and content of thoracic cage Describe the morphology of trachea Mention the Blood supply and nerve supply Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 6.3	Problem formulation/ Knowledge/	Th	К	Pleura	 Define pleura Mention the layers Describe the parts of parietal pleura Mention its blood and nerve supply Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H) Medicine (V)

Hom				1.	Describe the external features of	Cognitiv	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-					the lung	е	(Remem	2.	DK		SAQ.	SAQ.	(H)
AN-				2.	Compare the features of right and		ber/	3.	DK	Group		LAQ	
6.4		17	1		left lungs		recall)	4.	MK	discussion		Viva	Medicine (V)
		K	Lungs	3.	State the blood supply and nerve							Voce	
					supply								
				4.	Explain the broncho-pulmonary								
				ļ '	segments and their applied aspect								
					. 19 г. г. г. г. г. г. г. г.								

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 6.5	dge/ Information !/synthesis		К	Mediastinum	 Define mediastinum Describe the boundaries of mediastinum Mention the contents of each mediastinum Describe its applied aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG- AN- 6.6	Integration of Knowledge/ Information management/syni	Thorax	К	Pericardium and Heart	 Describe the morphology of the pericardium Describe the external features of the heart Describe the internal features of the chambers of heart Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	4. MK 5. MK 6. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H)
Hom UG- AN- 6.7	Problem formulation/ Integration of Knowledge/ Infogathering/Practical Skills/Information management/synthesis		К	Blood supply of heart	 Mention the arteries and veins supplying the heart Describe the course and distribution of right and left coronary arteries Describe the course and drainage of coronary sinus Describe the applied aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Physiology (H) Medicine (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 6.8	of Knowledge/ Skills/Information		К	Superior mediastinum: Arch of aorta	 Describe the extent, course, convexities of arch of aorta Mention the relations Name the branches Describe the applied aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	 MK MK MK MK MK 	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 6.9	uo	Thorax	К	Superior mediastinum: Superior Vena cava	 Describe the formation of SVC Describe its course and relations Name the tributaries Describe it applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Surgery (V)
Hom UG- AN- 6.10	Problem formulation/ Integration Information gathering/Practical	⊢ 1	К	Posterior mediastinum: Azygous vein & Thoracic duct	 Describe the origin, course and tributaries of azygos vein Mention the relations Describe the origin, course and tributaries of thoracic duct Mention the relations of thoracic duct Describe their applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) / Vertical(V)
Hom UG- AN- 6.11	Integration of Knowledge/ Practical Skills/Information	Thorax	К	Posterior mediastinum: Oesophagus & Descending thoracic aorta	 Describe the morphology and relations of the oesophagus Mention constrictions in its course Mention the blood supply and nerve supply Describe the extent, branches and relations of descending thoracic aorta Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 6.12	Problem formulation/ Integration Integration Information gathering/Practical management/synthesis	Thc	К	Diaphragm	 Describe the attachments, nerve supply and actions of diaphragm Mention the major openings in the diaphragm and structures passing through it. Describe the nerve and blood supply Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom UG- AN- 6.13			К	Systemic embryology: Development of Heart and lung	 Describe the formation of primitive heart tube Describe the formation of the atria and ventricles of the heart Explain the embryological basis of major congenital anomalies of heart Describe formation of lung 	Cognitiv e	Level 1 (Remem ber/ recall)	6. DK 7. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 6.14	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	Thorax	К	Systemic histology: Trachea and Lung	 Describe the microscopic structure of trachea and lung Correlate with their functions Explain the applied aspect and correlate with histopathology 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Pathology (V)

Hom				1. Enumerate the homoeopathic	Cognitiv	Level 1	NK	Integrated	Viva	-	Homoeopat
UG-				drugs related to thorax.	е	(Remem		lecture	Voce		hic Materia
AN-				2. Enumerate the rubrics related to		ber/					Medica (H),
6.15				thorax.		recall)					Repertory.
											(H)
		Κ	Structures of								
			Thorax.								

7.Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to;

- 1. Describe the anatomy of the abdomen and pelvic organs with their applied anatomy.
- 2. Enumerate the homoeopathic drugs and rubrics indicated for involvement of the abdominal and pelvic organs.

SI. No. SI. No. Generic Co Generic Co Specific lea objectives: the session should be a should be a should be a Summative. Formative.

Hom UG- AN- 7.1	mation ynthesis		К	Introduction	 Describe the regions of abdominal cavity Name the contents of abdominal cavity and pelvic cavity Describe perineum 	Cognitive	Level 1 (Remem ber	1. 2.	MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 7.2	on of Knowledge/ Information nation management/synthesis Pelvis & Perineum	elvis &	K & KH	Anterior abdominal wall	 Describe the muscles of anterior abdominal wall and their actions Describe the boundaries and contents of inguinal canal Explain the applied anatomy of inguinal canal 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. 2. 3. 4.	MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG- AN- 7·3	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, F	К & КН	Peritoneum	 Define peritoneum Describe greater sac, lesser sac and epiploic foramen Describe the folds of peritoneum Describe recto-uterine pouch and hepatorenal pouch Define mesoappendix, transverse mesocolon and sigmoid mesocolon 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. 2. 3. 4.	MK MK MK MK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical					
Hom UG- AN- 7.4				Stomach	 Describe the morphology of stomach Describe the relations of stomach Describe the interior of stomach Describe the blood and nerve supply of stomach Explain the applied anatomy of stomach 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	 MK MK MK MK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)					
rHom UG- AN- 7.5	tegration of Knowledge/ Information //Information management/synthesis	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Pelvis &	Pelvis &	Pelvis &	Pelvis &	Pelvis &	K & KH	Liver	 Describe the morphology of liver Describe the ligaments of liver through porta hepatis Describe the blood and nerve supply of liver Explain the applied anatomy of liver 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG- AN- 7.6	Problem formulation/ Integration gathering/Practical Skills/Informat			К & КН	Extra hepatic biliary apparatus	 Mention the parts of extra hepatic biliary apparatus Describe the morphology of gall bladder and its interior Describe the blood and nerve supply of gall bladder Describe the formation of bile duct Describe the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. MK 4. DK 5. MK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)				

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical		
Hom UG- AN- 7-7	8. 7. 9. 9. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	management/synthesis Abdomen, Pelvis & Perineum	K % KH	Spleen	 Describe the morphology of spleen Describe the ligaments of spleen Describe the functions of spleen and its applied anatomy 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)		
Hom UG- AN- 7.8			K & KH	Duodenum	 Describe the morphology of duodenum Describe interior of duodenum Describe the blood and nerve supply of duodenum Describe the applied anatomy 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)		
Hom UG- AN- 7-9	Problem formulati Information gather management/synt.		Abdome	Abdome	Abdome	К & КН	Pancreas	 Describe the morphology of pancreas Describe duct system of pancreas Describe the blood and nerve supply and applied anatomy 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.10	ge/ Information ement/synthesis		KH K & K	Jejunum, Ileum and Superior mesenteric artery		Cognitiv e	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG- AN- 7.11	tegration of Knowled s/Information manage	in, Pelvis & Perineum	K & KH	Caecum and appendix	 Mention the morphology of caecum and vermiform appendix Describe their relations, blood and nerve supply Describe the applied anatomy 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. NK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG- AN- 7.12	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen,	К & КН	Large intestine	 Mention the parts of large intestine Mention the characteristics of large intestine Mention the differences between large and small intestines Describe the applied anatomy 	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' slevel	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.13	ration of Knowledge/ tical nent/synthesis	Perineum	К & КН	Portal venous system	 Define portal vein Describe its formation, course and relations Mention the tributaries Mention the sites of portacaval anastomosis and its applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG- AN- 7.14	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & F	К & КН	Kidney	 Describe the morphology of kidney Mention the relations of the kidneys Describe the structure of kidney in coronal section Describe the blood supply of kidneys Explain the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG- AN- 7.15			К & КН	Supra renal glands	 Describe the morphology of supra renal glands Mention their relations Mention the functions Describe the blood supply of supra renal glands Explain the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. DK 3. DK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.16	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	. Pelvis & Perineum	K & KH	Abdominal aorta	 Describe the origin and extent of abdominal aorta Mention the relations Name the branches Describe the course and distribution of coeliac trunk Describe the course and distribution of coeliac trunk 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. DK 3. MK 4. DK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG- AN- 7.17	Problem formulation/ Integration Information gathering/Practical SI management/synthesis	Abdomen,	K & KH	Posterior abdominal wall and Inferior vena cava	 Name the structures in the posterior abdominal wall Describe the origin, course relations and tributaries of inferior vena cava Describe the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. DK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom UG- AN- 7.18				Jrinary oladder	 Describe the morphology of urinary bladder Describe the relations of urinary bladder Describe the ligaments of urinary bladder Describe the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/Vertical
Hom UG- AN- 7.19	Integration of on ills/Information is	א Perineum	K & KH	Ureter	 Describe the extent and parts of ureter Describe the course and relations Describe the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG- AN- 7.20	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information management/synthesis	Abdomen, Pelvis & Perineum	K & KH	Prostate gland	 Describe the morphology of prostate gland Describe the relations of prostate gland Describe the applied anatomy 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom	K	Ovary	1.	Describe the morphology of	Cognitive	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-	&			ovary		(Remem	2.	MK		SAQ.	SAQ	(H)
AN-	KH		2.	Describe the relations of		ber)	3.	NK				Obstetrics
7.21				ovary		&	4.	DK			Viva	and
			3.	Name the ligaments of ovary		Level 2	4.	DK			Voce	Gynecology
			4.	Mention the blood supply of		(underst						(V)
				ovary		and)						
			4.	Describe the applied								
				anatomy of ovary								
				<u> </u>								

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.22	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	bdomen, Pelvis & Perineum	К & КН	Uterus	 Describe the morphology of uterus Describe the relations of Uterus Name the ligaments and supports of uterus Mention the blood supply of uterus Describe the applied anatomy of uterus 	Cognitive	Level 1 (Remem ber) & Level 2 (underst and)	 MK MK NK DK DK 	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Physiology (H) Obstetrics and Gynecology (V)

Hom	K	Fallopian	1.	Describe the morphology of	Cognitive	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-	&	tube		fallopian tube		(Remem	2.	MK		SAQ.	SAQ	(H)
AN-	KH		2.	Describe the relations of		ber)	3.	DK				Obstetrics
7.23				fallopian tube		&					Viva	and
			3.	Describe the applied		Level 2					Voce	Gynecology
				anatomy of fallopian tube		(underst						(V)
				, .		and)						
Hom	K	Scrotum	1.	Describe the morphology of	Cognitive	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-	&	and Testis		scrotum		(Remem	2.	DK		SAQ.	SAQ	(H)
AN-	KH		2.	Mention its blood and nerve		ber)	3.	MK			LAQ	Surgery (V)
7.24				supply		&		DK				
			3.	Describe the morphology of		Level 2					Viva	
				testis		(underst					Voce	
			4.	Describe the applied anatomy of testis		and)						

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7-25	Problem formulation/ Integration of Knowledge/	Abdomen, Pelvis & !	К & КН	Vas deferens	 Mention the extent of ductus deferens, its course and relations Mention its blood and nerve supply Describe the applied anatomy of vas deferens 	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)

Hom UG- AN- 7.26	K & KH	Rectum	1. 2. 3.	Describe the morphology of rectum and its relations Mention its blood and nerve supply Describe the applied anatomy of rectum	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	1. 2. 3. 4.	MK MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)
Hom UG- AN- 7-27	K & KH	Anal canal	1. 2. 3.	Describe the morphology of anal canal and its relations Mention its blood and nerve supply Describe the applied anatomy of anal canal	Cogniti ve	Level 1 (Remember) & Level 2 (understand)	5. 6. 7. 8.	MK MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency		Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.28	Problem formulation/ Integration of Knowledge/ Information	Abdomen, Pelvis & Perineum	К & КН	Wall of pelvis including pelvic diaphragm	1. 2.	Describe the structures that form the walls and pelvic diaphragm Describe the main blood vessels and nerves pelvis and perineum Describe their applied aspect	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. MK 2. DK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom UG- AN- 7-29	К & КН	Perineum: superficial and deep perineal pouches	1. 2. 3.	Define perineum and mention its sub divisions Describe the boundaries and contents of superficial and deep perineal pouches Describe the applied anatomy	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. 2. 3.	MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG- AN- 7-30	K & KH	Ischiorectal fossa	1. 2. 3.	Describe the morphology of ischiorectal fossa Mention the contents Describe the applied anatomy of anal canal	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. 2. 3.	MK MK MK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: K/KH/ SH/D	Specific Competency		Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/	Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.31 & 7.32	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/Information management/synthesis	Pelvis & Perineum	К & КН	Systemic embryology: Development of Digestive system and Urogenital system	2.	Explain the process of formation of primitive and development of digestive system including liver and pancreas Explain the process of development of kidney, urinary bladder and ureter Explain the process of formation of male and female gonads and reproductive organs.	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. 2. 3.	DK DK DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)
Hom UG- AN- 7·33 to 7·36	Problem formulation/ Integrati gathering/Practical Skills/Infori	Abdomen, Pelvis	К & КН	Systemic histology: Microscopic structure of Digestive, urinary, reproductive systems and Supra renal gland	 2. 3. 	Describe the microscopic structure of digestive, urinary, reproductive systems and supra renal gland Correlate with their functions Explain the applied aspect and correlate with histopathology	Cognitive	Level 1 (Remember) & Level 2 (understand)	1. 2. 3.	MK MK DK	Lecture	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

Hom				1.Enumerate	the	Cognitive	Level 1	NK	Integrate	Viva	-	Homoeopat
UG-			Cturreture	homoeopathic	drugs		(Remember/		d lecture	Voce		hic Materia
AN-		17	Structures	related to Struct	ures of		recall)					Medica (H),
7.37		K	of Abdomen	Abdomen & Pelvis	5.							Repertory.
			& Pelvis.	2. Enumerate the	rubrics							(H)
				related to Struct	ures of							
				Abdomen & Pelvis	5.							

8.Topic: Head Neck Face & Special Senses

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the Head Neck &Face, their blood supply, and applied anatomy.
- 2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.
- 3. Explain the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.
- 4. Describe the atomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relations and applied anatomy.
- 5. Describe the triangles of the Neck with its applied anatomy.
- 6. Identify a particular bone of Head Neck & Face on X-Ray.
- 7. Describe the structure of the special senses organs with its applied anatomy.
- 8. Enumerate the homoeopathic drugs and rubrics related to structures of HNF.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.1 and 8.2	ation/ Integration of Information	Neck and Face	К	Introduction & Scalp	 Mention the main areas of the head and neck region Describe the layers of the scalp Enumerate the blood and nerves supplying the scalp Describe the applied anatomy of scalp 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG- AN- 8.3	Problem formulation/ Knowledge/	Head, Ne	К	Face – Muscle, Nerve and Blood vessels	 Name the muscles of facial expression Mention the blood and nerve supply of face Explain related applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.4	edge/ Information ment/synthesis		К	Lachrymal apparatus	 Mention the components of lachrymal apparatus Describe the location and function of each of the components of lachrymal apparatus Describe their applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.5	Integration of Knowledge/ Is/Information management/	Head, Neck and Face	К	Side of the neck: Posterior triangle	 Define triangles of neck Describe the boundaries and contents of posterior triangle Describe applied aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG- AN- 8.6	Problem formulation/ Integration of Knowledge/ Informat gathering/Practical Skills/Information management/synthesis	Неас	К	Front of the neck and Anterior triangle	 Describe the sub divisions of anterior triangle Describe the boundaries and contents of carotid triangle and digastric triangle Describe the principal neurovascular bundle of the neck Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. Dk 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.7	of Knowledge/ Skills/Information		К	Deep Cervical fascia	 Describe the parts of deep cervical fascia Describe the attachments and modifications Explain applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.8	ulation/ Integration gathering/Practical	Head, Neck and Face	К	Back of the neck: suboccipital triangle	 Describe the features of the back of the neck Describe the boundaries and contents of occipital triangle 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.9	Problem formulation/ Information gatheri	Неас	К	Content of the Vertebral Canal	 List the contents of the vertebral canal Describe the meninges of the spinal cord Describe the internal vertebral plexus of veins and their applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.10	in of Knowledge/ Skills/Information	эсе	К	Parotid Gland	 Describe the surfaces, border and relations of parotid gland Mention the blood and nerve supply of the parotid gland List the structures inside the parotid gland and parotid duct Describe the clinical aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.11	ulation/ Integration gathering/Practical	Head, Neck and Face	К	Submandibular gland	 Describe the morphology of submandibular gland Mention its blood and nerve supply Describe the applied aspect 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.12	Problem formulation/ Information gatherir	<u>.</u>	К	Muscles of Mastication	 Name the muscles of mastication Describe their attachments, nerve supply and actions Describe related applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.13	edge/ Information ent/synthesis		К	Temporo- Mandibular Joint	 Describe the articulation of TM joint Enumerate the ligaments of the joint Describe the relations Explain the movements of the joint Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.14	Integration of Knowledge/ /Information management/sy	Head, Neck and Face	К	Thyroid Gland	 Describe the location, external features and relations Describe the blood and nerve supply Describe its development Explain the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V)
Hom UG- AN- 8.15	Problem formulation/ Integration of Knowledge/ Inform gathering/Practical Skills/Information management/synthesis	He	К	Cranial cavity: Dura mater, Dural venous sinuses & Pituitary gland	 Describe the contents of cranial cavity Describe morphology of pituitary gland and its clinical importance Describe the folds of dura mater Classify dural venous sinuses Explain anatomy and clinical importance of cavernous sinus 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK 5. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D)	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.16	on of Knowledge/ Skills/Information	-ace	К	Contents of the Orbit	 Name the contents of orbit Describe the fasciae around eye ball Describe the course and distribution of ophthalmic nerve Describe blood vessels in the orbit Describe the connections and distribution of ciliary ganglion 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. MK 5. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V) Medicine (V)
Hom UG- AN- 8.17	nulation/ Integration gathering/Practical	Head, Neck and Face	К	Extra Ocular Muscles	 Name the extra ocular muscles Describe their attachments, nerve supply and actions Discuss the clinical anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 8.18	Problem formulation/ Information gatherin	Í	К	Oral cavity	 Describe the parts and structure of tooth Explain blood and nerve supply of tooth Describe applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.19	Knowledge/ Information agement/synthesis		К	Soft palate and palatine tonsil	 Describe the structure, muscles, blood and nerve supply of soft palate Define Waldayer's lymphatic ring Describe the features, blood and nerve supply of palatine tonsil Describe the applied anatomy of palatine tonsil 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. NK 3. MK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (H)
Hom UG- AN- 8.20	Integration of Ki Is/Information manag	Head, Neck and Face	К	Tongue	 Describe the parts, features of the tongue Describe the blood and nerve supply of tongue Describe applied anatomy of tongue 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 8.21	Problem formulation/ Integration of Knowledge/ Infor gathering/Practical Skills/Information management/synthesis		К	Pharynx	 Describe the parts of the pharynx and their features Describe the constrictors of pharynx Describe the blood and nerve supply Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.LA Q Viva Voce	Physiology (H) Medicine (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.22	of Knowledge/ Skills/Information		К	Larynx	 Describe the cartilages of larynx Describe the interior of larynx Describe its blood and nerve supply Explain its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG- AN- 8.23	Integration ng/Practical	Head, Neck and Face	К	Nose and paranasal air cavities	 Describe the features, blood and nerve supply of nasal septum and lateral wall of the nose Describe the features, blood and nerve supply of paranasal air sinuses Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ Viva Voce	Physiology (H) Surgery (V)
Hom UG- AN- 8.24	Problem formulation/ Information gatheri	Δ ,	К	Ear: middle ear cavity	 Mention the parts of the ear Describe the parts, boundaries and contents of middle ear cavity Describe features of ear ossicles Describe the applied anatomy of middle ear cavity 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Surgery (V) Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.25	on of Knowledge/ Skills/Information	ace	К	Eustachian tube	 Describe the parts of the auditory tube Describe its relations Mention the blood and nerve supply Describe its clinical anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)
Hom UG- AN- 8.26	nulation/ Integration gathering/Practical S	Head, Neck and Face	К	Eyeball	 Describe the structure and location Mention the characteristics Function of each of the basic tissues 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.Viv a Voce	Physiology (H)
Hom UG- AN- 8.27	Problem formulation/ Information gathering	He	К	Common & Internal carotidartery	 Describe the origin, course relations and branches of CCA Describe the origin, parts, course relations and distribution of ICA Describe their applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Surgery (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.28	Knowledge/ Information anagement/synthesis		К	External carotid artery	 Describe the origin, parts, course relations and distribution of ECA Describe the course, relations and distribution of facial, lingual, maxillary and superficial temporal arteries Describe their applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. LAQ Viva Voce	Physiology (H)
Hom UG- AN- 8.29	Integration of Is/Information m	Head, Neck and Face	К	Vertebral artery and middle meningeal artery	 Describe the parts, course, relations and branches of vertebral artery Describe the parts, course, relations and branches of middle meningeal artery Describe its applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)
Hom UG- AN- 8.30	Problem formulation/ gathering/Practical Skil		К	Internal Jugular vein	 Describe the formation of IVC Describe the course and relations of IVC Name the tributaries Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 8.31	on/ Integration of Information	and Face	К	Systemic histology: Thyroid gland, Pituitary gland and Tongue	 Describe the microscopic structure of thyroid gland, pituitary gland and tongue Correlate with their functions Explain the applied aspect and correlate with histopathology 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Pathology (V)
Hom UG- AN- 8.32	Problem formulation/ Knowledge/	Head, Neck	К	Systemic embryology: Pharyngeal arches: derivatives	 Describe the formation of pharyngeal arches Name the derivatives of pharyngeal arches Describe the formation of tongue and thyroid gland 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ, Viva Voce	Physiology (H)
Hom UG- AN- 8.33			К	Structures of HNF	 Enumerate the homoeopathic drugs related to the structures of HNF Enumerate the rubrics related to the structures of HNF. 	Cognitiv e	Level 1 (Remem ber/ recall)	NK	Integrated Lecture	Viva voce	-	Homoeopa thic Materia Medica (H), Repertory (H)

9. Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to;

- 1. Describe the structure of Brain and CNS with their applied anatomy.
- 2. Classify nervous system and identify the parts of the brain and their features and internal structure.
- 3. Describe the origin and course of cranial nerves.
- 4. Enumerate the homoeopathic drugs and rubrics related to the structures of CNS.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9.1	in/ Integration of Information	S SYSTEM: BRAIN	К	Introduction	 Describe the parts of the nervous system Mention the parts of the brain Describe the structure of neuron and neuroglia Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ LAQ. Viva Voce	Physiology (H)
Hom UG- AN- 9.2	Problem formulation/ Knowledge/	CENTRAL NERVOUS	К	Meninges & CSF	 Describe the layers of meninges Define Cisterns Describe the ventricles Describe the formation, circulation and functions of the CSF Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG- AN- 9-3			К	Spinal cord	 Describe the morphology of spinal cord Describe the structure in T.S Mention the main contents of gray and white matter of SC Mention the blood supply of spinal cord Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. DK 4. DK 5. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9-4	lation/ Integration ge/ Information	RVOUS SYSTEM:	К	Medulla oblongata	 Describe the external features Describe the internal structures in the transverse sections Describe the blood supply Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. DK 3. DK 4. MK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9-5	Problem formulation/ of Knowledge/	CENTRAL NERVOUS	К	Pons	 Describe the external features Describe the structures in the transverse section Describe the blood supply Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom			1. Des	escribe the location	on and ext	ernal	Cognitiv	Level 1	1.	MK	Lecture	MCQ,	MCQ,	Physiology
UG-			feat	atures			e	(Remem	2.	MK		SAQ.	SAQ.	(H)
AN-					division	and		ber/	3.	DK	Group		LAQ	M III OO
9.6	К	Cerebellum		nnections of cerel				recall)	4.	DK	discussion		Viva	Medicine (V)
		Cerebellolli	_	numerate cerebella	•	S			5.	DK			Voce	
			•	ame intra cerebell					6.	DK				
			_	escribe the blood s	,									
			6. Des	escribe the applied	d anatomy									

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9-7	ation/ Integration e/ Information	VOUS SYSTEM:	К	Fourth ventricle	 Describe the boundaries of the ventricle Explain the features Mention the structures in the floor of IV Ventricle Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9.8	Problem formulation/ of Knowledge/	CENTRAL NERVO	К	Mid-brain	 Describe the external features Describe the structures in the transverse section Describe the blood supply Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ.Viv a Voce	Physiology (H) Medicine (V)

Hom			1.	Name the parts of diencephalon	Cognitiv	Level 1	1.	DK	Lecture	MCQ,	MCQ,	Physiology
UG- AN-		Diencephalon: Thalamus &	2.	Describe the nuclei of thalamus and its functions	е	(Remem ber/	2. 3.	DK DK	Group	SAQ.	SAQ.	(H)
9.9	K	Hypothalamu	3.	Describe the nuclei and functions of hypothalamus		recall)	4.	DK	discussion		Viva Voce	Medicine (V)
		J	4.	Explain clinical significance								

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9.10	formulation/ of Knowledge/	ERVOUS SYSTEM:	К	Third Ventricle	 Describe the boundaries of the ventricle Explain the features Name the structures in the floor of III Ventricle Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK 4. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9.11	Problem Integration	CENTRAL NE	К	Lateral Ventricle	 Describe the boundaries of the ventricle Explain the features Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H)

Hom			1.	Describe the external features	Cognitiv	Level 1	1.	DK DK	Lecture	MCQ,	MCQ,	Physiology
UG- AN-		Cerebrum:	2.	Name major sulci and Gyri Describe the applied anatomy	e	(Remem ber/	2.	DK	Group	SAQ.	SAQ.	(H)
9.12	K	external	3.	Describe the applied anatomy		recall)	3.		discussion		Viva	Medicine (V)
9.12		features				i recail)					Voce	

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9.13	formulation/ of Knowledge/	NERVOUS SYSTEM:	К	Functional areas of cerebral cortex	 Mention the functional area and their importance Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9.14	Problem Integration	CENTRAL NE	К	Basal ganglia	 Name the basal ganglia Describe their location and blood supply Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG- AN- 9.15	k	White matter of cerebrum: Corpus callosum & Internal capsule	 Classify white matter of cerebrum Describe the parts of corpus callosum Describe the parts and composition of internal capsule Mention the blood supply of internal capsule 	Cognitiv e	Level 1 (Remem ber/ recall)	'	OK Lecture OK Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
---------------------------	---	--	--	---------------	--------------------------------------	---	--------------------------------	--------------	------------------------------	-----------------------------------

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) /Knows how (KH) / Shows how (SH) /Does (D) K/KH/ SH/D	Specific Competency	Specific learning objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert s level	Must know (MK) / Desire to know (DK) / Nice to know (NK)	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal (H) I/ Vertical(V)
Hom UG- AN- 9.16	formulation/ of Knowledge/	NERVOUS SYSTEM:	К	Blood supply of brain	 Mention the blood supply to the brain Explain the formation, branches and distribution of circle of Willis Describe the applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. DK	Lecture	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9.17	Problem Integration	CENTRAL NE	К	Cranial nerves	 Describe the origin, course, branches and distribution of major cranial nerves Describe applied anatomy 	Cognitiv e	Level 1 (Remem ber/ recall)	1. MK 2. MK 3. MK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)

Hom UG- AN- 9.18		К	Systemic embryology: Development of Brain	 Describe the formation and fate of neural tube List the derivatives of neural crest Describe the formation of eye ball Describe the formation of pituitary gland 	Cognitiv e	Level 1 (Remem ber/ recall)	1. DK 2. DK 3. Dk 4. DK	Lecture Group discussion	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Physiology (H) Medicine (V)
Hom UG- AN- 9.19		K	Structures of CNS	 Enumerate the homoeopathic drugs related to the structures of CNS. Enumerate the rubrics related to the structures of CNS. 	Cognitiv e	Level 1 (Remem ber/ recall)	NK	Integrated Lecture	Viva voce	-	Homoeopa thic Materia Medica (H), Repertory (H)

PRACTICAL:

Topic – Histology

Learning Outcome- At the end of Histology, I-BHMS student should be able to;

1. Describe a particular organ and tissue through its histological features.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 1.1- 1.10 3.23 3.24 4.6 5.11 7.24 to 7.29	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information	Histology	K	Histological & functional Correlation basic tissues and organs of the body	1. Identify the tissue/organ under microscope 2. Draw & label a schematic diagram to indicate the microscopic structure 3. Discuss Its characteristic features 4. Correlate the microscopic structure with its normal function	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. MK 4. DK	DOPS session	Spotting/OSPE/Practical Performance	Practical performance / Checklist	Physiology (H) Pathology (V)

Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremity, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the upper extremity, their blood supply, and applied anatomy.
- 2. Describe the anatomy of the joints of the upper extremity, their blood supply, action and applied anatomy.
- 3. Describe the anatomy of the muscles of the upper extremity, their origin, insertion, nerve supply, action and applied anatomy.

- 4. Describe the anatomy of the vessels and nerves of the upper extremity, their course, muscles they supply, relation and applied anatomy.
- 5. Identify a particular bone and joint of upper extremity on X-Ray.
- 6. Trace the course of the vessels and nerves of the upper extremity on the cadaver.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 2.1 to 2.7	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information management/synthesis	Upper Extremity	K	Osteology of upper extremity	 Describe the laterality and general features of the bone Describe the major attachments Describe ossification Describe the applied anatomy Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG- AN- 2.8 to 2.14	Problem formulation/ Integral gathering/Practical Skills/ Info		K	Dissection/ Demonstration	 Describe the important surface land marks in the region Identify major muscles, blood vessels and nerves including fascial structures of clinical importance Identify articular surfaces of major joints 	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demo	Spotting/OSPE/P	Practica	Surç

			4.	Correlate features and normal functioning of joints					
Hom UG- AN- 2.15	К	Radiological anatomy of upper extremity	1.	Describe the normal appearance and relationship of bones and joints in a normal radiograph (X-ray) of the region	Cognitive	Level 1 (Remember / Recall)	1. MK		

Topic: Head Neck Face

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the Head Neck & Face, their blood supply and applied anatomy.
- 2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.
- 3. Describe the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.
- 4. Describe the anatomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relation and applied anatomy.
- 5. Identify individual bones of Head Neck & Face on X-Ray.
- 6. Demonstrate the projection of structures of Head, Neck & Face on the cadaver.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 3.1 to 3.6	of Knowledge/ Information gathering/Practical synthesis	ty	К	Osteology of Head, Neck & Face	 Describe the general features of the skull, hyoid bone, cervical vertebrae & mandible Describe the major attachments on mandible Mention clinically significant ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	uo	Performance	< list	
Hom UG- AN- 3.7 to 3.21	Problem formulation/Integration of Knowledge/I Skills/Information management/synthesis	Upper Extremity	К	Dissection/ Demonstration	1. Describe the important surface land marks in the region 2. Identify major viscera, muscles, blood vessels and nerves including fascial structures of clinical importance 3. Identify articular surfaces of major joints 4. Correlate features and normal functioning of joints	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG- AN- 3.22	Problem fo Skills/ Infor		К	Radiological anatomy of	Describe the normal appearance and relationship of bones and joints in a normal	Cognitive	Level 1 (Remember / Recall)	1. MK				

|--|

Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to;

- 1. Describe the anatomy of the Brain and its applied anatomy.
- 2. Classify CNS and describe the parts of brain.

SI. No.	Generic Competency Subject Area Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/	א כו כוכמו
---------	--	------------------------	---	----------------	------------------	---	------------------------------------	-------------------------	-------------------------	----------------------------	------------

4. 1 to 4.5	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information	Central Nervous System	К	Describe normal features of brain and spinal cord	1. 2. 3.	Identify parts of brain on a specimen/model Describe normal location and relationship of brain and spinal cord Describe its applied anatomy	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. 2. 3.	MK MK DK	DOAP session	Spotting/OSPE/Practical Performance	Practical performance / Checklist	Physiology (H) Pathology (V)	
-------------------	---	------------------------	---	--	----------------	---	--------------------------	-----------------------------------	----------------	----------------	--------------	-------------------------------------	-----------------------------------	------------------------------	--

Topic: Thorax

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to;

- 1. Describe the anatomy of the Respiratory and Cardiovascular system with their applied anatomy.
- 2. Identify the organs of the Respiratory and Cardiovascular system.
- 3. Explain features of X-ray thorax.
- 4. Demonstrate surface projection of thoracic organs.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 5.1 to 5.3	of Knowledge/ Information tion management/ synthesis	ty	К	Osteology of Thorax	 Describe the general features of the sternum, ribs and thoracic vertebrae Describe the major attachments on mandible Mention clinically significant ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	n	Performance	list	
Hom UG- AN- 5.4 to 5.9	Problem formulation/Integration of Knowledge/Information gathering/Practical Skills/Information management/synthesis Upper Extremity	Upper Extrem	К	Dissection/ Demonstration	 Describe the important surface land marks in the region Describe the morphology of lung and its relations. Describe the external features of heart and interior of its chambers Identify major contents of superior and posterior mediastina 	surface land marks in the region Describe the morphology of lung and its relations. Describe the external features of heart and interior of its chambers Identify major contents of superior and posterior Remember	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)			
Hom UG- AN- 5.10	Problem fo gathering/F		К	Radiological anatomy of Thorax	Interpret normal chest radiograph in conventional P-A view	Cognitive	Level 1 (Remember / Recall)	1. MK				

Topic: Lower Extremities

Learning Outcomes (LO): At the end of Lower Extremity, I-BHMS student should be able to;

- 1. Describe the anatomy of the bones of the Lower extremity, their blood supply and applied anatomy.
- 2. Describe the anatomy of the joints of the Lower extremity, their blood supply, action and applied anatomy.
- 3. Describe the anatomy of the muscles of the Lower extremity, their origin, insertion, nerve supply, action and applied anatomy.
- 4. Describe the anatomy of the vessels and nerves of the Lower extremity, their course, muscles they supply, relations and applied anatomy.
- 5. Identify a particular bone and joint of Lower extremity on X-Ray.
- 6. Trace the course of the vessels and nerves of the Lower extremity on the cadaver.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert' s level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 6.1 to 6.7	Problem formulation/ Integration of Knowledge/ Information gathering/Practical	Upper Extremity	K	Osteology of lower extremity	 Describe the laterality and general features of the bones of the region Describe the major attachments Mention clinically important ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)

Hom UG- AN- 6.8 to 6.15	K	Dissection/ Demonstration	 Describe the important surface land marks in the region Identify major muscles, blood vessels and nerves including fascial structures of clinical importance Identify articular surfaces of major joints Correlate features and normal functioning of joints 	Cognitive Psychomotor	Level 1 (Remember / Recall)	5. MK 6. MK 7. NK 8. DK		
Hom UG- AN- 6.16	К	Radiological anatomy of Lower extremity	2. Describe the normal appearance and relationship of bones and joints in a normal radiograph (X-ray) of the region	Cognitive	Level 1 (Remember / Recall)	1. MK		

Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to;

- 1. Describe the anatomy of the Abdominal and pelvic organs with their applied anatomy.
- 2. Identify the abdominal and pelvic organs in dissection.
- 3. Explain features of plain X-ray abdomen and pelvis.
- 4. Demonstrate surface projection of Abdominal and pelvic organs.

SI. No.	Generic Competency	Subject Area	Millers: Knows (K) / Knows How (KH)/ Shows How (SH)/ Does (D)	Specific Competency	Specific learning Objectives: At the end of the session student should be able to	Bloom's Domain	Guilbert's level	Must know/ Desire to know/ Nice to know	Teaching Learning Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical
Hom UG- AN- 7.1 to 7.6	:dge/ Information sgement/ synthesis	nity	К	Osteology of Abdomen & Pelvis	 Describe the general features of the lumbar vertebra, Sacrum & Pelvis Describe the major attachments on sacrum Mention clinically significant ossification features Draw the surface marking of the major structures in the regions using surface landmarks 	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	on	Performance	k list	
Hom UG- AN- 7-7 to 7-22	Problem formulation/ Integration of Knowledge/ Information gathering/Practical Skills/ Information management/ synthesis	Upper Extremity	К	Dissection/ Demonstration	 Describe the important surface land marks in the region Identify the abdominal viscera and describe major surface & internal features Identify pelvic viscera and describe their features and relations 	Cognitive Psychomotor	Level 1 (Remember / Recall)	1. MK 2. MK 3. NK 4. DK	Demonstration	Spotting/OSPE/Practical Performance	Practical/ Check list	Surgery (V)
Hom UG- AN- 7.23	Problem form gathering/Pra		К	Radiological anatomy of Abdomen & Pelvis	Interpret a normal radiograph (X-ray) of the abdomen and pelvis in different commonly used views	Cognitive	Level 1 (Remember / Recall)	1. MK				

8. Practical Topics (Non-Lecture Activities)

Sl. No	Non-Lecture Teaching Learning methods	Time Allotted per Activity (in Hours)
9.	Seminars/ Workshops	10
10.	Group Discussions	10
11.	Problem based learning	10
12.	I <mark>ntegrated Teaching</mark>	15
13.	C <mark>ase Based Learning</mark>	10
14.	Self-Directed Learning	15
15.	Tutorials, Assignments & projects	10
	Sub total	80
16.	Practical	250
	Total	330

9. ASSESSMENT

Assessment Summary - Number of papers and Mark Distribution

Sl. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment- Practical	Grand Total
1.	Hom UG-AN	2	200	100	80	20	400

Scheme of Assessment (formative and Summative)

Sl. No	Professional Course	1 st term (1-6 Months)	2 nd Term (7-12 Months)	3 rd Term (13-18 Mon	ths)
1.	First Professional BHMS	1 st PA + 1 ST TT	2 nd PA+2 ND TT	3 rd PA	UE
		1 st PA – 4 th month	2 nd PA – 9 th month	3 rd PA - 14 th month	17 th month
		1 st TT – 6 th month	2 nd TT — 12 th month		

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

Evaluation Methods for Assessment

Sl. No	Evaluation Criteria
1.	Theory, Practical, Viva voce Performance
2.	Theory: MCQs, SAQs and LAQs (MEQ - Modified Essay Questions/Structured Questions)

I. Theory Question Paper Layout

Paper-1 (100 marks)		
General Anatomy, Head, face and ne	ck, Central nervous System, Upper ex	xtremities and Embryology.
1.	MCQ	10 marks
2.	SAQ	50 marks
3⋅	LAQ	40 marks
Paper-2 (100 marks)		
Γhorax, Abdomen, Pelvis, Lower ext	remities and Histology (micro anatom	ny).
1.	MCQ	10 marks
2.	SAQ	50 marks
3.	LAQ	40 marks

I. Distribution of marks (Theory)

Paper-	Paper-I								
SI. No	A	В	B C Type of Questions and mar "Yes" can be asked. "No" should not be asked.						
	List of Topics	Term	Marks	MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)			
1.	General Anatomy	I		Yes	Yes	No			
2.	Head, Neck & Face	11	Refer	Yes	Yes	Yes			
3.	Central Nervous System	II	Next	Yes	Yes	Yes			
4.	Upper Extremities	I	Table	Yes	Yes	Yes			
5.	Embryology	I		Yes	Yes	No			

Paper-II	Paper-II							
				D				
SI. No	A	В	С	Type of Questions and marks allotted "Yes" can be asked. "No" should not be asked.				

	List of Topics	Term	Marks	MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)
1.	Thorax	Ш		Yes	Yes	Yes
2.	Abdomen, Pelvis & Perineum	III	Refer Next	Yes	Yes	Yes
3.	Lower Extremities	III	Table	Yes	Yes	Yes
4.	Histology	I		Yes	Yes	No

Theme table

Paper-I

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
Α	General Anatomy	I	10	Yes	Yes	No
В	Upper Extremities	Ī	25	Yes	Yes	Yes
С	Embryology	1	15	Yes	Yes	No
D	Head, Neck and Face	II	30	Yes	Yes	Yes
E	Central nervous System	II	20	Yes	Yes	Yes

Paper-II

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
А	Lower Extremities	III	30	Yes	Yes	Yes
В	Thorax	II	30	Yes	Yes	Yes
С	Abdomen, Pelvis & Perineum	III	30	Yes	Yes	Yes
D	Histology	I	10	Yes	Yes	No

Question paper Blue Print

Paper-I

Α	В	Question Paper Format
Question Serial Number	Type of Question	(Refer table 4 F II Theme table for themes)
Q1	Multiple choice Questions	1. Theme A 2. Theme A
	(MCQ)	3. Theme B
	10 Questions	4. Theme B 5. Theme C
	1 mark each	6. Theme C
	All compulsory	7. Theme D 8. Theme D
	Must know part: 7 MCQ	9. Theme E 10. Theme E

	Desirable to know: 2 MCQ.	
	Nice to know: 1 MCQ	
Q ₂	Short answer Questions	1. Theme A
	(SAQ)	2. Theme B3. Theme B
	ten Questions	4. Theme C 5. Theme C
	5 Marks Each	5. Theme C 6. Theme D
	All compulsory	7. Theme D8. Theme D
	Must know part: 7 SAQ	9. Theme E
	Desirable to know: 2 SAQ	10. Theme E
	Nice to know: 1 SAQ	
Q ₃	Long answer Questions	1. Theme B
	(LAQ)	2. Theme D3. Theme D
	four Questions	4. Theme E
	10 marks each	
	All compulsory	
	All questions on must know	
	No Questions on Nice to know and Desirable to know	

Paper-II

Α	В	Question Paper Format
Question Serial Number	Type of Question	(Refer table II Theme table for themes)
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part:7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D 10. Theme D
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ	1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D 10. Theme D

Nice to know: 1 SAQ		
Long answer Questions (LAQ) four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	1. Theme A 2. Theme B 3. Theme C 4. Theme C	
	Long answer Questions (LAQ) four Questions 10 marks each All compulsory All questions on must know	Long answer Questions (LAQ) four Questions 1. Theme A 2. Theme B 3. Theme C 4. Theme C 4. Theme C All compulsory All questions on must know No Questions on Nice to know and

II. Scheme of Practical and Viva voce Examination and distribution of marks
(Practical 100 marks – Viva voce 80 marks + Internal assessment 20 marks: Total 200 marks)

Scheme of Practical Examination	
1. Spotters: 4 (5 marks each)	
A. Histology Slide — 2 (5 marks each) a) Identification — 1 mark b) Draw and label — 2 marks c) Two identification features — 2 marks	20 marks
B. Radiology — 2 X-RAYS (5 marks each)	

a) Identification of X-Ray and its view — 1 mark b) Identification of features — 4 marks	
2. Osteology - Bones of Upper Extremity, Lower Extremity, Skull, Ribs and Vertebrae.	20 marks
3. Viscera - Organs from Thorax, Abdomen and CNS.	20 marks
4. Knowledge of dissected parts - Dissected Specimens of Upper and Lower Extremities.	20 marks
2. Surface marking	10 marks
3. Journal – Practical record of Anatomy including Histology and dissection card.	10 marks
Total	100 Marks

Viva voce Max. Marks - 80 + Internal assessment marks — 20	
Total marks	100 marks

9B - Scheme of Assessment (Formative)

Sr. No	Professional Course	1 st term (1-6 Months)		2 nd Term (7-12 Months)		3 rd Term (13-1	8 Months)
1	First	1 st PA	1 ST TT	2 nd PA	2 ND TT	3 rd PA	UE
	Professional BHMS	20 Marks	100 Marks	20 Marks	100 Marks	20 Marks	
	PUIND	Practical/Viva	Practical/ Viva	Practical/Viva	Practical/ Viva	Practical/Viva	

For Internal assessment, Only Practical/Viva marks will be considered. Theory marks will not be counted)

Method of Calculation of Internal Assessment Marks for Final University Examination:

PA1 Practical/Viva	PA ₂	PA ₃	Periodical	TT1	TT ₂	Terminal	Final
(20 Marks)	Practical/Viva	Practical/Viva	Assessment	Practical/	Practical/	Test	<u>Internal</u>
	(20 Marks)	(20 Marks)	<mark>Average</mark>	<mark>Viva</mark>	<mark>Viva</mark>	<mark>Average</mark>	Assessment
			PA1+PA2+PA3/3	(100	(100	TT ₁₊	Marks Marks
				Marks)	Marks)	TT2/	
						<mark>200*20</mark>	
A	В	C	D	E	F	G	D+G/2

PA- Periodical Assessment, TT- Terminal Test, UE- University Examination

10. List of recommended books -

Standard Books

- Garq K, B.D.Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Upper limb & Thorax.
- Garg K, B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Lower limb & Abdomen
- Garg K, B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Head, Neck & Brain.
- Singh V. General Anatomy
- Singh V. Anatomy of Head, Neck & Brain
- Singh V. Anatomy of Upper limb & Thorax
- Singh V. Anatomy of Abdomen & Lower limb
- Singh V. Anatomy of Clinical embryology
- Garg K, Indira Bahl, Mohini Kaul. Textbook of Histology
- Halim A. Surface and Radiological Anatomy
- Khurana A, Khurana I, Garg K B.D. Chaurasia's Dream Human Embryology
- Loukas M, Benninger B, Tubbs R S. Gray's Clinical Photographic Dissector of Human Body
- Romanes G J. Cunningham's Manual of Practical Anatomy. Upper & Lower limb
- Romanes G J. Cunningham's Manual of Practical Anatomy. Abdomen & Pelvis
- Romanes G J. Cunningham's Manual of Practical Anatomy. Head & Neck

Reference books

- Eroschenko VP. Di'fiore's Atlas of Histology with functional correlation
- Gunasegaran JP. Text book of Histology & Practical Guide
- Hansen JT. Netter's Atlas of Human Anatomy. South Asian Ed
- Mescher AL. Junqueria's Basic Histology Text & Atlas
- Mortan DA, Peterson KD, Albretine K. H. Gray's Dissection Guide for Human Anatomy
- RomanesGJ. Cunningham's Textbook of Anatomy
- Ross & Wilson. Anatomy and Physiology in Health and Illness
- Singh, Inderbir. *Human Embryology*
- Sinnathamby CS. Snell's Clinical Anatomy for Medical Students.

- Standring Susan. *Gray's Anatomy The Anatomical Basis of Clinical Practice*
- Tortora GJ & Derrickson B. Anatomy & Physiology.

11. LIST OF CONTRIBUTORS

Dr E S J Prabhu Kiran, M D (Hom)

Principal, Professor & HOD, Department of Anatomy

Fr Muller Homoeopathic Medical College, Mangalore, Karnataka.

Dr. Vaishali Rahuldeep Khobragade

Professor & H.O.D. Department of Anatomy

Dr. D.Y. Patil Homoeopathic Medical College & Research Centre, Pune, Maharashtra.

Dr Bharat Panchal

HOD, Anatomy Dept. Smt Malini Kishore Sanghvi Homoeopathic Medical College Karjan, Gujarat.

Dr. Gautam Ash

Former HOD, Pratap Chandra Memorial HMC, Kolkata, West Bengal.

FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Human physiology & Biochemistry)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN

No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

Course- Human physiology & Biochemistry

Course code: Hom UG - PB

INDEX

S.No	Description	Page No
1	Preamble	02
2	Program Outcomes (PO)	03
3	Course Outcome (CO)	04
4	Teaching Hours	05
5	Course Content	09
6	Teaching Learning Methods	15
7	Content Mapping (Competencies Table)	16
8	Practical Topics	69
9	Assessment	71
10	List of Recommended Books	75
11	List of Contributors	76

1. PREAMBLE

Physiology studies the functional organization of man at several levels like atom, chemical, cells, tissues, organ systems and the whole body to understand fundamental mechanisms that operate in a living organism. The underlying goal is to explain the operations in a living organism.

Besides satisfying a natural curiosity about how humans function, the study of physiology is of control importance in medicine and related health sciences, as it underpine advances in our

central importance in medicine and related health sciences, as it underpins advances in our understanding of disease and our ability to treat it more effectively. It is also important from psychological and philosophical viewpoints, helping us to understand the different systems. Homoeopathic Philosophy postulates the force animating every cell as the Vital Force which helps in homoeostasis. When it is deranged due to web of causes, disease develops.

Homoeopath must understand Man in a holistic way which would help him to deliver the therapeutic action for the purpose of bringing about a cure. Understanding the structural organisation i.e., Anatomy along with psychological organisation go hand in hand. Their interplay maintains health and delivers optimum function for healthy living and progressing towards higher purpose as per Hahnemannian guidelines. Hence physiology needs to be integrated horizontally with Anatomy, Materia Medica, Organon of Medicine, Psychology & Pharmacy as well as vertically with Pathology, Surgery, Obstetrics & Gynaecology, Community Medicine, Practice of Medicine & Repertory for better grasp of health, disease and process of cure.

Advances in biochemical processes have been occurring at an astonishing pace. The action of homoeopathic medicines does occur at sub-cellular levels. Hence an in-depth understanding and correlation of the processes in health and disease can open up a whole new way of understanding Homoeopathic drugs and their far-reaching effects.

2.PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

- 1) Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
- 2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
- 3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
- 4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
- 5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
- 6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
- 7) Develop the capacity for critical thinking, self reflection and a research orientation as required for developing evidence based homoeopathic practice.
- 8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
- 9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3. Course Outcomes (COs):

At the end of the course the student will be able to:

- 1. Discuss the Homoeopathic concept of health in relation to integrated body structure and functions.
- 2. Explain the normal functioning of the human body at all levels of organization.
- 3. Relate the concept of homoeostasis with relevant ideas in Anatomy, Materia medica and Organon of Medicine at BHMS I level .
- 4. Elucidate the physiological aspects of normal growth and development with focus on evolution.
- 5. Correlate micro functions at cellular level with macro functions at organ-system level.
- 6. Use necessary communication skills required for history-taking of the patient & relating various clinical findings in the patient.
- 7. Perform experiments in haematology, clinical physiology & biochemistry as required for the study of physiological phenomena and for assessment of normal function.
- 8. Identify the normal values of haematology, clinical physiology & biochemistry.
- 9. Perform clinical physiological examination under supervision.
- 10. Correlate knowledge of Organon & Materia Medica with Physiology.
- 11. Explain the integrated responses of the organ systems of the body to physiological and pathological stresses.

4. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical / Tutorial / Seminar / Clinical Posting
01	PHYSIOLOGY & BIOCHEMISTRY	325 hrs.	330 hrs.

Theory Wise Teaching Hours Distribution – 325 Hours

Sr. No	Paper-I	
	List of System	Teaching Hours
1	General Physiology	20
2	Bio Physics Science	15
3	Skin & The Integumentary System	15
4	Body fluids & Immune mechanism	35
5	Nerve Muscle physiology	15
6	Cardiovascular system	20
7	Respiratory and Environmental Physiology	25
8	Renal Physiology	20
	Total	165
Sr. No	Paper-II	·
	List of System	Teaching Hours
1	Central Nervous System	35
2	Endocrinology	30
3	Reproduction	15
4	Special Senses	20
5	Digestion and Nutrition	35
6	Biochemistry	25
	Total	160

Practical / Clinical Physiology / OPD Wise Teaching Hours Distribution – 330 Hours

Physiology – Practical – lab work					
No	Practical		Number of		
NO			Teaching Hours		
HAEMATOLOGY					
1	Study of the Compound Microscope	Performance	05		
2.	Collection of Blood Samples	Performance	05		
3	Estimation of Haemoglobin Concentration	Performance	05		
4	Determination of Haematocrit	Demonstration	05		
5	Hemocytometry	Performance	05		
6	Total RBC Count	Performance	10		
7	Determination of RBC Indices	Demonstration	05		
8	Total Leucocytes Count (TLC)	Performance	10		
9	Preparation And Examination Of Blood Smear	Performance	10		
10	Differential Leucocyte Count (DLC)	Performance	10		
11	Absolute Eosinophil Count	Demonstration	05		
12	Determination of Erythrocyte Sedimentation Rate	Demonstration	05		
13	Determination of Blood Groups	Performance	05		
14	Determination of Bleeding Time and Coagulation Time	Performance	05		
BIO	BIOCHEMISTRY				
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration	05		
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance	10		
3	Normal Characteristics of Urine	Performance	04		
4	Abnormal Constituents of Urine	Performance	10		
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance	05		
6	Liver Function Tests	Demonstration	04		
7	Kidney Function Tests	Demonstration	04		
8	Lipid Profile	Demonstration	04		
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration	04		
	Total		140		

CLI	IICAL PHYSIOLOGY					
1	Case Taking & Approach to pt	Performance	05			
2	General Concept Of Examination	Performance	10			
3	Examination of muscles, joints,	Performance	10			
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance	15			
5	Nervous System- Clinical Examination	Performance	15			
6	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance	15			
7	Special Senses- Clinical Examination	Performance	15			
8	Reproductive System- Diagnosis of Pregnancy	Performance	05			
9	Gastrointestinal System- Clinical Examination	Performance	10			
	Total		100			
OPD – APPLIED PHYSIOLOGY						
1	OPD (Applied Physiology)	Demonstration	90			
		& Performance				
	TOTAL		90			

Semester Wise Distribution of Theory, Practical, Clinical Physiology & OPDs

Sr. No	Theory, Practical, Clinical Physiology & OPDs			
SEMESTER - 1				
Module 1.	Theory:			
Organization of the human body	General physiology			
	Bio Physics Science			
	Skin & The integumentary System			
	Clinical Physiology:			
	Case Taking & Approach to Patient			
	General concept of examination.			
Module 2	Theory:			
Principals of Support System &	Body Fluid & Immune Mechanism			
Movements with transportation	Nerve Muscles Physiology			

Practical :				
	Study of the Compound Microscope			
	Collection of Blood Samples			
	Estimation of Haemoglobin Concentration			
	Determination of Haematocrit			
	Haemocytometry			
	Total RBC Count			
	Determination of RBC Indices			
	Total Leucocytes Count (TLC)			
	Preparation And Examination Of Blood Smear			
	Differential Leucocyte Count (DLC)			
	Absolute Eosinophil Count			
	Determination of Erythrocyte Sedimentation Rate			
	Determination of Blood Groups			
	Determination of Bleeding Time and Coagulation Time			
	Clinical Physiology:			
	Examination of muscles, joints,			
4 th Month – 5 days PA				
6 th Month – 10 days TT – including Viva Voce				
	SEMESTER – 2			
Module 3.	Theory:			
Vital Maintenance of the human body	Cardiovascular System			
	Respiratory & Environmental Physiology			
	Clinical Physiology :-			
	 Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination 			
	Respiratory System- Clinical Examination, Spirometry, Stethography			
OPD (Applied Physiology)				
	To b (Applied Filysiology)			

Module 4. Theory: Control system of the human body with • Central Nervous System continuity Endocrinology **Clinical Physiology:** • Nervous System- Clinical Examination Special Senses-Clinical Examination Reproductive System – Diagnosis of pregnancy OPD 9th Month – 5 days PA 12th Month – 10 days TT – including Viva Voce **SEMESTER - 3** Theory: Module 5. **Energy maintenance of human body** • Reproductive System **Special Senses Digestion System & Nutrition Renal Physiology Bio-Chemistry** Practical: -Demonstration of Uses Of Instruments Or Equipment Qualitative Analysis of Carbohydrates, Proteins And Lipids Normal Characteristics of Urine Abnormal Constituents of Urine Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood **Liver Function Tests Kidney Function Tests Lipid Profile**

Clinical Physiology:-

Interpretation and Discussion of Results of Biochemical Tests

	•	Gastrointestinal System- Clinical Examination
	•	OPD

14th Month – 5 days PA

18th Month – 12 days TT – including Viva Voce – University exam

5.COURSE CONTENT

- 1. The purpose of a course in physiology is to enable the students to learn the functions, processes and inter-relationship of the different organs and systems of the normal disturbance in disease so that the student is familiar with normal standards of reference while diagnosing deviations from the normal, and while treating the patients.
- 2. There can be no symptoms of disease without vital force animating the human organism and it is primarily the vital force which is maintaining state of health
- 3. Physiology shall be taught from the stand point of describing physical processes underlying them in health;
- 4. Applied aspect of every system including the organs is to be stressed upon while teaching the subject.
- 5. Correlation with Organon and philosophy especially the concept of health and its derangement the interplay of different cell, tissue organ and system, their representation in repertory and integration in HMM
- 6. There should be close co-operation between the various departments while teaching the different systems;

- 7. There should be joint courses between the two departments of anatomy and physiology so that there is maximum co-ordination in the teaching of these subjects;
- 8. Seminars should be arranged periodically and lecturers of anatomy, physiology and bio-chemistry should bring home the point to the students that the integrated approach is more meaningful.

THEORY:-

1. GENERAL PHYSIOLOGY:

- Introduction to cellular physiology
- Cell Junctions
- Transport through cell membrane and resting membrane potential Body fluids compartments
- Homeostasis

2. BIO-PHYSICAL SCIENCES

- Filtration Ultra-filtration Osmosis
- Diffusion Adsorption Hydrotropy, Colloid
- Donnan Equilibrium Tracer elements Dialysis
- Absorption Assimilation Surface tension

3. SKIN &THE INTEGUMENTARY SYSTEM

- Skin & Integumentary System
- Layers of Skin
- Function of Skin
- Sweat
- Body temperature and its regulation

4. BODY FLUID & IMMUNE MECHANISM

- Blood
- Plasma Proteins
- Red Blood Cells
- Erythropoiesis
- Haemoglobin and Iron Metabolism

- Erythrocyte Sedimentation Rate
- Packed Cell Volume and Blood Indices
- Haemolysis and Fragility of Red Blood Cells
- White Blood Cell
- Immunity
- Platelets
- Haemostasis
- Coagulation of Blood
- Blood groups
- Blood Transfusion
- Blood volume
- Reticulo-endothelial System and Tissue Macrophage Lymphatic System and Lymph
- Tissue Fluid and Oedema

5. NERVE MUSCLE PHYSIOLOGY

- Physiological properties of nerve fibres
- Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves
- Neuro-Muscular junction
- Physiology of Skeletal muscle
- Physiology of Cardiac muscle
- Physiology of Smooth muscle
- EMG

6. CARDIO-VASCULAR SYSTEM

- Introduction to cardiovascular system Properties of cardiac muscle
- Cardiac cycle
- General principles of circulation Heart sounds
- Regulation of cardiovascular system
- Normal and abnormal Electrocardiogram (ECG)
- Cardiac output

- Heart rate
- Arterial blood pressure
- Radial Pulse
- Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.
- Cardiovascular adjustments during exercise

7. RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY

- Physiological anatomy of respiratory tract
- Mechanism of respiration: Ventilation, diffusion of gases
- Transport of respiratory gases Regulation of respiration Pulmonary Function Test
- High altitude and space physiology Deep sea physiology
- Artificial respiration
- Effects of exercise on respiration

8. CENTRAL NERVOUS SYSTEM

- Introduction to nervous system Neuron
- Neuroglia
- Receptors
- Synapse
- Neurotransmitters
- Reflex
- Spinal cord
- Somato-sensory system and somato-motor system Physiology of pain
- Brain stem, Vestibular apparatus
- Cerebral cortex
- Thalamus
- Hypothalamus
- Internal capsule
- Basal ganglia
- Limbic system

- Cerebellum Posture and equilibrium
- Reticular formation
- Proprioceptors
- Higher intellectual function Electroencephalogram (EEG)
- Physiology of sleep
- Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

9. ENDOCRINOLOGY

- Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis
- Pituitary gland
- Thyroid gland
- Parathyroid
- Endocrine functions of pancreas Adrenal cortex
- Adrenal medulla
- Endocrine functions of other organs

10. REPRODUCTIVE SYSTEM

- Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.
- Introduction to female reproductive system
- Menstrual cycle
- Ovulation
- Menopause
- Infertility
- Pregnancy and parturition Placenta
- Pregnancy tests
- Mammary glands and lactation Fertility
- Foetal circulation

11. SPECIAL SENSES

- Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction
- Ear: Auditory pathway, Mechanism of hearing, Auditory defects

- Sensation of taste: Taste receptors, Taste pathways
- Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch

12. DIGESTIVE SYSTEM & NUTRITION

- Introduction to digestive system
- Composition and functions of digestive juices
- Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine
- Movements of gastrointestinal tract
- Gastrointestinal hormones
- Digestion and absorption of carbohydrates, proteins and lipids

13. RENAL PHYSIOLOGY

- Physiological anatomy of kidneys and urinary tract
- Fluid & electrolyte with acid base balance need to be include
- Renal circulation
- Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine
- Renal functions tests
- Micturition

14. BIO-CHEMISTRY THEORY

- Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation)
- Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat, Activation of fatty acids, Beta oxidation and synthesis of fatty acids)
- Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each amino acid and their entry into TCA cycle
- Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition)
- Vitamins: (Daily requirements, Dietary source, Disorders and physiological role)
- Minerals (Daily requirement, Dietary Sources, Disorders and physiological role) mineral metabolism
- Organ function tests

PRACTICAL & CLINICAL PHYSIOLOGY:-

No	Practical	Demonstration / Performance			
	Haematology				
1	Study of the Compound Microscope	Performance			
2.	Collection of Blood Samples	Performance			
3	Estimation of Haemoglobin Concentration	Performance			
4	Determination of Haematocrit	Demonstration			
5	Hemocytometry	Performance			
6	Total RBC Count	Performance			
7	Determination of RBC Indices	Demonstration			
8	Total Leucocytes Count (TLC)	Performance			
9	Preparation And Examination Of Blood Smear	Performance			
10	Differential Leucocyte Count (DLC)	Performance			
11	Absolute Eosinophil Count	Demonstration			
12	Determination of Erythrocyte Sedimentation Rate	Demonstration			
13	Determination of Blood Groups	Performance			
14	Determination of Bleeding Time and Coagulation Time	Performance			
Biochemistry					
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration			
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance			
3	Normal Characteristics of Urine	Performance			
4	Abnormal Constituents of Urine	Performance			
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance			
6	Liver Function Tests	Demonstration			
7	Kidney Function Tests	Demonstration			
8	Lipid Profile	Demonstration			
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration			
	Clinical Physiology & OPD				
1	Case Taking & Approach to pt	Performance			
2	General Concept Of Examination	Performance			

3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance
10	OPD	Demonstration & Performance

6. TEACHING LEARNING METHODS

Different teaching-learning methods must be apply for understanding holistic and integrated way of physiology. There has to be classroom lectures, small group discussions, case discussion where case based learning (CBL) and problem based learning (PBL). In the applied physiology, Case discussion (CBL-PBL) methods are helpful for students. AV — Methods for demonstration of physiological processes will be very helpful. In process of Clinical Physiology — DOAP (Demonstration — Observation — Assistance — Performance) is very well applicable.

Practical & Clinics are the best medium to demonstrate all physiological processes in objective ways. They help us to understand and explain the physiological signs. Haematological & Biochemistry practical are done in laboratory, where one can apply the DOAP (Demonstration – Observation – Assistance – Performance) & OSPE (Objective Structured Practical Examination) methods. All this should be recorded in the journal.

In the clinics / OPD / IPD / Bed side there shall be exposure of Clinical & Applied Physiology. These can be demonstrated by DOAP (Demonstration – Observation – Assistance – Performance) & OSCE (Objective Structured Clinical Examination) methods. These methods are more objective, and t will help students to develop the attitude as clinicians. In these type of exposure students has to observe the teachers or consultants and able to corelate what they have learned in clinical physiology classes. They do not have to examine the patient by themselves but only observe the teachers. They can keep the record of all physiological function which are disturbed.

Other Innovative methods include preparation of charts and models.

7.CONTENT MAPPING (COMPETENCY TABLE)

SEMESTER - 1

Topic No	1
Theory	General Physiology
Practical	-
Clinical Physiology	Case Taking & Approach to Patient

Learning Outcome: -

At the end of the chapter General Physiology, the student must be able to –

- Discuss the principles of cellular physiology.
- Classify cell junctions.
- Explain the process of transport through cell membrane
- Describe the resting membrane potential.
- Categorise body fluids compartments.
- Explain the concept of homeostasis

S.No	Generic competency	Subject area	Miller' s Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know/ desirable to know / nice to know	TL method / media	Format ive Assess ment	Summ ative Assess ment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 1.1	Integration Of Information (K-1)	Introducti on & Cell	Knows	Definition & general introduction	Define Physiology.	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	_	
Hom UG-PB 1.2			Knows How		Discuss the importance of learning physiology in a homoeopathic course	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	Viva Voce	Organon
Hom UG-PB 1.3			Knows How		Discuss the Internal & external	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

					environment of Body							
Hom UG-PB 1.4	Integration Of Information (K-1)	Homeosta sis	Knows How W	Describe and discuss the principles of homeostasis	Explain the regulation of internal environment	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Organon
Hom UG-PB 1.5			Knows How		Explain homoeostasis & it's control	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
Hom UG-PB 1.6	Integration Of Information (K-1)	The Cellular Level Organisati on	Knows How	Describe the structure and functions of a mammalian cell	Describe the structure of cell	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Pathology
Hom UG-PB 1.7		Oll	Knows How		Describe the functions of cell	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Organon
Hom UG-PB 1.8			Knows		List the organelles present in cell	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 1.9			Knows		Enumerate the functions of organelles	Cognitive	Level 1 (Remember / recall)	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
Hom UG-PB 1.10			Knows		List the name of intracellular junction	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 1.11			Knows How		Discuss the importance of intracellular Junction	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce	Anatomy

Hom	Integration Of		Knows	To understand	Explain Passive	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB	Information		How	transport	transportation	_	Understand	Know	Small group		Viva	
1.12	(K-1)			mechanisms			/ interpret		discussion		Voce	
				across cell								
			14	membranes	E 1: A :	6 '''		5		64.0	646	D: 1 : .
Hom			Knows		Explain Active	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB			How		Transportation		Understand	Know	Small group		Viva	
1.13							/ interpret		discussion		Voce	
Hom			Knows		Explain Vesicular	Cognitive	Level 2	Nice to know	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB			How		Transportation		Understand		Small group		Viva	
1.14							/ interpret		discussion		Voce	
Hom	Information	Clinical &	Shows	To conduct	Demonstrate	Affective	Level 1	Must know	Demonstrati	Observ	DOPS	
UG-PB	Gathering,	Applied	How	History taking	history taking		Receiving		on, Role	ation		
1.15	Integration Of	Physiolog			process				Play			
	information,	У										
	Problem											
	Integration											
	(K-2)											

Topic No	2
Theory	Bio Physics Science
Practical	-
Clinical Physiology	-

At the end of the chapter Bio Physics Science, the student must be able to –

- Define biophysics.
- Illustrate the biophysical activity across the cell membrane.
- Explain membrane potential.
- Describe the chemical bond & solution.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formati ve Assessm ent	Summ ative Assess ment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 2.1	Integration Of Information	Bio Physics Science	Knows	To understand the bio- Physical	Define the terms Filtration& Ultrafiltration	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.2	(K-1)	Science	Knows	science of cell membrane	Define intra cellular communication	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.3			Knows		Define the terms adsorption & Absorption	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.4	-		Knows		Define the terms Hydro trophy, Dialysis & Assimilation	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine
Hom UG-PB 2.5			Knows		Define Surface Tension	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine
Hom UG-PB 2.6	Integration Of Information		Knows How	Discuss the Membrane Physiology	Explain Action Potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.7	(K-1)		Knows	&Membrane Potential	Define Donnan Equilibrium	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.8			Knows		Define Transmembrane Potential	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

Hom UG-PB 2.9			Knows How		Explain nerve action potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.10			Knows		Define Tracer Elements	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.11			Knows		Define Rhythmicity of some excitable tissues	Cognitive	Level 1 (Remember / recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 2.12	Integration Of Information	The Chemica I Level	Knows How	Understand the chemical bonds	Describe the Ionic Bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.13	(K-1)	Organis ation	Knows How		Describe the covalent bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.14			Knows How		Describe the Hydrogen Bond	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Biochemistry
Hom UG-PB 2.15	Integration Of Information		Knows	Understand the inorganic Compound &	Define the terms Colloid, Solution & Suspension	Cognitive	Level 1 (Remember / recall)	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.16	(K-1)		Knows How	Solution	Discuss the characteristics of acids, Base & Salts	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.17			Knows How		Discuss acid - base balance & its application to the concept of pH	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 2.18			Knows How		Describe the maintaining of pH: Buffer System	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry

Topic No	3
Theory	Skin & The Integumentary System
Practical	-
Clinical Physiology	Demonstration of General Examination

At the end of the chapter Skin & the Integumentary System, the student must be able to –

- Discuss the functions of skin, nail, and hair.
- Conduct examination of the Integumentary System under supervision.

S.No	Generic	Subject	Miller's	Specific	Specific Learning	Bloom's	Guilbert's	Must know/	TL method /	Format	Summat	Integration
	competency	area	Level	competency	Objectives /	domain	level	desirable to	media	ive	ive	- Horizontal
					outcomes			know / nice		Assess	Assessm	/ Vertical /
								to know		ment	ent	Spiral
Hom	Integration Of	Skin &	Knows	Understand the	Discuss layers of	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Information	The	How	Structure &	skin with their		Understand		Small group		Viva	Medicine
3.1	(K-1)	Integum		function of Skin	functions		/ interpret		discussion		Voce	Organon

		entary System										Materia Medica Pharmacy
Hom			Knows		Relate the	Cognitive	Level 2	Must Know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB			How		structure of hair		Understand		Small group		Viva	
3.2					with its function		/ interpret		discussion		Voce	
Hom			Knows		Relate the	Cognitive	Level 2	Desirable To	Lecture,	SAQs	SAQs,	Anatomy
UG-PB			How		structure of nail		Understand	Know	Small group		Viva	
3.3					with its function		/ interpret		discussion		Voce	
Hom			Knows		Relate the	Cognitive	Level 2	Must Know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB			How		structure of		Understand		Small group		Viva	
3.4					different glands		/ interpret		discussion		Voce	
					of skin with their							
					functions							
Hom			Knows		Describe the	Cognitive	Level 2	Must Know	Lecture,	MCQs	SAQs,	
UG-PB			How		glands of skin		Understand		Small group		Viva	
3.5							/ interpret		discussion		Voce	
Hom			Knows		Explain the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Medicine
UG-PB			How		regulation of		Understand		Small group		Viva	
3.6					body		/ interpret		discussion		Voce	
					temperature							
					through skin							
Hom	Information	Clinical	Shows	To demonstrate	Demonstrate the	Psycho	Level 1	Must know	DOAP	Observ	OSCE	Medicine
UG-PB	Gathering,	&	How	General 	examination of	Motor	Observe /			ation		
3.7	Integration Of			examination	Skin & Mucus		Imitate					
	information,	Physiolo			Membrane							
Hom	Problem	gy	Shows		Demonstrate the	Psycho	Level 1	Must know	DOAP	Observ	OSCE	Medicine
UG-PB	Integration (K-2)		How		examination of	Motor	Observe /			ation		
3.8	(N-2)				Conjunctive, Nail		Imitate					
					& Glands							

Topic No	4
Theory	Nerve Muscle Physiology
Practical	-
Clinical Physiology	Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters
	Perform Ergography, Examination of muscles, joints,

At the end of the chapter Nerve Muscle Physiology, the student must be able to –

- Discuss the properties and functions of neurons.
- Illustrate a neuromuscular junction.
- Classify muscle fibres.
- Describe the properties of skeletal, cardiac, and smooth muscle fibres.
- Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters.
- Perform Ergography under supervision.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning	Bloom's domain	Guilbert's level	Must know / desirable to	TL method / media	Format ive	Summat ive	Integration - Horizontal
					Objectives / outcomes			know / nice to know		Assess ment	Assessm ent	/ Vertical / Spiral
Hom UG-PB 4.1	Integration Of Information	Nerve Muscle Physiol	Knows	To understand the functional anatomy of	Define Neuron Classify neurons	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 4.2	(K-1)	ogy	Knows How	Nerve fibers	Explain structure and	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy

				function of neuroglia							
Hom UG-PB 4.3	Integration Of Information (K-1)	Knows	To understand the physiological properties of	Define the terms Excitability & Conductivity	Cognitive	Level 1 (Remember/ recall)	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs Viva Voce	
Hom UG-PB 4.4		Knows How	nerve fibers	Discuss graded & action potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 4.5	Integration Of Information	Knows How	To understand the degeneration	Discuss the causes & grade of injury	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 4.6	(K-1)	Knows How	& regeneration of neuron	Identify the stages of degeneration	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
Hom UG-PB 4.7		Knows		Discuss the stages of regeneration	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 4.8	Integration Of Information (K-1)	Knows How	To describe Neuromuscula r Junction	Illustrate the Structure of Neuro-Muscular Junction	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 4.9		Knows How		Discuss the Neuromuscular Transmission	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 4.10		Knows How		Discuss Disorders of neuromuscular Junction	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion, CBL, PBL	MCQs	SAQs, Viva Voce	Medicine

Hom	Integration	Knows	To understand	Illustrate the	Cognitive	Level 2	Desirable To	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	How	the	mechanism of		Understand	Know	Small group		Viva	
4.11	Information		physiological	skeletal muscle		/ interpret		discussion		Voce	
ļ	(K-1)		properties of	contraction.							
ļ			Skeletal	Describe the							
ļ			Muscle	general							
ļ				mechanism of							
ļ				muscle							
				contraction.							
Hom		Knows		Discuss	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	
UG-PB		How		Molecular		Understand		Small group		Voce	
4.12				mechanism		/ interpret		discussion			
Hom		Knows		Discuss	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Anatomy
UG-PB		How		Energetic of		Understand		Small group		Voce	
4.13				muscle		/ interpret		discussion			
ļ				contraction							
Hom	1	Knows	-	Discuss	Cognitive	Level 2	Desirable To	Lecture,	SAQs	SAQs,	
UG-PB		How		Excitation of		Understand	Know	Small group		Viva	
4.14				skeletal muscle		/ interpret		discussion		Voce	
Hom	Integration	Knows	To understand	Explain	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB	Of	How	the	Contraction of		Understand		Small group		Viva	
4.15	Information		physiological	smooth muscle		/ interpret		discussion		Voce	
ļ	(K-1)		properties of								
Hom	1	Knows	- Smooth Muscle	Explain Nervous	Cognitive	Level 2	Desirable To	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How	iviuscie	& hormonal		Understand	Know	Small group		Viva	
4.16				control of		/ interpret		discussion		Voce	
ļ				smooth muscle							
ļ				contraction							
Hom	Integration	Knows	To understand	Illustrate	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB	Of	How	the	Functional		Understand		Small group		Viva	-
4.17	Information		physiological	Anatomy of		/ interpret		discussion		Voce	
	(K-1)		properties of	cardiac Muscle							
Hom	-	Knows	Cardiac	Explain process	Cognitive	Level 2	Must know	Lecture,	MCQs	SAQs,	Anatomy
UG-PB		How	Muscle	of excitability &		Understand		Small group	-	Viva	, i
4.18				contractility		/ interpret		discussion		Voce	

Hom			Knows		Explain	Cognitive	Level 2	Must know	Lecture,	MCQs	SAQs,	Medicine
UG-PB			How		properties of		Understand		Small group		Viva	
4.19					cardiac muscle		/ interpret		discussion		Voce	
Hom			Knows		Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	SAQs,	Medicine
UG-PB			How		disorders of		Understand		Small group		Viva	
4.20					Skeletal		/ interpret		discussion		Voce	
					Muscles							
Hom	Information	Clinical	Shows	Demonstrate	Measure the	Psycho	Level 2	Must Know	Demonstrati	Observ	OSCE	Medicine
UG-PB	Gathering,	&	How	effect of mild,	parameters of	Motor	Control		on	ation		
4.21	Integration	Applied		moderate and	cardio-							
	Of	Physiol		severe	pulmonary							
	information,	ogy Of		exercise and	changes during							
	Problem	Muscle		record	exercise							
	Integration			changes in								
	(K-2)			cardio -								
				respiratory								
				parameters								
Hom]		Shows	Perform	Demonstrate	Psycho	Level 1	Nice to know	Demonstrati	Observ	OSCE	Medicine
UG-PB			How	Ergography	the sequence of	Motor	Observe /		on	ation		
4.22					performing		Imitate					
					ergography.							

Topic No	5
Theory	Body Fluid& Immune Mechanism
Practical	Hematology
Clinical Physiology	

At the end of the chapter on Body Fluid & Immune System & Hematology, the student must be able to -

- Describe the composition and functions of blood components
- Describe the origin, Forms, Variations and functions of plasma Protein
- Illustrate the synthesis of Haemoglobin
- Describe RBC formation (erythropoiesis) and its regulation
- Describe WBC formation (granulopoiesis) and its regulation
- Classify Anaemias & Jaundice
- Explain the role of lymphoid tissues in immune responses
- Classify different types of immunity
- Describe the development and regulation of immunity.
- Explain the formation and functions of platelets.
- Illustrate the physiological basis of haemostasis
- Describe different blood groups
- Discuss the clinical importance of blood grouping
- Describe blood transfusion
- Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT

S.No	Generic competenc y	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Format ive Assess ment	Summa tive Assess ment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 5.1	Integration Of Information (K-1)	Blood Fluid and It's Constitue	Knows How	Describe the composition and functions of blood	Discuss the composition of Blood	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 5.2		nts	Knows How	components	Describe the function of blood	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Pathology Medicine
Hom UG-PB 5.3			Knows		Define serum	Cognitive	Level 1 recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.4			Knows How		Explain the difference between serum & Plasma	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.5	Integration Of Information (K-1)		Knows How	Describe the origin, Forms, Variations and functions of	Discuss the origin of plasma protein	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 5.6			Knows How	plasma Protein	Explain the forms and functions of plasma proteins	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
Hom UG-PB 5.7			Knows How		Identify the relation of diet to plasma protein	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.8	Integration Of Information (K-1)		Knows How	Describe and discuss the synthesis and	Illustrate the structure of Haemoglobin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

Hom		Knows	functions of	Discuss the	Cognitive	Level 2	Must Know	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB		How	Haemoglobin	synthesis of		Understand		Small group		Viva	
5.9				Haemoglobin		/ interpret		discussion		Voce	
Hom		Knows		Define Normal	Cognitive	Level 1	Must know	Lecture,	SAQs	LAQs,	Biochemistry
UG-PB				function of		recall		Small group		Viva	Materia
5.10				Haemoglobin				discussion		Voce	Medica
Hom		Knows		State normal	Cognitive	Level 1	Must know	Lecture,	MCQs	SAQs,	Medicine
UG-PB				Value of		recall		Small group		Viva	
5.11				different				discussion		Voce	
				varieties of							
				Haemoglobin							
Hom		Knows		Explain Iron	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB		How		metabolism		Understand	Know	Small group		Viva	
5.12						/ interpret		discussion		Voce	
Hom	Integration	Knows	Describe RBC	Discuss the	Cognitive	Level 2	Desire to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	How	formation	normal structure		Understand	Know	Small group		Viva	Pathology
5.13	Information		(erythropoiesis	of RBC with its		/ interpret		discussion		Voce	Medicine
	(K-1)		& its	morphology							
Hom		Knows	regulation) and	discuss stages	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How	its functions	and regulation of		Understand		Small group		Viva	
5.14				erythropoiesis		/ interpret		discussion		Voce	
Hom	-	Knows		Discuss the fate	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How		of RBC		Understand	Know	Small group		Viva	
5.15						/ interpret		discussion		Voce	
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		hemolysis		Understand	Know	Small group		Viva	FMT
5.16						/ interpret		discussion,		Voce	
								CBL			
Hom	Information	Knows	Describe	Classify the	Cognitive	Level 2	Must know	Lecture,	MCQs	LAQs,	Medicine,
UG-PB	Gathering	How	different types	anemia		Understand		Small group		Viva	Pathology
5.17	,Integration		of anemia &	according to		/ interpret		discussion,		Voce	
	Of		Jaundice	their morphology				CBL, PBL			
	information			& etiology							

Hom UG-PB 5.18	, Problem Integration (K-2)	Knows How		Discuss the different anemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	MCQs	LAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory	
Hom UG-PB 5.19		Knows How		Enumerate the different abnormal functions in anaemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	SAQs	SAQs, Viva Voce	Medicine	
Hom UG-PB 5.20		Knows How		Discuss the fate of bilirubin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory	
Hom UG-PB 5.21		Knows How		Explain Physiological Jaundice	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Materia Medica Repertory	
Hom UG-PB 5.22		Knows How		Explain Jaundice in new-born	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory	
Hom UG-PB 5.23	Integration Of Information (K-1)	Knows How	Describe WBC formation (granulopoiesis) and its	Explain different condition of leucocyte count in our body	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Pathology	
Hom UG-PB 5.24		Knows How	regulation	Classify different type of WBCs	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology	
Hom UG-PB 5.25		Knows How		Discuss the function of WBCs as per their classification	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine	
Hom UG-PB 5.26		Knows How		Discuss the phagocytosis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology	

Hom UG-PB 5.27 Hom UG-PB 5.28		Knows How Knows How		Discuss the stages of leucopoiesis with its regulation Discuss the conditions that cause abnormal value of	Cognitive	Level 2 Understand / interpret Level 2 Understand / interpret	Must Know Desirable to Know	Lecture, Small group discussion Lecture, Small group discussion	SAQs	SAQs, Viva Voce SAQs, Viva Voce	Medicine Surgery Pathology
Hom UG-PB 5.29	Integration Of Information (K-1)	Knows How	Describe the formation of platelets, functions and	leucocyte Discuss the structure & function of Platelets	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 5.30		Knows How	variations.	Describe the Thrombopoiesis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.31		Knows How		Discuss its count & variation of platelets	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 5.32	Integration Of Information (K-1)	Knows How	Describe the physiological basis of haemostasis	Describe the process of coagulation	Cognitive	Level 2 (Understand / interpret)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Materia Medica
Hom UG-PB 5.33		Knows How	naemostasis	Discuss the mechanism of haemostasis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.34		Knows How		Explain stages of clotting mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.35	Integration Of Information (K-1)	Knows How	Describe the clinical importance of blood coagulation	Discuss hemorrhagic disorder	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	MCQs	SAQs, Viva Voce	Medicine

Hom UG-PB 5.36	Integration Of Information		Knows	Describe different blood groups	Classify the ABO blood group system	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	SAQs	LAQs Viva Voce	Pathology
Hom UG-PB 5.37	(K-1)		Knows How		Discuss Landsteiner's Law	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.38	Integration Of Information		Knows How	Discuss the clinical importance of	Describe Rhesus Blood Group	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 5.39	(K-1)		Knows How	blood grouping	Discuss Rh Incompatibility	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine, Pathology Obstetrics & Gynaecology
Hom UG-PB 5.40	Integration Of Information (K-1)		Knows How	Describe blood transfusion	Discuss the importance of Blood transfusion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery Medicine
Hom UG-PB 5.41			Knows		List causes for Blood transfusion reaction	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.42	Integration Of Information (K-1)	Immune Mechanis m	Knows How	Explain the role of lymphoid tissues in immune	Discuss Tissue Macrophage system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 5.43			Knows How	responses	Describe the morphology and functions of Lymphocytes & Plasma cell	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
Hom UG-PB 5.44			Knows How		Explain the functions of spleen	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

Hom			Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB			How		formation and		Understand	Know	Small group		Viva	
5.45					functions of		/ interpret		discussion		Voce	
					Lymph							
Hom	Integration		Knows	Define and	Define Immunity	Cognitive	Level 1	Must know	Lecture,	MCQs	SAQs,	Pathology
UG-PB	Of			classify			(Remember/		Small group		Viva	Medicine
5.46	Information			different types	E 1 : 1:00 .	6 :::	recall)	5	discussion	1460	Voce	Organon
Hom	(K-1)		Knows	of immunity.	Explain different	Cognitive	Level 2	Desirable to	Lecture,	MCQs	LAQs,	Pathology
UG-PB			How		type of immunity		Understand	Know	Small group		Viva	Medicine
5.47	lata sasti sa		V	December 4b.	Diamora	C 't-'	/ interpret	NA. at Karana	discussion	640-	Voce	Dath alass
Hom	Integration		Knows	Describe the	Discuss	Cognitive	Level 2	Must Know	Lecture,	SAQs	SAQs,	Pathology
UG-PB	Of		How	development	development of		Understand		Small group		Viva	
5.48	Information (K-1)			of immunity and its	immune		/ interpret		discussion		Voce	
Hom	(K-1)		Knows	regulation	response Discuss Auto -	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Pathology
UG-PB			How	regulation	immunity &	Cognitive	Understand	Widst Kilow	Small group	SAUS	Viva	Medicine
5.49			ПОМ		Hypersensitivity		/ interpret		discussion		Voce	Medicine
3.43					riypersensitivity		/ interpret		discussion		Voce	
Hom	-		Knows		Discuss	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Pathology
UG-PB			How		Immunodeficienc		Understand	know	Small group		Viva	Medicine
5.50					y Diseases		/ interpret		discussion		Voce	
Hom	Information	Hematolo	Shows	Estimate Hb,	Estimate Hb in	Psycho	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB	Gathering	gy	How	RBC, TLC, RBC	the given sample	Motor	(Control)			ation	st	Medicine
5.51	,Integration	Practical		indices, DLC,								
Hom	Of		Knows	Blood groups,	Interpret results	Cognitive	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB	information		How	BT/CT	of Hb estimation		Understand			ation	st	Medicine
5.52	, Problem						/ interpret					
Hom	Integration		Shows		Perform RBC	Psycho	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB	(K-2)		How		Total Count	Motor	(Control)			ation	st	
5.53					Estimation							
Hom			Knows	1	Interpret the	Cognitive	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB			How		results of RBC		Understand			ation	st	
5.54					Total Count		/ interpret					
					Estimation							
Hom]		Shows]	Perform WBC	Psycho	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB			How		Total Count	Motor	(Control)			ation	st	Medicine
5.55					Estimation							

Hom UG-PB 5.56		Know How	s	Interpret the results of WBC Total Count Estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine	
Hom UG-PB 5.57		Show How	5	Perform WBC DC estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.58		Know How	S	Interpret the results of WBC DC estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.59		Show How	5	Record RBC indices	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine	
Hom UG-PB 5.60		Know How	S	Evaluate RBC indices	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine	
Hom UG-PB 5.61		Show How	5	Perform Blood Group identification	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.62		Show How	5	Perform BT / CT	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.63		Know How	S	Interpret the results of BT / CT	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.64		Show How	5	Record ESR	Psycho Motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.65		Know How	S	Interpret the results of ESR estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology	
Hom UG-PB 5.66	Information Gathering ,Integration	Show How	Describe steps for reticulocyte and platelet	Record Reticulocyte count	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstrati on	Observ ation	Observ ation	Pathology	
Hom UG-PB 5.67	Of information , Problem	Know How		Interpret the results of	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observ ation	Checkli st	Pathology Medicine	

	Integration			Reticulocyte							
	(K-2)			count							
Hom		Sho	ows	Record Platelet	Psycho	Level 1	Nice to know	Demonstrati	Observ	Observ	Pathology
UG-PB		Hov	ow	Count	Motor	(Observe /		on	ation	ation	
5.68						Imitate)					
Hom		Kno	iows	Interpret the	Cognitive	Level 2	Must know	DOAP	Observ	Checkli	Pathology
UG-PB		Hov	ow	results of		Understand			ation	st	Medicine
5.69				Platelet Count		/ interpret					

SEMESTER – 2

Topic No	6
Theory	Cardio Vascular System
Practical	
Clinical Physiology	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination

Learning Outcomes: -

At the end of chapter on Cardio Vascular System & its examination, the student must be able to –

- Describe the functional anatomy of the heart, with respect to its chambers, valves, input and output vessels, AV ring and electrical discontinuity, Conducting system, Coronary supply.
- Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions.
- Discuss the events occurring during the cardiac cycle
- Illustrate the haemo-dynamics of circulatory system
- Explain the regulation of cardiac output
- Describe the normal mode of conduction of the cardiac impulse
- Explain coronary, cerebral, capillary, pulmonary& splanchnic circulation
- List the major diseases of cardiovascular system,

- Record Pulse, blood pressure, and ECG
- Perform the clinical examination of cardiovascular system

S.No	Generic	Subject	Miller's	Specific	Specific Learning	Bloom's	Guilbert's	Must know /	TL method /	Format	Summat	Integration -
	competency	area	Level	competency	Objectives /	domain	level	desirable to	media	ive	ive	Horizontal /
					outcomes			know / nice		Assess	Assessm	Vertical /
								to know		ment	ent	Spiral
Hom	Integration	Cardio	Knows	Describe the	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Human
UG-PB	Of	Vascular	How	functional	chambers of		Understand		Small group		Viva	Anatomy
6.1	Information	System		anatomy of	heart		/ interpret		discussion		Voce	
Hom	(K-1)		Knows	heart including	Discuss the	Cognitive	Level	Must know	Lecture,	SAQs	SAQs,	Human
UG-PB			How	chambers,	valves & the		2Understan		Small group		Viva	Anatomy
6.2				Sounds	walls of heart		d /		discussion		Voce	
							interpret					
Hom	Integration		Knows	Describe	Explain the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine –
UG-PB	Of		How	Pacemaker	pacemaker of		Understand	know	Small group		Viva	Cardiology
6.3	Information			tissue and	heart.		/ interpret		discussion		Voce	
Hom	(K-1)		Knows	conducting	Describe the	Cognitive	Level 2	Must Know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB			How	system.	conducting		Understand		Small group		Viva	
6.4					system		/ interpret		discussion		Voce	
Hom	Integration		Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	LAQs,	Anatomy
UG-PB	Of		How	properties of	Morphological		Understand	Know	Small group		Viva	
6.5	Information			cardiac muscle	Properties of		/ interpret		discussion		Voce	
	(K-1)			including its	heart							
Hom			Knows	morphology,	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB			How	electrical,	electrical		Understand	Know	Small group		Viva	
6.6				mechanical and	properties of		/ interpret		discussion		Voce	
	_			metabolic	heart							
Hom			Knows	functions	Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Anatomy
UG-PB			How		mechanical &		Understand		Small group		Voce	
6.7					metabolic		/ interpret		discussion			
					Properties of							
			14	5	heart		1 14			1466	646	
Hom	Integration		Knows	Discuss the	Define Cardiac	Cognitive	Level 1	Must know	Lecture,	MCQs	SAQs,	Medicine
UG-PB	Of			events	cycle		(Remember		Small group		Viva	
6.8				occurring			/ recall)		discussion		Voce	

Hom UG-PB 6.9	Information (K-1)	Knows How	during the cardiac cycle	Discuss the events of cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.10		Knows How		Explain the pressure changes during cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.11		Knows How		Explain the ECG changes during each cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.12	Integration Of Information	Knows	Discuss heart sounds	Define Heart Sound	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.13	(K-1)	Knows How		Explain different heart sounds with their measurement technique	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
Hom UG-PB 6.14		Knows How		Discuss the clinical importance of Murmurs & Triple heart sound	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
Hom UG-PB 6.15	Integration Of Information (K-1)	Knows How	Describe the physiology of electrocardiogr am (E.C.G),	Discuss normal ECG with it's waves and intervals	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 6.16		Knows How		Explain in electrocardiograp hy with unipolar & bipolar recording.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 6.17	Information Gathering ,Integration Of	Knows How	Discuss arrhythmia, heart block and myocardial	Classify arrythmias	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine

Hom	information	Knows	Infarction	Explain Different	Cognitive	Level 2	Desirable to	Lecture, PBL	SAQs	SAQs,	Medicine
UG-PB	Problem	How		degree of heart		Understand	Know	, Small		Viva	Pathology
6.18	Integration			block. Explain		/ interpret		group		Voce	Materia
	(K-2)			Myocardial				discussion			Medica
				Infarction							Repertory
Hom	Integration	Knows	Describe	List the functions	Cognitive	Level 1	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of		haemo-	of circulation		Recall	know	Small group		Viva	
6.19	Information		dynamics of					discussion		Voce	
	(K-1)		circulatory								
Hom		Knows	system	State the	Cognitive	Level 1	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB				functions of heart		Recall	know	Small group		Viva	
6.20	1							discussion		Voce	
Hom		Knows		Discuss the	Cognitive	Level 2	Nice to know	Lecture,	MCQs	Viva	
UG-PB		How		pressure changes		Understand		Small group		Voce	
6.21				in vascular		/ interpret		discussion			
				system							
Hom		Knows		Recall the	Cognitive	Level	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB				structure of the		1Recall	Know	Small group		Viva	
6.22				blood vessels				discussion		Voce	
Hom	Integration	Knows	Describe the	Identify the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Of	How	factors	factors affecting		Understand		Small group		Viva	
6.23	Information		affecting heart	heart rate and		/ interpret		discussion		Voce	
	(K-1)		rate,	how it affects							
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How		mechanism of		Understand	know	Small group		Viva	
6.24				control of heart		/ interpret		discussion		Voce	
				rate							
Hom	Integration	Knows	Describe the	Define cardiac	Cognitive	Level 1	Must know	Lecture,	SAQs	LAQs	Materia
UG-PB	Of		regulation of	output		(Remember		Small group		Viva	Medica
6.25	Information		cardiac output			/ recall)		discussion		Voce	Repertory
	(K-1)										
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	LAQs,	Medicine
UG-PB		How		distribution of	-	Understand	Know	Small group		Viva	
6.26				cardiac output		/ interpret		discussion		Voce	

Hom UG-PB 6.27		Knows How		Discuss the factors affecting cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.28		Knows How		Discuss in detail the Control mechanism of cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 6.29	Integration Of Information (K-1)	Knows How	Understand the blood pressure regulation	•	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.30		Knows		State the factors affecting arterial blood pressure	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.31		Knows How		Discuss the determinants of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.32		Knows How		Describe regulation of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 6.33	Integration Of Information (K-1)	Knows How	Describe coronary, cerebral, capillary,	Discuss the capillary circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	
Hom UG-PB 6.34		Knows How	pulmonary & splenic circulation	Discuss the Coronary circulation	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 6.35		Knows How		Discuss the Cerebral circulation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
Hom UG-PB 6.36		Knows How		Discuss the Splenic circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Medicine

Hom		Knows		Discuss	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		Pulmonary		Understand	Know	Small group		Viva	
6.37				circulation		/ interpret		discussion		Voce	
Hom	Information	Knows	Describe the	Explain	Cognitive	Level 2	Must know	CBL,	SAQs	SAQs,	Medicine
UG-PB	Gathering	How	mechanism of	mechanism		Understand		Lecture,		Viva	Pathology
6.38	,Integration		shock, syncope	responsible for		/ interpret		Small group		Voce	
	Of		& Hypertension	shock & syncope				discussion			
Hom	information,	Knows		Discuss the	Cognitive	Level 2	Must know	CBL,	SAQs	SAQs,	Medicine
UG-PB	Problem	How		mechanism of	Cognitive	Understand		Lecture,	JAQJ	Viva	Pathology
6.39	Integration	Tiow		hypertension		/ interpret		Small group		Voce	Materia
0.33	(K-2)			riyperterision		/ interpret		discussion		Voce	Medica
								uiscussion			Organon
Hom	Information	Shows	Record blood	Measure the	Psycho-	Level 2	Must know	Demonstrati	Observ	OSCE	Medicine
UG-PB	Gathering	How	pressure at rest	blood pressure in	•	(Control)	Widst Kilow	on	ation	OSCE	Wiedienie
6.40	,Integration	11011	and in different	resting &different		(Correror)		011	ation		
0.40	Of		grades of	grade of exercise							
Hom	information,	Knows	Exercise and	Discuss the	Cognitive	Level 2	Must know	CBL,	Observ	OSCE	Medicine
UG-PB	Problem	How	postures	variation	COSITIEVE	(Understan	Widst Kilow	Lecture,	ation	OSCE	Wiedienie
6.41	Integration	1.0.0	postares	between		ding)		Small group	ation		
0.11	(K-2)			different blood		u ₆ /		discussion			
	(/			pressure values				41364331611			
				after							
				measurement							
Hom	Information	Shows	Record pulse at		Psycho-	Level 2	Must know	Demonstrati	Observ	OSCE	Medicine
UG-PB	Gathering	How	rest and in	rest and in	motor	(Control)		on	ation		
6.42	,Integration		different	different grades		(,					
	Of		grades of	of exercise							
Hom	information,	Knows	Exercise and	Discuss the	Cognitive	Level 2	Must know	CBL,	Observ	OSCE	Medicine
UG-PB	Problem	How	postures	variation	J	(Understan		Lecture,	ation		
6.43	Integration			between		d)		Small group			
	(K-2)			different arterial		,		discussion			
				pulse value after							
				measurement							

Hom	Information	Shows	Record ECG	Record ECG in a	Psycho-	Level 2	Desirable to	Demonstrati	Observ	OSCE	Medicine
UG-PB	Gathering,	How		volunteer.	motor	(Control)	know	on	ation		
6.44	Integration										
	of										
	information,	Knows		Identify the	Cognitive	Level 1	Nice to Know	CBL,		OSCE	
	Problem			features of a		(Recall)		Lecture,			
	Integration			normal ECG.				Small group			
	(K-2)							discussion			
Hom	Information	Shows	Demonstrate	Locate the Apex	Psycho-	Level 2	Must know	Demonstrati	Observ	OSCE	Human
UG-PB	Gathering,	How	the correct	beat	motor	(Control)		on	ation		Anatomy
6.45	Integration		clinical								
	Of		examination of								
Hom	information,	Shows	the cardio	Augustata for	Doyoho	Level 2	Must know	Demonstrati	Observ	OSCE	Medicine
Hom UG-PB	Problem	How	vascular	Auscultate for heart sound	Psycho- motor	(Control)	IVIUST KNOW		Observ ation	USCE	Medicine
6.46	Integration	How	system	neart sound	1110101	(Control)		on	ation		
Hom	(K-2)	Shows	_	Identify different	Psycho-	Level 2	Must know	Demonstrati	Observ	OSCE	Medicine
UG-PB		How		heart sounds	·		IVIUST KITOW			USCE	ivieuiciiie
		HOW		neart sounds	motor	(Control)		on	ation		
6.47											

Topic No	7
Theory	Respiratory & Environmental Physiology
Practical	
Clinical Physiology	Respiratory System- Clinical Examination, Spirometry, Stethography

At the end of the chapter of Respiratory & Environmental Physiology, the student must be able to $-\$

- Describe the functional anatomy of respiratory tract.
- Describe the mechanics of normal respiration
- Describe pressure changes during ventilation
- Describe lung volume and capacities
- Describe the transport of respiratory gases
- Describe the regulation of respiration
- Demonstrate the correct clinical examination of the respiratory system in a normal volunteer.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Format ive Assess ment	Summat ive Assessm ent	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 7.1	Integration Of Information (K-1)	Respirator y & Environme ntal		Describe the functional anatomy of respiratory	Identify the different parts of upper respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.2		Physiology	Knows How	tract	Describe the importance of different parts of lower respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.3			Knows How		Identify the different parts of tracheo – bronchial tree, Respiratory membrane & pleura	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.4			Knows How		Explain the properties of Gases	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

Hom		Knows		Discuss non-	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		respiratory		Understand		Small group		Viva	
7.5				function of		/ interpret		discussion		Voce	
				respiratory							
				system							
Hom	Integration	Knows	Describe the	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	How	mechanics of	mechanism of		Understand		Small group		Viva	
7.6	Information		normal	Inspiration		/ interpret		discussion		Voce	
Hom	(K-1)	Knows	respiration	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB		How		mechanism of		Understand		Small group		Viva	
7.7				Expiration		/ interpret		discussion		Voce	
Hom	Integration	Knows	Describe	Discuss intra-	Cognitive	Level 2	Nice to know	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Of	How	pressure	pulmonary		Understand		Small group		Viva	
7.8	Information		changes during	pressure		/ interpret		discussion		Voce	
Hom	(K-1)	Knows	ventilation	Discuss intra	Cognitive	Level 2	Nice to know	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		pleural pressure		Understand		Small group		Viva	
7.9						/ interpret		discussion		Voce	
Hom	Integration	Knows	Describe lung	Discuss static	Cognitive	Level 2	Desirable to	Lecture,	MCQs	SAQs,	Medicine
UG-PB	Of	How	volume and	lung volume &		Understand	Know	Small group		Viva	
7.10	Information.		capacities,	capacities		/ interpret		discussion		Voce	
Hom	(K-1)	Knows		Discuss dynamic	Cognitive	Level 2	Desirable to	Lecture,	MCQs	SAQs,	Medicine
UG-PB		How		lung volume		Understand	Know	Small group		Viva	
7.11				and capacities		/ interpret		discussion		Voce	
Hom	Integration	Knows	Describe	Define surface	Cognitive	Level 1	Desirable To	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Of	How	alveolar	tension		(Remember	Know	Small group		Viva	
7.12	Information		surface tension			/ recall)		discussion		Voce	
Hom	(K-1)	Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	
UG-PB		How		significance of		Understand		Small group		Viva	
7.13				lung surfactant		/ interpret		discussion		Voce	
Hom	Integration	Knows	Describe the	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB	Of	How	transport of	Oxygen		Understand		Small group		Viva	
7.14	Information		respiratory	transportation		/ interpret		discussion		Voce	
Hom	(K-1)	Knows	gases	Explain the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How		carbon dioxide		Understand		Small group		Viva	
7.15				transportation		/ interpret		discussion		Voce	
				•		•					

Hom	Information	Knows	Describe the	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB	Gathering	How	regulation of	nervous		Understand		Small group		Viva	
7.16	,Integration		respiration	regulation of		/ interpret		discussion		Voce	
	Of			respiration							
Hom	information,	Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB	Problem	How		Chemical		Understand		Small group		Viva	
7.17	Integration			regulation of		/ interpret		discussion		Voce	
	(K-2)			respiration							
Hom		Knows		Discuss the	Cognitive	Level 2	Must know	PBL,	SAQs	SAQs,	Medicine
UG-PB		How		physio clinical		Understand		Lecture,		Viva	
7.18				aspect of Apnea		/ interpret		Small group		Voce	
								discussion			
Hom		Knows		Discuss the	Cognitive	Level 2	Must know	PBL,	MCQs	SAQs,	Medicine
UG-PB		How		physio clinical		Understand		Lecture,		Viva	FMT
7.19				aspect of		/ interpret		Small group		Voce	Materia
				Dyspnoea,				discussion			Medica
				Asphyxia,							
				Oxygen toxicity							
Hom	Information	Know	Describe the	Define Hypoxia	Cognitive	Level 1	Must know	PBL,	MCQs	LAQs,	Medicine
UG-PB	Gathering		physio clinical			(Recall)		Lecture,		Viva	
7.20	,Integration		aspect of					Small group		Voce	
	Of		hypoxia					discussion			
Hom	information,	Knows		Classify hypoxia.	Cognitive	Level 1	Must know	PBL,	MCQS,	SAQs,	Pathology
UG-PB	Problem			Define Cyanosis		Recall		Lecture,	SAQs	Viva	Medicine
7.21	Integration							Small group		Voce	
	(K-2)							discussion			
Hom	Information	Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Gathering	How	principles and	principles of		Understand	Know	Small group		Viva	
7.22	,Integration		methods of	artificial		/ interpret		discussion		Voce	
	Of		artificial	respiration							
Hom	information,	Knows	respiration,	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Problem	How		Methods of		Understand		Small group		Viva	
7.23	Integration			artificial		/ interpret		discussion		Voce	
	(K-2)			respiration							

Hom	Integration	Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB	Of	How	physiology of	pressure		Understand	know	Small group		Viva	
7.24	Information		high altitude	changes during		/ interpret		discussion		Voce	
	(K-1)		and deep sea	high altitude							
Hom		Knows	diving	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How		effect during		Understand	know	Small group		Viva	
7.25				Rapid & slow		/ interpret		discussion		Voce	
				ascent on high							
				altitude							
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How		pressure changes		Understand	know	Small group		Viva	
7.26				during Deep sea		/ interpret		discussion		Voce	
				diving							
Hom	Information	Shows	Perform the	Perform the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Medicine
UG-PB	Gathering	How	clinical	technique to	motor	(Control)		on	ation		
7.27	,Integration		examination of	assess normal							
	Of		the respiratory	respiratory rate,							
	information,		system in a	expansion of							
	Problem		normal	chest, in resting							
	Integration		volunteer	as well as							
	(K-2)			exercise							
				condition							
				through							
				inspection and							
				palpation							
Hom		Shows		Perform	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Medicine
UG-PB		How		percussion on	motor	(Control)		on	ation		
7.28				the chest							
Hom		Shows		Perform the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Medicine
UG-PB		How		auscultation on	motor	(Control)		on	ation		
7.29				different parts							
				of lungs.							

Topic No	8
Theory	Central Nervous System
Practical	
Clinical Physiology	Nervous System- Clinical Examination

At the end of chapter of Central Nervous System, the student must be able to -

- Map the organization of nervous system.
- State the functions and properties of synapse.
- Explain the functions and properties of receptors
- Describe the functions and properties of reflex.
- Discuss the mechanism of chemical transmission in the nervous system.
- Describe somatic sensations & sensory tracts.
- Describe and discuss motor tracts & mechanism of maintenance of muscle tone.
- Describe the physiology of vestibular apparatus, Control of body movements, posture and equilibrium.
- Describe structure and functions of autonomic nervous system
- Explain the functions, lesion & sensory disturbance of Spinal cord

- Describe functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system
- Describe behavioural and EEG characteristic during Sleep.
- Describe the physiological basis of memory, learning and speech
- Perform the clinical examination of the nervous system in a volunteer or on a simulator.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Format ive Assess ment	Summat ive Assessm ent	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 8.1	Integration Of Information (K-1)	Nervous System	Knows	Describe the organization of nervous system	Identify the parts of central nervous system – brain & spinal cord with its function	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.2			Knows How		Discuss the developmental aspect of central nervous system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.3			Knows		Classify nervous system	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.4	Integration Of Information (K-1)		Knows How	Describe the functions and properties of synapse.	Illustrate the physiological anatomy of synapse	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.5			Knows How		Discuss the electrical events occurring at synapses	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
HomUG -PB 8.6			Knows How		Discuss the properties of synapse.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	

HomUG -PB 8.7	Integration Of Information	Knows	Describe the functions and properties of	Define receptor	Cognitive	Level 1 (Remember / recall)	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs Viva Voce	Anatomy
Hom UG-PB 8.8	(K-1)	Knows	receptors	Classify the sensory receptors.	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 8.9		Knows How		Describe the Cutaneous receptor	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 8.10		Knows How		explain the properties of receptor	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 8.11	Integration Of Information	Knows How	Describe the functions and properties of	Discuss reflex arc	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 8.12	(K-1)	Knows	reflex.	Classify reflexes	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 8.13		Knows How		Discuss the properties of reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 8.14	Integration Of Information	Knows	Describe the mechanism of chemical	Classify neuro- transmitters	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 8.15	(K-1)	Knows How	transmission in the nervous system.	Explain the different types of neuro-transmitter	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 8.16	Integration Of Information	Knows	Describe somatic sensations &	Define sensory system	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 8.17	(K-1)	Knows How	sensory tracts	Discuss different sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQ, Viva Voce	Anatomy

Hom UG-PB 8.18		Knows How		Describe the sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine
Hom UG-PB 8.19		Knows How		Explain the somato-sensory cortex	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs Viva Voce	Anatomy Medicine
Hom UG-PB 8.20		Knows How		Explain the somatic sensation – touch, pressure, pain, temperature, proprioception	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion Demonstrati on	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine Materia Medica Repertory
Hom UG-PB 8.21	Information Gathering ,Integration	Knows How	Describe motor tracts & mechanism of	Discuss motor areas	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 8.22	Of information, Problem	Knows How	maintenance of muscle tone	Discuss different motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.23	· Integration (K-2)	Knows How		Discuss the motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.24		Knows		Discuss the clinical significance of Motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine Materia Medica
Hom UG-PB 8.25	Information Gathering ,Integration Of information,	Knows How	Describe the physiology of vestibular apparatus, Control of body	Discuss the physiological anatomy of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 8.26	Problem Integration (K-2)	Knows How	movements, posture and equilibrium	Explain the functions of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Medicine Materia Medica

Hom		Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Medicine
UG-PB		How		common		Understand		Small group	MCQs	Viva	Materia
8.27				vestibular		/ interpret		discussion		Voce	Medica
				dysfunctions							
Hom	Integration	Knows	Describe	Differentiate	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Anatomy
UG-PB	Of	How	structure and	between somatic		Understand		Small group	MCQs	Voce	
8.28	Information		functions of	and autonomic		/ interpret		discussion			
	(K-1)		Autonomic	nervous system							
Hom		Knows	nervous system		Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB		How	(ANS)	divisions of		Understand		Small group		Viva	
8.29				Autonomic		/ interpret		discussion		Voce	
				nervous system							
Hom		Knows		Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	
UG-PB		How		responses of		Understand		Small group		Voce	
8.30				effector organ to		/ interpret		discussion			
				autonomic nerve							
				impulse							
Hom	Information	Knows	Explain the	List the functions	Cognitive	Level 1	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB	Gathering		functions,	of Spinal cord		(Remember		Small group		Viva	Medicine
8.31	,Integration		lesion &			/ recall)		discussion		Voce	
Hom	Of	Knows	sensory	Illustrate the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine,
UG-PB	information,	How	disturbance of	transection of		Understand		Small group		Viva	Surgery
8.32	Problem		Spinal cord	spinal cord		/ interpret		discussion		Voce	
Hom	Integration	Knows		Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB	(K-2)	How		sensory		Understand		Small group		Viva	
8.33				disturbances of		/ interpret		discussion		Voce	
				spinal cord							
Hom	Information	Knows	Describe	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB	Gathering	How	functions of	connections &		Understand		Small group		Viva	Medicine –
8.34	,Integration		cerebral cortex,	functions of		/ interpret		discussion		Voce	Psychiatry
	Of		basal ganglia,	cerebral cortex							Repertory
Hom	information,	Knows	thalamus, hypo	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Problem	How	- thalamus,	connections&	Cognitive	Understand	know	Small group	JAUS	Viva	Medicine –
	Integration	HOW	cerebellum and				KIIOW				Psychiatry
0.33	(K-2)		limbic system			, interpret		uiscussiuii		VOCE	rsycillativ
8.35	(K-2)			functions of Basal Ganglia		/ interpret		discussion		Voce	Р

Hom		Knows	and their	Explain the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB		How	abnormalities	connections &		Understand	Know	Small group		Viva	Medicine –
8.36				functions of		/ interpret		discussion		Voce	Psychiatry
				Thalamus							Repertory
Hom		Knows		Explain the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB		How		connections&		Understand		Small group		Viva	Medicine –
8.37				functions of		/ interpret		discussion		Voce	Psychiatry
				Hypothalamus							Materia
											Medica
											Repertory
Hom		Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy,
UG-PB		How		connections &		Understand		Small group		Viva	Psychology,
8.38				functions of		/ interpret		discussion		Voce	Medicine –
				Limbic system							Psychiatry
											Materia
											Medica
Hom		Knows		Explain the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB		How		connections&		Understand		Small group		Viva	Medicine –
8.39				functions of		/ interpret		discussion		Voce	Psychiatry
				Cerebellum							Materia
											Medica
Hom		Knows		Explain the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Pathology
UG-PB		How		cerebellar lesions		Understand		Small group		Viva	Medicine –
8.40						/ interpret		discussion		Voce	Psychiatry
											Materia
											Medica
Hom	Integration	Knows	Describe	Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	
UG-PB	Of	How	behavioral and	importance of		Understand		Small group		Voce	
8.41	Information		EEG	EEG		/ interpret		discussion			
Hom	(K-1)	Knows	characteristic	Explain the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	
UG-PB		How	during	Physiological		Understand		Small group		Voce	
8.42]		Sleep and	Basis of EEG		/ interpret		discussion			
Hom		Knows	mechanism	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How	responsible for	factors affecting		Understand	Know	Small group		Viva	
8.43			its production	sleep		/ interpret		discussion		Voce	

Hom		Knows		Describe the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		Physiological		Understand	Know	Small group		Viva	
8.44				changes during		/ interpret		discussion		Voce	
				sleep							
Hom]	Knows		Classify the types	Cognitive	Level 1	Nice to know	Lecture,	SAQs	Viva	Medicine
UG-PB				of sleep		(Remember		Small group		Voce	
8.45						/ recall)		discussion			
Hom]	Knows		Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Anatomy
UG-PB		How		factors		Understand		Small group		Voce	Medicine
8.46				controlling sleep		/ interpret		discussion			
				cycle							
Hom	Information	Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Gathering	How	physiological	mechanism and		Understand	Know	Small group		Viva	Medicine
8.47	,Integration		basis of	development of		/ interpret		discussion		Voce	
	Of		memory,	speech							
Hom	information,	Knows	learning	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Problem	How	And speech	physiological		Understand		Small group		Viva	Medicine
8.48	Integration			basis of learning		/ interpret		discussion		Voce	Materia
	(K-2)										Medica
											Repertory
Hom]	Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		physiological		Understand		Small group		Viva	
8.49				basis of memory.		/ interpret		discussion		Voce	
Hom	1	Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		applied		Understand		Small group		Viva	Materia
8.50				physiology of		/ interpret		discussion		Voce	Medica
				memory							Repertory
Hom	Information	Shows	Perform the	Perform	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	Gathering	How	clinical	examination of	motor	(Control)		on	ation	OSCE	Medicine
8.51	,Integration		examination of	cranial nerves							
Hom	Of	Shows	the nervous	Perform	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	information,	How	System : Higher	examination for	motor	(Control)		on	ation	OSCE	Medicine
8.52	Problem		functions,	speech							
Hom	Integration	Shows	sensory	Conduct the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	(K-2)	How	system, motor	assessment of	motor	(Control)		on	ation	OSCE	Medicine
8.53			system,	muscle tone		-					

Hom	Shows	reflexes, cranial	Conduct the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	How	nerves in a	assessment of	motor	(Control)		on	ation	OSCE	Medicine
8.54		normal	muscle power							
Hom	Shows	volunteer or	Perform the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	How	simulated	clinical	motor	(Control)		on	ation	OSCE	Medicine
8.55		Environment	examination for							
			reflexes							
Hom	Shows		Perform	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	How		Cutaneous	motor	(Control)		on	ation	OSCE	Medicine
8.56			sensory							
			examination							
Hom	Shows		Perform the	Psycho-	Level 2	Must know	Demonstrati	Observ	Checklist	Anatomy
UG-PB	How		clinical	motor	(Control)		on	ation	OSCE	Medicine
8.57			examination of							
			gait and posture							

Topic No	9
Theory	Endocrine System
Practical	
Clinical Physiology	Reproductive System – Diagnosis of pregnancy

At the end of chapter of Endocrine System& Diagnosis of pregnancy, the student must be able –

- Explain the mechanism of action of steroid, protein and amine hormones.
- Describe the regulation of secretion of hormones by hypothalamus.
- Discuss the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of-Pituitary gland; Thyroid gland; Para Thyroid glands; Adrenal glands; and Pancreatic Gland.
- Explain the physiology of Thymus &Pineal Glands, and the local hormones.

S.No	Generic competenc y	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Format ive Assess ment	Summat ive Assessm ent	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 9.1	Integration Of Information (K-1)	Endocrine system	Knows	Describe the mechanism of action of	Define hormones	Cognitive	Level 1 (Remembe r/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	
Hom UG-PB 9.2	- (K-1)		Knows How	steroid, protein And amine hormones	Discuss the characteristic of hormones	Cognitive	Level 2 Understan d / interpret	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Psychology
Hom UG-PB 9.3			Knows How		Classify the hormones as per their chemistry	Cognitive	Level 2 Understan d / interpret	Desirable to know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Biochemistry
Hom UG-PB 9.4	Integration Of Information (K-1)		Knows How	Describe the regulation of secretion of hormones by hypothalamus	Discuss the regulation of hormone from the hypothalamus	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 9.5			Knows How		Discuss the homoeostatic mechanism of secretion of hormone through Hypothalamus	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine

Hom UG-PB 9.6	Integration Of Information (K-1)	Knows How	Discuss the synthesis, secretion, Transport, Physiological	Discuss the physiological anatomy of pituitary gland	Cognitive	Level 2 Understan d / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 9.7		Knows How	action, regulation & effect of altered secretion of	Explain the secretion of anterior pituitary hormone	Cognitive	Level 2 Understan d / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Materia Medica
Hom UG-PB 9.8		Knows How	Pituitary gland	Explain the secretion of growth hormone	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	
Hom UG-PB 9.9		Knows How		Describe the functions of growth hormone	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	
Hom UG-PB 9.10		Knows		List the factors affecting growth hormone	Cognitive	Level 1Recall	Nice to know	Lecture, Small group discussion	SAQs MCQs	Viva Voce	
Hom UG-PB 9.11		Knows How		Discuss the effects of altered secretion of growth hormone	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 9.12		Knows How		Explain the actions and control of secretion of prolactin	Cognitive	Level 2 Understan d / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology
Hom UG-PB 9.13		Knows How		Discuss the secretion of posterior Pituitary hormones	Cognitive	Level 2 Understan d / interpret	Desirable to Know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Anatomy

Hom UG-PB		Knows		Explain the functions of	Cognitive	Level 2 Understan	Must know	Lecture, Small group	SAQs MCQs	LAQs, Viva	
9.14		liow		ADH		d / interpret		discussion	MCQs	Voce	
Hom	-	Knows	-	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Medicine
UG-PB 9.15		How		functions of Oxytocin		Understan d / interpret		Small group discussion	MCQs	Viva Voce	Obstetrics & Gynaecology
Hom		Knows	1	Describe	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB 9.16		How		pituitary insufficiency		Understan d / interpret		Small group discussion	MCQs	Viva Voce	Medicine
Hom UG-PB	Integration Of	Knows How	Describe the synthesis,	Discuss the physiological	Cognitive	Level 2 Understan	Desirable to know	Lecture, Small group	SAQs	SAQs, Viva	Anatomy Materia
9.17	Information (K-1)		secretion, Transport,	anatomy of Thyroid gland		d / interpret		discussion		Voce	Medica Repertory
Hom UG-PB 9.18		Knows How	Physiological action, regulation & effect of altered	Describe the formation & secretion of thyroid hormone	Cognitive	Level 2 Understan d / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.19		Knows How	secretion of Thyroid gland	Explain the transport & metabolism of thyroid hormone	Cognitive	Level 2 Understan d / interpret	Desirable to Know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.20		Knows How		Discuss the regulation and action of thyroid hormone	Cognitive	Level 2 Understan d / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 9.21		Knows How		Explain the effect of altered secretion of Thyroid hormone	Cognitive	Level 2 Understan d / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

Hom	Integration	Knows	Explain the	Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Biochemistry
UG-PB	Of	How	synthesis,	calcium &		Understan		Small group		Voce	Medicine
9.22	Information		secretion,	phosphate		d/		discussion			Materia
	(K-1)		Transport,	metabolism		interpret					Medica
Hom		Knows	Physiological	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How	action,	action of		Understan	Know	Small group	MCQs	Viva	
9.23			regulation &	parathormone		d /		discussion		Voce	
			effect of			interpret					
Hom		Knows	altered	Describe the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Biochemistry
UG-PB		How	secretion of	action of		Understan	Know	Small group	MCQs	Viva	
9.24			Para Thyroid	Calcitonin		d /		discussion		Voce	
			gland.			interpret					
Hom		Knows		Discuss the role	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Biochemistry
UG-PB		How		of Calcitonin in		Understan		Small group	MCQs	Viva	Medicine
9.25				the		d /		discussion		Voce	Materia
				maintenance of		interpret					Medica
				calcium							
				homoeostasis in							
				body							
Hom		Calcitonii		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Medicine
UG-PB				effect of altered		Understan		Small group	MCQs	Viva	
9.26				secretion of		d /		discussion		Voce	
				para thyroid		interpret					
				hormone							
Hom	Integration	Calcitonii	Describe the	Discuss the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	Anatomy
UG-PB	Of		synthesis,	physiological		Understan		Small group		Voce	
9.27	Information		secretion,	anatomy of		d/		discussion			
	(K-1)		Transport,	Adrenal Cortex		interpret					
			Physiological	gland							
Hom		Calcitonii	action,	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB			regulation &	formation,		Understan		Small group		Viva	
9.28			effect of	secretion, and		d /		discussion		Voce	
			altered	functions of		interpret					
			secretion of	Glucocorticoid							
			Adrenal gland	hormone							

Hom		Knows		Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How		formation,		Understan		Small group		Viva	
9.29				secretion, and		d /		discussion		Voce	
				functions of		interpret					
				Mineralocortico							
				id hormone							
Hom]	Knows		Describe the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB		How		formation,		Understan	know	Small group		Viva	
9.30				secretion, and		d /		discussion		Voce	
				functions of Sex		interpret					
				hormones							
Hom		Knows		Explain the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Medicine
UG-PB		How		effects of		Understan	know	Small group		Viva	
9.31				altered		d /		discussion		Voce	
				secretion of		interpret					
				Adrenal cortex							
				hormone							
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB		How		physiological		Understan	know	Small group		Viva	
9.32				anatomy of		d /		discussion		Voce	
				Adrenal		interpret					
				Medullary gland							
Hom	Integration	Knows	Describe the	Explain the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	How	synthesis,	physiological		Understan	Know	Small group		Viva	Materia
9.33	Information		secretion,	anatomy of		d/		discussion		Voce	Medica
	(K-1)		Transport,	Pancreatic gland		interpret					
Hom		Knows	Physiological	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	LAQs,	
UG-PB		How	action,	action and		Understan	Know	Small group		Viva	
9.34			regulation &	regulation of		d/		discussion		Voce	
			effect of	Glucagon		interpret					
Hom]	Knows	altered	Discuss the	Cognitive	Level 2	Must know	CBL,	SAQs	LAQs,	Medicine
UG-PB		How	secretion of	action and		Understan		Lecture,		Viva	Materia
9.35			Pancreatic	regulation of		d /		Small group		Voce	Medica
			Gland	Insulin		interpret		discussion			

Hom		Knov	vs	Describe the	Cognitive	Level 2	Must know	CBL,	SAQs	LAQs,	Pathology
UG-PB		How		effects of		Understan		Lecture,	MCQs	Viva	Medicine
9.36				altered		d/		Small group		Voce	
				secretion of		interpret		discussion			
				Pancreatic							
				Hormone							
Hom	Integration	Knov	vs Describe the	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	
UG-PB	Of	How	physiology of	functions of		Understan		Small group	MCQs	Viva	
9.37	Information		Thymus &	hormone of		d/		discussion		Voce	
	(K-1)		Pineal Gland	thymus gland		interpret					
Hom		Knov	vs	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	
UG-PB		How		functions of		Understan		Small group	MCQs	Viva	
9.38				hormone of		d /		discussion		Voce	
				pineal gland		interpret					
Hom		Knov	vs Describe the	State the	Cognitive	Level 2	Nice to know	Lecture,	SAQs	Viva	
UG-PB		How	Physiology of	functions of		Understan		Small group	MCQs	Voce	
9.39			Local	Local hormones		d/		discussion			
			hormones			interpret					
Hom	Information	Shov	vs Describe the	Demonstrate	Psycho	Level 2	Must know	Demonstrati	Observ	Checklist	Obs&Gynec
UG-PB	Gathering	How	diagnosis of	the diagnosis of	Motor	(Control)		on	ation		
9.40	,Integration		pregnancy	pregnancy							
	Of			through Urine							
	information			pregnancy Strip							
	, Problem										
	Integration										
	(K-2)										

SEMESTER – 3

Topic No	10
Theory	Reproductive System
Practical	
Clinical Physiology	

Learning Outcomes: -

At the end of the chapter on Reproductive System, the student must be able to -

- Describe the onset, progression, and stages puberty.
- Describe the structure and functions of male reproductive system.
- Describe the physiological effects of male sex hormone.
- Describe female reproductive system & functions of ovary and its Control.
- Describe menstrual cycle with hormonal, uterine and ovarian changes.
- Describe the physiological effects of female sex hormones.
- Discuss the contraceptive methods for male and female.
- Discuss the physiology of pregnancy, parturition & lactation.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Format ive Assess ment	Summa tive Assess ment	Integration - Horizontal / Vertical / Spiral
Hom UG-PB 10.1	Integration Of Information (K-1)	Reproduct ive System		Describe the onset, progression, and stages	Define puberty	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Psychology Obstetrics & Gynaecology

Hom UG-PB 10.2 Hom UG-PB 10.3	-	Knows How Knows How	puberty. List causes and expressions of early and delayed puberty	Discuss the role of LH & FSH in development of puberty Explain puberty for its onset, and stages. Describe the causes for delayed & precocious	Cognitive	Level 2 Understand / interpret Level 2 Understand / interpret	Must know Must know	Lecture, Small group discussion Lecture, Small group discussion	SAQs	LAQs, Viva Voce SAQs, Viva Voce	Anatomy Psychology Obstetrics & Gynaecology Anatomy Psychology Obstetrics & Gynaecology
Hom UG-PB 10.4	Integration Of Information (K-1)	Knows How	Describe the structure and functions of male	puberty. Describe the structure of male reproductive system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 10.5		Knows How	reproductive system.	Explain the function of male reproductive system.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 10.6	Integration Of Information (K-1)	Knows How	Describe the physiological effects of male sex hormone	Explain the functions of testis as an endocrine gland.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Psychology Medicine
Hom UG-PB 10.7		Knows How		Discuss the role of testosterone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Obstetrics & Gynaecology
Hom UG-PB 10.8	Integration Of Information (K-1)	Knows How	Describe the functions of testis and control of	Discuss the process of spermatogenesis	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
Hom UG-PB 10.9		Knows How	Spermatogenes is & factors modifying it	Discuss the factors affecting spermatogenesis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

Hom UG-PB 10.10	Integration Of Information (K-1)	Knows How Knows	Describe female reproductive system & functions of ovary and its	Describe structure the female reproductive tract Discuss the	Cognitive Cognitive	Level 2 Understand / interpret	Must know Desirable to	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology Obstetrics &
UG-PB 10.11		How	Control.	functions of female reproductive tract		Understand / interpret	Know	Small group discussion		Viva Voce	Gynaecology
Hom UG-PB 10.12		Knows How		Discuss the role of ovary as an endocrine gland. List the hormones secreted by ovary.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.13	Integration Of Information (K-1)	Knows How	Describe menstrual cycle with hormonal, uterine and	Discuss the ovarian changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.14		Knows How	ovarian changes	Discuss the Uterine changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.15		Knows How		Discuss the Vaginal changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Obstetrics & Gynaecology
Hom UG-PB 10.16	Integration Of Information (K-1)	Knows How	Describe the physiological effects of female sex	Discuss the Gonadotrophin changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology Materia Medica
Hom UG-PB 10.17		Knows How	hormones	Discuss the changes during menopause	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Obstetrics & Gynaecology

Hom		Knows	Discuss the	Describe the	Cognitive	Level 2	Nice to	Lecture,	MCQs	Viva	Obstetrics &
UG-PB		How	contraceptive	contraceptive		Understand	know	Small group		Voce	Gynaecology
10.18			methods for	methods for male		/ interpret		discussion			Community
			male and								Medicine
Hom		Knows	female.	Describe the	Cognitive	Level 2	Nice to	Lecture,	MCQs	Viva	Obstetrics &
UG-PB		How		contraceptive		Understand	know	Small group		Voce	Gynaecology
10.19				methods for		/ interpret		discussion			Community
				female							Medicine
Hom	Integration	Knows	Discuss the	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Obstetrics &
UG-PB	Of	How	physiology of	fertilization &		Understand		Small group		Viva	Gynaecology
10.20	Information		pregnancy,	implantation of		/ interpret		discussion		Voce	
	(K-1)		parturition &	ovum							
Hom		Knows	lactation.	Explain the role	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Obstetrics &
UG-PB		How		of placenta as an		Understand	Know	Small group		Viva	Gynaecology
10.21				endocrine organ.		/ interpret		discussion		Voce	
				List the placental							
				hormones							
Hom		Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Obstetrics &
UG-PB		How		process of		Understand		Small group		Viva	Gynaecology
10.22				parturition		/ interpret		discussion		Voce	Materia
											Medica
Hom		Knows		Describe the role	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Obstetrics &
UG-PB		How		of prolactin		Understand	Know	Small group		Viva	Gynaecology
10.23				Hormone		/ interpret		discussion		Voce	
Hom		Knows		Explain the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Obstetrics &
UG-PB		How		process of		Understand	know	Small group		Viva	Gynaecology
10.24				lactation		/ interpret		discussion		Voce	Community
											Medicine
											Materia
											Medica

Topic No	11
Theory	Special Senses
Practical	
Clinical Physiology	Special Senses – Clinical Examination

At the end of the chapter on Special senses, the student must be able to -

- Discuss perception of smell and taste sensation
- Discuss patho-physiology of altered smell and taste sensation
- Discuss functional anatomy of ear and auditory pathways & physiology of hearing
- Discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex
- Discuss the physiological basis of lesion in visual pathway
- Demonstrate the testing of visual acuity, colour and field of vision; hearing; smell; and taste sensation in volunteer or simulated environment

S.No	Generic	Subject	Miller's	Specific	Specific Learning	Bloom's	Guilbert's	Must know /	TL method	Formati	Summat	Integration -
	competency	area	Level	Competency	Objectives /	domain	level	desirable to	/ media	ve	ive	Horizontal /
					outcomes			know / nice		Assessm	Assessm	Vertical /
								to know		ent	ent	Spiral
Hom	Integration	Special	Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	Senses	How	perception of	sensation of		Understand	Know	Small group		Viva	Surgery - ENT
11.1	Information (K-1)			smell sensation	olfaction		/ interpret		discussion		Voce	
Hom	-		Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQ,	Anatomy
UG-PB			How		olfactory		Understand		Small group		Viva	
11.2					receptor,		/ interpret		discussion		Voce	
					olfactory							
					pathway							
Hom			Knows		Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	
UG-PB			How		physiology of		Understand	know	Small group		Viva	
11.3					olfaction		/ interpret		discussion		Voce	
Hom			Knows		Discuss the	Cognitive	Level 2	Must know	CBL,	MCQs	SAQs,	Medicine
UG-PB			How		altered sensation		Understand		Lecture,		Viva	
11.4					of smell		/ interpret		Small group		Voce	
									discussion			
Hom	Integration		Knows	Describe	Discuss the	Cognitive	Level 2	Desirable to	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of		How	perception of	sensation of		Understand	Know	Small group		Viva	Surgery – ENT
11.5				taste sensation	Taste		/ interpret		discussion		Voce	

	Information (K-1)										Materia Medica Repertory
Hom UG-PB 11.6		Knows		Discuss the taste receptor.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy
		Shows		Draw the taste pathway	Psycho motor	Level 2. Control	Must Know	Demonstrat ion	Observa tion	DOPS	Anatomy
Hom UG-PB 11.7		Knows		Discuss the physiology of Taste	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 11.8		Knows	;	Discuss the altered sensation of Taste	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica
Hom UG-PB 11.9	Integration Of Information (K-1)	Knows	Describe the functional anatomy of ear & auditory	Describe the physiological anatomy of ear	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT Materia Medica
Hom UG-PB 11.10		Shows		Map the Auditory Pathway	Psycho motor	Level 2. Control	Must Know	Demonstrat ion	Observa tion	Checklist	Anatomy ENT
Hom UG-PB 11.11		Knows	;	Describe the mechanism of hearing	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Surgery - ENT
Hom UG-PB 11.12		Knows		Discuss the altered sensation of Hearing	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Surgery – ENT Materia Medica
Hom UG-PB 11.13	Integration Of Information (K-1)	Knows	Describe the functional anatomy of eye	Explain the structure & function of eye.	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery - Ophthalmolo gy

Hom UG-PB 11.14	Integration Of Information (K-1)	Knows How	Describe the physiology of image formation	Describe the visual pathway	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 11.15		Knows How		Discuss the principles of optics, visual acuity, Visual reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy
Hom UG-PB 11.16	Information Gathering ,Integration Of information,	Knows How	Describe the physiology of vision including colour vision	Discuss the photochemistry of vision	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy
Hom UG-PB 11.17	Problem Integration (K-2)	Knows How		Discuss the photopic & scotopic vision	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy
Hom UG-PB 11.1.8		Knows How		Discuss the visual adaptation, visual accommodation & night blindness	Cognitive	Level 2 Understand / interpret	Desirable to know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy Materia Medica
Hom UG-PB 11.19	Information Gathering ,Integration Of information, Problem	Knows How	Describe the refractive errors and colour blindness	Discuss the different types of refractive errors	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Surgery – Ophthalmolo gy Materia Medica Repertory
Hom UG-PB 11.20	Integration (K-2)	Knows How		Discuss the colour blindness	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy Materia Medica
Hom UG-PB 11.21		Knows		List the causes of Nystagmus	Cognitive	Level 1Recall	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Surgery – Ophthalmolo gy

											Materia Medica
Hom UG-PB 11.22	Information Gathering ,Integration Of	Shows How	Demonstrate Testing of visual acuity, colour and field	Perform the testing of visual acuity, colour and field of vision	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrat ion	Observa tion	Checklist	Surgery – Ophthalmolo gy
Hom UG-PB 11.23	information, Problem Integration (K-2)	Knows How	of vision in a volunteer	Interpret the testing of visual acuity, colour and field of vision	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Surgery – Ophthalmolo gy Materia Medica
Hom UG-PB 11.24	Information Gathering ,Integration	Shows How	Demonstrate testing of hearing in a	Perform the testing of hearing in a volunteer	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrat ion	Observa tion	Checklist	Surgery – ENT
Hom UG-PB 11.25	Of information, Problem Integration (K-2)	Knows How	volunteer	Interpret the testing of hearing in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy Materia Medica
Hom UG-PB 11.26	Information Gathering ,Integration Of	Shows How	Demonstrate testing for smell in a volunteer	Perform testing for smell in a volunteer	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstrat ion	Observa tion	Checklist	Surgery – ENT
Hom UG-PB 11.27	information, Problem Integration (K-2)	Knows How		Interpret testing for smell in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmolo gy Materia Medica
Hom UG-PB 11.27	Information Gathering, Integration Of	SHOW HOW	Demonstrate testing for taste sensation in volunteer	Perform testing for taste sensation in volunteer	Psycho Motor	Level 2 (Control)	Must know	Demonstrat ion	Observa tion	Checklist	Anatomy Surgery – ENT
Hom UG-PB 11.29	information, Problem Integration (K-2)	Knows How		Interpret testing for taste sensation in volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT

Topic No	12
Theory	Digestive System & Nutrition
Practical	Liver Function Test
Clinical Physiology	Gastrointestinal system clinical examination

At the end of the chapter Digestive system & Nutrition, the student must be able to -

- Describe the structure, Function & Innervation of digestive system.
- Describe the composition, mechanism of secretion, function & regulation of saliva.
- Describe the movement of oesophagus.
- Describe the composition, mechanism of secretion, function & regulation of gastric juice.
- Describe the composition, mechanism of secretion, function & regulation of pancreatic juice.
- Describe the structure & function of liver & Gall bladder.
- Describe the composition, mechanism of secretion, function & regulation of Bile.
- Describe the composition, mechanism of secretion, function & regulation of Small Intestine.
- Describe the movement of gastrointestinal tract, it's regulation & function.
- Describe the movement of large intestine & defecation as a process.

- Describe the physiology of digestion and absorption of nutrients.
- Observe the procedure for Liver Function Test.
- Perform examination for gastrointestinal system on a volunteer.

S.No	Generic	Subject	Miller's	Specific	Specific Learning	Bloom's	Guilbert's	Must	TL method /	Format	Summat	Integration
	competency	area	Level	competency	Objectives /	domain	level	know /	media	ive	ive	- Horizontal
					outcomes			desirable		Assess	Assessm	/ Vertical /
								to know /		ment	ent	Spiral
								nice to				
								know				
Hom	Integration Of	_	Knows	Describe the	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Information	e System	How	structure,	importance of		Understand		Small group		Viva	
12.1	(K-1)	&		Function &	digestive system		/ interpret		discussion		Voce	
Hom		Nutrition	Knows	Innervation of	Recall the	Cognitive	Level 1	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB				digestive	structure of		Recall		Small group		Viva	
12.2				system	digestive system				discussion		Voce	
Hom			Knows		Recognize the	Cognitive	Level 1	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB					structure of small		Recall		Small group		Viva	
12.3					intestine				discussion		Voce	
Hom			Knows		Identify the	Cognitive	Level 1	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB					structure of large		Recall		Small group		Viva	
12.4					intestine				discussion		Voce	
Hom	Integration Of		Knows	Describe the	Classify salivary	Cognitive	Level 1	Desirable	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Information			composition,	glands.		Recall	to know	Small group		Viva	Materia
12.5	(K-1)			mechanism of	Mention the				discussion		Voce	Medica
				secretion,	innervation of							
				function &	salivary glands.							
Hom			Knows	regulation of	Discuss	Cognitive	Level 2	Must know	Lecture,	MCQs	LAQs,	Biochemistr
UG-PB			How	saliva	composition of		Understand		Small group		Viva	У
12.6					saliva		/ interpret		discussion		Voce	
Hom			Knows		Discuss functions	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Medicine
UG-PB			How		of saliva		Understand		Small group		Viva	Materia
12.7							/ interpret		discussion		Voce	Medica
Hom			Knows		Describe	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB			How		mechanism of		Understand		Small group		Viva	
12.8					salivary secretion		/ interpret		discussion		Voce	

		1	,		5	···				646	146	
Hom			inows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		Н	low		control of		Understand		Small group		Viva	
12.9					salivary secretion		/ interpret		discussion		Voce	
Hom		K	inows		Explain the	Cognitive	Level 2	Desirable	PBL,	SAQs	SAQs,	Medicine
UG-PB		Н	low		clinical relevance		Understand	to Know	Lecture,		Viva	Materia
12.10					of salivary gland		/ interpret		Small group		Voce	Medica
					& salivary				discussion			
					secretion							
Hom	Integration Of	K	inows	Describe the	Describe the	Cognitive	Level 2	Desirable	Lecture,	SAQs	SAQs,	
UG-PB	Information	н	low	movement of	process of		Understand	to Know	Small group		Viva	
12.11	(K-1)			oesophagus	mastication.		/ interpret		discussion		Voce	
Hom]	K	inows		Explain the	Cognitive	Level 2	Must know	Lecture,	MCQs	LAQs,	Anatomy
UG-PB		н	low		stages of		Understand		Small group		Viva	Medicine
12.12					swallowing		/ interpret		discussion		Voce	
Hom]	K	inows		Discuss the role	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	
UG-PB		н	low		of upper & lower		Understand	know	Small group		Voce	
12.13					oesophageal		/ interpret		discussion			
					sphincter							
Hom		K	inows		List the common	Cognitive	Level 1	Nice to	CBL,	SAQs	Viva	Medicine
UG-PB					oesophageal		Recall	Know	Lecture,		Voce	Surgery
12.14					motility disorders				Small group			
									discussion			
Hom	Integration Of	К	inows	Describe the	Recall the macro	Cognitive	Level 1	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Information			composition,	and micro		Recall		Small group		Viva	
12.15	(K-1)			mechanism of	structure of				discussion		Voce	
				secretion,	stomach							
Hom	1	К	ínows	function &	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB		н	low	regulation of	functions of		Understand		Small group		Viva	
12.16				Gastric Juice	stomach		/ interpret		discussion		Voce	
Hom	1	К	nows		Discuss the	Cognitive	Level 2	Must know	Lecture,	MCQs	LAQs,	Biochemistr
UG-PB		Н	low		composition &	-	Understand		Small group		Viva	у
12.17					functions of		/ interpret		discussion		Voce	
					gastric juice		•					

Hom UG-PB 12.18		Knows How		Discuss the mechanism & regulation of gastric juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 12.19		Knows How		Discuss the process of digestion in stomach	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.20		Knows How		Discuss the movements of stomach	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.21		Knows		Mention the three phases of vomiting	Cognitive	Level 1 Recall	Nice to know	CBL, Lecture, Small group discussion	SAQs	Viva Voce	Medicine Materia Medica Repertory
Hom UG-PB 12.22	Integration Of Information (K-1)	Knows	Describe the composition, mechanism of secretion,	Recall the macro and micro structure of Pancreas	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 12.23		Knows How	function & regulation of Pancreatic Juice	Discuss the composition & functions of pancreatic juice	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistr y
Hom UG-PB 12.24		Knows How		Discuss the mechanism & regulation of pancreatic juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 12.25		Knows How		Describe exocrine pancreatic insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
Hom UG-PB 12.26	Integration Of Information (K-1)	Knows How	Describe the structure & function of	Discuss the structure & functions of Liver	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy

Hom UG-PB 12.27		Knows How	liver & Gall bladder	Explain the signs of liver insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 12.28		Knows How		Describe the structure & functions of gall bladder	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory
Hom UG-PB 12.29	Integration Of Information (K-1)	Knows How	Describe the composition, mechanism of secretion, function &	Discuss the composition & function of liver bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistr y
Hom UG-PB 12.30		Knows How	regulation of Bile	Discuss the composition & function of gall bladder bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistr y
Hom UG-PB 12.31		Knows How		Describe the control & mechanism of bile secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 12.32		Knows How		Describe the clinical significance of liver functions.	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica
Hom UG-PB 12.33		Knows How		Describe the clinical significance of Gall Bladder functions	Cognitive	Level 2 Understand / interpret	Desirable know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
Hom UG-PB 12.34	Integration Of Information (K-1)	Knows	Describe the composition, mechanism of secretion,	Recognise the macro and micro structure of Small intestine	Cognitive	Level 1 Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory
Hom UG-PB 12.35		Knows How	function & regulation of Small intestine	Discuss the composition &	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistr y

				functions of Succus Entericus							
Hom		Knows	_	Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How		mechanism &	cogimere	Understand	ividse kiloti	Small group	57.00	Viva	
12.36				regulation of		/ interpret		discussion		Voce	
				secretions of		,					
				Succus Entericus							
Hom		Knows		Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How		process of	_	Understand		Small group		Viva	
12.37				digestion in small		/ interpret		discussion		Voce	
				intestine							
Hom		Knows		Describe the	Cognitive	Level 2	Nice to	CBL,	SAQs	SAQs,	Medicine
UG-PB		How		Malabsorption		Understand	Know	Lecture,		Viva	Materia
12.37				Syndrome		/ interpret		Small group		Voce	Medica
								discussion			
Hom	Integration Of	Knows	Describe the	Explain peristalsis	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Materia
UG-PB	Information	How	movement of	as intestinal		Understand		Small group		Viva	Medica
12.39	(K-1)		gastrointestinal	movement		/ interpret		discussion		Voce	
Hom		Knows	tract, it's	Describe	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB		How	regulation &	segmentation as		Understand		Small group		Viva	
12.40			function.	intestinal		/ interpret		discussion		Voce	
				movement							
Hom		Knows		Discuss the	Cognitive	Level 2	Desirable	CBL,	SAQs	SAQs,	Medicine
UG-PB		How		clinical		Understand	to Know	Lecture,		Viva	
12.41				importance of		/ interpret		Small group		Voce	
				small intestine				discussion			
Hom	Integration Of		Describe the	Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	SAQs,	
UG-PB	Information	How	movement of	movements of		Understand	Know	Small group		Viva	
12.42	(K-1)		large intestine	large intestine		/ interpret		discussion		Voce	
Hom		Knows	& defecation as	Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Materia
UG-PB		How	a process.	process of		Understand		Small group		Viva	Medica
12.43				absorption		/ interpret		discussion		Voce	
				&secretion in							
	4		_	large intestine	· · · ·	1 10	24 11		646	546	
Hom		Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Repertory
UG-PB		How		process of		Understand		Small group		Viva	
12.44				defecation		/ interpret		discussion		Voce	

Hom			ows		Discuss the	Cognitive	Level 2	Desirable	CBL,	SAQs	SAQs,	Medicine
UG-PB		Ho	w		clinical		Understand	to know	Lecture,		Viva	
12.45					significance of		/ interpret		Small group		Voce	
				5 11 11	large intestine				discussion	64.6		
Hom	Integration Of		ows	Describe the	Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,	
UG-PB	Information	Ho	W	physiology of	digestion &		Understand	Know	Small group		Viva	
12.46	(K-1)			digestion and absorption of	absorption of carbohydrates		/ interpret		discussion		Voce	
Hom	-	. Kn	ows	nutrients	Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,	
UG-PB		Ho	_	nutrients	digestion &	Cognitive	Understand	Know	Small group	SAUS	Viva	
12.47		l no	vv		absorption of		/ interpret	KIIOW	discussion		Voce	
12.47					Fats		/ interpret		discussion		VOCE	
Hom	1	Kno	ows		Discuss the	Cognitive	Level 2	Must know	Lecture,	MCQs	LAQs,	
UG-PB		Ho	w		digestion &		Understand		Small group	SAQs	Viva	
12.48					absorption of		/ interpret		discussion		Voce	
					Proteins							
Hom		Kno	ows		Discuss	Cognitive	Level 2	Must know	Lecture,	MCQs	SAQs,	
UG-PB		Ho	w		absorption of		Understand		Small group		Viva	
12.49					water,		/ interpret		discussion		Voce	
					electrolytes							
Hom		Kno	ows		Describe the	Cognitive	Level 2	Must know	Lecture,	MCQs	SAQs,	
UG-PB		Ho	w		absorption of		Understand		Small group		Viva	
12.50					vitamins &		/ interpret		discussion		Voce	
				01 11	minerals	- 1			5	01	01 111 1	
Hom	Information		ows	Observe the	Observe the liver	Psycho	Level 1	Nice to	Demonstrati	Observ	Checklist	Medicine
UG-PB	Gathering	Ho	W	process of	function test	Motor	(Observe /	know	on	ation		
12.51	,Integration Of			conducting			Imitate)					
	information,			liver function								
	Problem			test								
	Integration											
	(K-2)											
Hom	Information	Shr	ows	Demonstrate	Perform the	Psycho	Level 2	Desirable	Demonstrati	Observ	Checklist	Anatomy
UG-PB	Gathering	Ho		the	inspection of	Motor	(Control)	to know	on	ation	Silconiist	Medicine
12.52	,Integration			Gastrointestina	gastrointestinal		(20		±			
	Of			l system	system in the							

	information,		examination	clinical							
	Problem			examination							
Hom	Integration	Knows		Interpret the	Cognitive	Level 2	Nice to	Lecture,	MCQs	SAQs,	Anatomy
UG-PB	(K-2)	How		findings of		Understand	know	Small group		Viva	Medicine
12.53				inspection of		/ interpret		discussion		Voce	
				gastrointestinal							
				system in clinical							
				examination							
Hom	1	Shows		Perform the	Psycho	Level 2	Desirable	Demonstrati	Observ	Checklist	Anatomy
UG-PB		How		palpation of	Motor	(Control)	to know	on	ation		Medicine
12.54				gastrointestinal							
				system in the							
				clinical							
				examination							
Hom	1	Knows Ho		Interpret the	Cognitive	Level 2	Nice to	Lecture,	MCQs	SAQs,	Anatomy
UG-PB				findings of		Understand	know	Small group		Viva	Medicine
12.55				palpation of		/ interpret		discussion		Voce	
				gastrointestinal							
				system in clinical							
				examination							
Hom		Shows		Perform the	Psycho	Level 2	Desirable	Demonstrati	Observ	Checklist	Anatomy
UG-PB		How		percussion of	Motor	(Control)	to know	on	ation		Medicine
12.56				gastrointestinal							
				system in the							
				clinical							
				examination							
Hom		Knows Ho		Interpret the	Cognitive	Level 2	Nice to	Lecture,	MCQs	SAQs,	Anatomy
UG-PB				findings of		Understand	know	Small group		Viva	Medicine
12.57				percussion of		/ interpret		discussion		Voce	
				gastrointestinal							
				system in clinical							
				examination							
Hom		Shows		Perform the	Psycho	Level 2	Desirable	Demonstrati	Observ	Checklist	Anatomy
UG-PB		How		auscultation of	Motor	(Control)	to know	on	ation		Medicine
12.58				gastrointestinal							
				system in the							

		clinical							
		examination							
Hom	Knows	Interpret the	Cognitive	Level 2	Nice to	Lecture,	MCQs	SAQs,	Anatomy
UG-PB	How	findings of		Understand	know	Small group		Viva	Medicine
12.59		auscultation of		/ interpret		discussion		Voce	
		gastrointestinal							
		system in clinical							
		examination							

Topic No	13
Theory	Renal Physiology
Practical	Kidney Function Test

Clinical Physiology

Learning Outcomes: -

At the end of the chapter Renal Physiology, the student must be able to -

- Describe structure & functions of the kidneys.
- Explain the role of renin-angiotensin system.
- Describe the mechanism of urine formation.
- Describe the process of filtration, secretion & reabsorption in kidney.
- Describe the concentration and diluting mechanism in the kidney.
- Describe the renal regulation of acid-base balance.
- Describe the physiology of micturition.
- Describe the Renal Function Tests.

S.No	Generic	Subject	Miller's	Specific	Specific	Bloom's	Guilbert's	Must know	TL method /	Format	Summat	Integration
	competency	area	Level	Competency	Learning	domain	level	/ desirable	media	ive	ive	- Horizontal
					Objectives /			to know /		Assess	Assessm	/ Vertical /
					outcomes			nice to		ment	ent	Spiral
								know				
Hom	Integration	Renal	Knows	Describe	Recognize the	Cognitive	Level 1	Must Know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB	Of	Physiol		structure &	structure of		Recall		Small group		Viva	Materia
13.1	Information	ogy		functions of	kidney &				discussion		Voce	Medica
	(K-1)			the kidneys.	nephron							
Hom			Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	
UG-PB			How		functions of		Understand		Small group		Viva	
13.2					kidney		/ interpret		discussion		Voce	
Hom			Knows		Discuss the	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,	Anatomy
UG-PB			How		organization		Understand		Small group		Viva	Medicine
13.3					and function of		/ interpret		discussion		Voce	
					glomerulus							
Hom			Knows		Classify the type	Cognitive	Level 1	Must Know	Lecture,	MCQs	SAQs,	Anatomy
UG-PB					of nephrons		Recall		Small group		Viva	
13.4									discussion		Voce	
Hom			Knows		Describe the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQs,	Anatomy
UG-PB			How		structure and		Understand		Small group		Viva	
13.5					functions of		/ interpret		discussion		Voce	

				juxtaglomerular apparatus							
Hom UG-PB 13.6	Integration Of Information (K-1)	Know How	Explain the role of renin – angiotensin system	Explain the secretions from juxtaglomerular apparatus &	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 13.7	Integration Of Information (K-1)	Know How	Describe the mechanism of urine formation	their regulation Explain the process of glomerular filtration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.8		Know How	5	Describe the regulation of Glomerular Filtration Rate	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.9		Know	5	Discuss the mechanism of GFR. Explain the factors affecting GFR	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.10	Integration Of Information (K-1)	Know How	Describe the process of filtration, secretion & reabsorption in	Discuss the general considerations of reabsorption & secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Medicine Biochemistr y
Hom UG-PB 13.11		Know		Describe the renal transport mechanisms throughout the tubular segments	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistr y
Hom UG-PB 13.12		Know	5	Describe the transport of individual substances in different	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	Viva Voce	

				segments of renal tubule							
Hom UG-PB 13.13	Integration Of Information (K-1)	Know	Describe the concentration and diluting mechanism in the kidney	Discuss the general consideration of urine concentration mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
Hom UG-PB 13.14		Know How	S	Describe the counter current multipliers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistr y
Hom UG-PB 13.15		Know How	S	Discuss the counter current exchangers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
Hom UG-PB 13.16	Information Gathering ,Integration Of	Know How	Describe the renal regulation of acid – base	Discuss the renal regulation of acid-base balance	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistr y
Hom UG-PB 13.17	information, Problem Integration (K-2)	Know How	s balance	Describe the buffer system in the kidney	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Biochemistr y
Hom UG-PB 13.18	Integration Of Information	Know	Describe the physiology of micturition	Define micturition	Cognitive	Level 1 (Remember / recall)	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 13.19	(K-1)	Know How	S	Discuss the nerve supply of urinary bladder	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	Viva Voce	Anatomy
Hom UG-PB 13.20		Know How	S	Describe the micturition reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
Hom UG-PB 13.21	Information Gathering ,Integration Of information, Problem	Show How	Describe the Kidney function teste	Perform the physical, chemical, and microscopical examination of urine	Psycho Motor	Level 2 (Control)	Must know	Demonstrati on	Observ ation	OSCE	Biochemistr y

Hom	Integration	Knows	Recognize the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQ,	Biochemistr
UG-PB	(K-2)	How	normal values		Understand		Small group		Viva	У
13.22			of physical,		/ interpret)		discussion		Voce	
			chemical, and							
			microscopical							
			examination of							
			urine							
Hom		Shows	Perform	Psycho	Level 2	Must know	Demonstrati	Observ	Checklist	Biochemistr
UG-PB		How	examination for	Motor	(Control)		on	ation		У
13.23			the abnormal							Medicine
			constituents of							
			urine							
Hom		Knows	Interpret the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQ,	Biochemistr
UG-PB		How	results of		Understand		Small group		Viva	У
13.24			examination for		/ interpret		discussion		Voce	Medicine
			the abnormal							
			constituents of							
			urine							
Hom		Knows	Interpret the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQ,	Biochemistr
UG-PB		How	renal clearance		Understand		Small group		Viva	У
13.25			test for		/ interpret		discussion		Voce	Medicine
			glomerular							
			function							
Hom		Knows	Interpret the	Cognitive	Level 2	Must know	Lecture,	SAQs	LAQ,	Biochemistr
UG-PB		How	renal clearance		Understand		Small group		Viva	У
13.26			test for Tubular		/ interpret		discussion		Voce	Medicine
			function.							

Topic No	14	
Theory	Biochemistry	
Practical	Biochemistry Practical of carbohydrate, lipid, protein, Urine normal & abnormal constituents	
Clinical Physiology		

At the end of the chapter Biochemistry, the student must be able to –

- Describe the lipid, carbohydrate, and protein metabolisms.
- Describe the enzymes and their activities.
- Describe the role of Vitamins.
- Perform the quantitative estimation of Glucose, Total Proteins, Uric Acid in Blood.
- Perform the Lipid Profile.

S.I	No	Generic	Subject	Miller's	Specific	Specific	Bloom's	Guilbert's	Must	TL method	Format	Summa	Integration
		competency	area	Level	Competency	Learning	domain	level	know /	/ media	ive	tive	- Horizontal
						Objectives /			desirable		Assess	Assess	/ Vertical /
						outcomes			to know /		ment	ment	Spiral
									nice to				
									know				

Hom UG-PB	Integration Of	stry	Knows How	Describe the lipid	Explain the biosynthetic	Cognitive	Level 2 Understand	Nice to know	Lecture, Small	SAQs	Viva Voce
14.1	Information (K-1)			Metabolism.	and catabolic pathways		/ interpret		group discussion		
Hom UG-PB			Knows How		Explain the importance of	Cognitive	Level 2 Understand	Desirable to Know	Lecture, Small	SAQs	SAQs, Viva
14.2					lipids in the body.		/ interpret		group discussion		Voce
Hom			Knows		Explain the	Cognitive	Level 2	Must	Lecture,	SAQs	SAQs,
UG-PB			How		different		Understand	Know	Small		Viva
14.3					properties of lipids.		/ interpret		group discussion		Voce
Hom	Integration		Knows	Describe the	Discuss	Cognitive	Level 2	Must know	Lecture,	SAQs	SAQs,
UG-PB	Of		How	Carbohydrate	different types		Understand		Small		Viva
14.4	Information			metabolism	of		/ interpret		group		Voce
	(K-1)				carbohydrates.				discussion		
Hom			Knows		List major	Cognitive	Level	Must	Lecture,	SAQs	SAQs,
UG-PB					functions of		1Recall	Know	Small		Viva
14.5					carbohydrates.				group discussion		Voce
Hom]		Knows		Discuss the food	Cognitive	Level 2	Desirable	Lecture,	SAQs	SAQs,
UG-PB			How		sources of		Understand	to Know	Small		Viva
14.6					carbohydrates.		/ interpret		group discussion		Voce
Hom]		Knows		Explain the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,
UG-PB			How		processes of		Understand	Know	Small		Viva
14.7					glycolysis		/ interpret		group discussion		Voce
Hom			Knows		Explain the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,
UG-PB			How		process of		Understand	Know	Small		Viva
14.8					gluconeogenesi		/ interpret		group		Voce
11	4		1/		S Describes the	Caraniiii	1 1 2	N 4 +	discussion	646	CAO-
Hom			Knows		Describe the	Cognitive	Level 2	Must	Lecture,	SAQs	SAQs,
UG-PB			How		process of ATP		Understand	Know	Small		Viva
14.9					production through		/ interpret		group discussion		Voce

				oxidative phosphorylation							
Hom	Integration	Knows	Describe the	Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	SAQs,	
UG-PB	Of	How	Protein	special features		Understand	Know	Small		Viva	
14.10	Information		Metabolism	of protein		/ interpret		group		Voce	
	(K-1)			Metabolism				discussion			
Hom		Knows		Discuss the	Cognitive	Level 2	Nice to	Lecture,	SAQs	SAQs,	
UG-PB		How		functions of		Understand	know	Small		Viva	
14.11				intact amino		/ interpret		group		Voce	
				acid				discussion			
Hom		Knows		Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,	
UG-PB		How		oxidation of		Understand	Know	Small		Viva	
14.12				amino acid		/ interpret		group		Voce	
								discussion			
Hom	1	Knows		Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	LAQs,	Physiology
UG-PB		How		synthesis of		Understand	Know	Small		Viva	
14.13				proteins		/ interpret		group		Voce	
								discussion			
Hom]	Knows		Discuss the	Cognitive	Level 2	Desirable	Lecture,	SAQs	SAQs,	
UG-PB		How		function of		Understand	to Know	Small		Viva	
14.14				nitrogenous		/ interpret		group		Voce	
				part				discussion			
Hom		Knows		Discuss the	Cognitive	Level 2	Must	Lecture,	SAQs	SAQs,	
UG-PB		How		exogenous &		Understand	Know	Small		Viva	
14.15				endogenous		/ interpret		group		Voce	
				protein				discussion			
				metabolism							
Hom	Integration	Knows	Describe the	Discuss the	Cognitive	Level 2	Desirable	Lecture,	SAQs	SAQs,	Physiology
UG-PB	Of	How	enzymes and	concept of		Understand	to know	Small		Viva	
14.16	Information		their activities.	enzyme,		/ interpret		group		Voce	
	(K-1)			chemical				discussion			
				reactions,							
				catalyst and							
				substrates.							
Hom		Knows		Mention the	Cognitive	Level	Must	Lecture,	SAQs	LAQs,	Physiology
UG-PB				major functions		1Recall	Know	Small		Viva	
14.17				of enzymes.						Voce	

								group discussion			
Hom	1	Knows	1	Discuss the	Cognitive	Level 2	Desirable	Lecture,	SAQs	SAQs,	Physiology
UG-PB		How		importance of		Understand	to Know	Small		Viva	
14.18				enzymes in the		/ interpret		group		Voce	
				body.				discussion			
Hom	Integration	Knows	Describe the	Define vitamin	Cognitive	Level 1	Desirable	Lecture,	SAQs	SAQs,	Physiology
UG-PB	Of		role of			(Remember	to Know	Small		Viva	Community
14.19	Information		Vitamins			/ recall)		group		Voce	Medicine
	(K-1)							discussion			
Hom	1	Knows		Classify vitamins	Cognitive	Level	Desirable	Lecture,	SAQs	SAQs,	
UG-PB				-		1Recall	to Know	Small		Viva	
14.20								group		Voce	
								discussion			
Hom	1	Knows		Mention		Level	Desirable	Lecture,	SAQs	SAQs,	Physiology
UG-PB				common		1Recall	to Know	Small		Viva	Medicine
14.21				vitamin				group		Voce	Community
				deficiencies				discussion			Medicine
Hom	Information	Knows	Demonstratio	List the use of	Cognitive	Level 1	Must	Lecture,	SAQs	SAQs,	
UG-PB	Gathering ,		n of Uses Of	different		Recall	Know	Small		Viva	
14.22	Integration		Instruments	instruments in				group		Voce	
	Of		Or Equipment	biochemistry				discussion			
	information			experiments							
Hom	, Problem	Shows	Demonstrate	Perform the	Psycho	Level 2	Must	Demonstra	Observ	Checkli	Pathology
UG-PB	Integration	How	the Qualitative	qualitative	Motor	(Control)	Know	tion	ation	st	
14.23	(K-2)		Analysis of	analysis of							
			Carbohydrates	carbohydrate							
Hom	1	Knows	, Proteins And	Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	Pathology
UG-PB		How	Lipids	results of		Understand	Know	Small		Voce	
14.24				Qualitative		/ interpret		group			
				analysis of				discussion			
				carbohydrate							
Hom	1	Shows	1	Observe the	Psycho	Level 1	Desirable	Demonstra	Observ	Checkli	Pathology
UG-PB		How		qualitative	Motor	(Observe /	to Know	tion	ation	st	
14.25				analysis of		Imitate)					
				Protein							

Hom		Kı	nows		Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	Pathology
UG-PB		H	low		results of		Understand	Know	Small		Voce	
14.26					Qualitative		/ interpret		group			
					analysis of				discussion			
					Protein							
Hom	1	Sł	hows		Perform the	Psycho	Level 2	Nice to	Demonstra	Observ	Checkli	Pathology
UG-PB		H	low		qualitative	Motor	(Control)	Know	tion	ation	st	
14.27					analysis of Lipid							
Hom	1	Kı	nows		Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	Pathology
UG- PB		H	low		results of		Understand	Know	Small		Voce	
14.28					Qualitative		/ interpret		group			
					analysis of Lipid				discussion			
Hom	Information	Sł	hows	Perform the	Perform the	Psycho	Level 3	Must	Demonstra	Observ	Checkli	Pathology
UG-PB	Gathering	H	low	quantitative	Quantitative	Motor	(Automatis	Know	tion	ation	st	
14.29	,Integration			estimation of	estimation of		m)					
	Of			Glucose, Total	glucose							
Hom	information	Kı	nows	Proteins, Uric	Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	Pathology
UG-PB	, Problem	H	low	Acid in Blood	results of		Understand	Know	Small		Voce	
14.30	Integration				Qualitative		/ interpret		group			
	(K-2)				analysis of				discussion			
					glucose							
Hom	1	Sł	hows		Perform the	Psycho	Level 3	Must	Demonstra	Observ	Checkli	Pathology
UG-PB		H	low		Quantitative	Motor	(Automatis	Know	tion	ation	st	
14.31					estimation of		m)					
					Total proteins							
Hom	1	Kı	nows		Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	Viva	Pathology
UG-PB		H	low		results of		Understand	Know	Small		Voce	
14.32					Qualitative		/ interpret		group			
					analysis of total				discussion			
					protein							
Hom	1	Sł	hows		Observe the	Psycho	Level 1	Nice to	Demonstra	Observ	Checkli	Pathology
UG-PB		Н	low		Quantitative	Motor	(Observe /	Know	tion	ation	st	
14.33					estimation of		Imitate)					
					Uric Acid							
Hom]	Kı	nows		Interpret the	Cognitive	Level 2	Nice to	Lecture,	SAQs	SAQs,	Pathology
UG-PB		H	low		results of		Understand	Know	Small		Viva	
14.34					Quantitative		/ interpret				Voce	

			estimation of Uric acid				group discussion			
Hom UG-PB	Shows How	Perform the Lipid Profile	Observe the laboratory	Psycho Motor	Level 1 (Observe /	Must Know	Demonstra tion	Observ ation	OSCE	Pathology
14.35		·	testing for Lipid profile		Imitate)					
Hom UG-PB 14.36	Knows How		Interpret the results of Lipid profile testing done in a laboratory	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	Viva Voce	Pathology

Asse

8. PRACTICAL TOPICS

PRACTICAL & CLINICAL PHYSIOLOGY:-

<u>No</u>	<u>Practical</u>	<u>Demonstration / Performance</u>						
HAE	HAEMATOLOGY							
1	Study of the Compound Microscope	Performance						
2.	Collection of Blood Samples	Performance						
3	Estimation of Haemoglobin Concentration	Performance						
4	Determination of Haematocrit	Demonstration						
5	Hemocytometry	Performance						
6	Total RBC Count	Performance						
7	Determination of RBC Indices	Demonstration						
8	Total Leucocytes Count (TLC)	Performance						
9	Preparation And Examination Of Blood Smear	Performance						
10	Differential Leucocyte Count (DLC)	Performance						
11	Absolute Eosinophil Count	Demonstration						
12	Determination of Erythrocyte Sedimentation Rate	Demonstration						
13	Determination of Blood Groups	Performance						
14	Determination of Bleeding Time and Coagulation Time	Performance						
BIO	CHEMISTRY							
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration						
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance						
3	Normal Characteristics of Urine	Performance						
4	Abnormal Constituents of Urine	Performance						
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance						
6	Liver Function Tests	Demonstration						

7	Kidney Function Tests	Demonstration
8	Lipid Profile	Demonstration
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration
CLIN	IICAL PHYSIOLOGY & OPD	
1	Case Taking & Approach to pt	Performance
2	General Concept Of Examination	Performance
3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance
10	OPD (Applied Physiology)	Demonstration & Performance

9. ASSESSMENT

PHYSIOLOGY THEME TABLE

PAPER - 1

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
Α	General Physiology	I	07	Yes	Yes	No
В	Biophysics Science	I	07	Yes	Yes	No
С	Body fluids& Immune Mechanism	I	16	Yes	Yes	Yes
D	Cardiovascular system	II	16	Yes	Yes	Yes
E	Respiratory system	II	16	Yes	Yes	Yes
F	Excretory system	Ш	16	Yes	Yes	Yes
G	Skin & The Integumentary System	I	11	Yes	Yes	No
Н	Nerve Muscle physiology system	I	11	Yes	Yes	No

QUESTION PAPER BLUE PRINT

UNIVERSITY EXAM PAPER-I – 100 MARKS

MCQs – 10 Marks. SAQs – 50 Marks. FAQs – 40 Marks

Question	Type of Question	Question Paper Format
Serial Number	Type of Question	(Refer Theme table for themes)
Q1	Multiple choice Questions (MCQ)	1. Theme A
	All questions compulsory	2. Theme A
	1 mark each	3. Theme B
		4. Theme B
		5. Theme C
		6. Theme D
		7. Theme E
		8. Theme F
		9. Theme G
		10. Theme H
Q2	Short answer Questions(SAQ)	1. Theme A

	All questions compulsory	2. Theme B
	5 Marks Each	3. Theme C
		4. Theme D
		5. Theme E
		6. Theme F
		7. Theme G
		8. Theme G
		9. Theme H
		10. Theme H
Q3	Long answer Questions (LAQ)	1. Theme C
	All questions compulsory	2. Theme D
	10 marks each	3. Theme E
		4. Theme F

PAPER – 2

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
А	Endocrine system	II	21	Yes	Yes	Yes
В	Central Nervous System	II	21	Yes	Yes	Yes
С	Digestive system and Nutrition	Ш	21	Yes	Yes	Yes
D	Reproductive system	Ш	17	Yes	Yes	Yes
E	Sense organs	Ш	12	Yes	Yes	No
F	Biochemistry	Ш	08	Yes	Yes	No

UNIVERSITY EXAM PAPER-II – 100 MARKS

MCQs – 10 Marks. SAQs – 50 Marks. FAQs – 40 Marks

Question	Type of Question	Question Paper Format
Serial Number	Type of Question	(Refer Theme table for themes)

Q1	Multiple choice Questions (MCQ)	1) Theme A
	All questions compulsory	2) Theme B
	1 mark each	3) Theme C
		4) Theme D
		5) Theme D
		6) Theme E
		7) Theme E
		8) Theme F
		9) Theme F
		10) Theme F
		10, 11101110 1
Q2	Short answer Questions (SAQ)	1) Theme A
	All questions compulsory	2) Theme A
	5 Marks Each	3) Theme B
		4) Theme B
		5) Theme C
		6) Theme C
		7) Theme D
		8) Theme E
		9) Theme E
		10) Theme F
Q3	Long answer Questions (LAQ)	1) Theme A
	All questions compulsory	2) Theme B
	10 marks each	3) Theme C
		4) Theme D

Distribution of Marks for Practical Exam:

Practical Exam: 100 Marks			
Haematology	20 marks		
Bio-chemistry	20 marks		
Clinical Physiology	20 marks		
Spotting	30 marks		
Journal	10 marks		
Viva: 80 Marks			
Viva Voce	80 marks		
Internal Assessment: 20			
IA	20		

The Pass Marks in Each Component of the Examination shall be 50%.

9B - Scheme of Assessment (formative and Summative)

Sr.	Professional	1 st term	<mark>ո (1-6 Mont</mark>	: <mark>hs)</mark>	2 nd Term	<mark>ո (7-12 Mo</mark> r	<mark>nths)</mark>	3 rd Term (13-18 Months)	
No	Course								
1	First	1 st PA	1 ST TT		2 nd PA	2 ND TT		3 rd PA	UE
	Professional			T .	_			_	
	BHMS	20 Marks	100	100	20 Marks	100	100	2 <mark>0 Marks</mark>	
	DITIVIS	Practical/Viva	Marks	Marks	Practical/Viva	Marks	Marks	Practical/Viva	
			Theory	Practical/		Theory	Practical/		
				Viva			<mark>Viva</mark>		

For Internal assessment, Only Practical/Viva marks will be considered. Theory marks will not be counted)

Method of Calculation of Internal Assessment Marks for Final University Examination:

PA1	PA2	PA3	Periodical Periodical	TT1	TT2	Terminal	<mark>Final</mark>
Practical/Viva	Practical/Viva	Practical/Viva	Assessment	Practical/	Practical/	Test	<mark>Internal</mark>
(20 Marks)	(20 Marks)	(20 Marks)	<mark>Average</mark>	<mark>Viva</mark>	<mark>Viva</mark>	<mark>Average</mark>	Assessment
			PA1+PA2+PA3/3	(100 Marks)	(100 Marks)	TT1+	<mark>Marks</mark>
						TT2/	
						<mark>200*20</mark>	
A	В	C	D	E	F	G	D+G/2

PA- Periodical Assessment TT- Terminal Test UE- University Examination

10.LIST OF RECOMMENDED BOOKS

THEORY

TEXT BOOKS

- 1. John N A (2023) Chatterjee C C. Text Book of Physiology 14th Edition. CBS Publication. (CBDC based)
- 2. Tortora G (2020). Principles of Anatomy & Physiology. Wiley Publication.
- 3. Jain A (2021). Text Book of Physiology Vol 1 & 2. Avichal Publishing Company.
- 4. Reddy L P(2023)Fundamentals of Medical Physiology. CBS Publishers and Distributors(CBDC based)

REFERENCE BOOKS

- 1. Hall J. (2020). Guyton & Hall Text book of Medical Physiology. Elsevier Publication.
- 2. Khurana I (2021). Essential Medical Physiology. Elsevier Publication.

PRACTICAL & CLINICAL PHYSIOLOGY:-

- 1. Varshney VP, Bedi M, (2023) Ghai's Textbook of Practical Physiology: 10th Edition. Jaypee Brothers Medical Publisher (CBDC based)
- 2. John N Aet al (2021) C C Chatterjee's Manual of Practical Physiology: CBS Publishers and Distributors(CBDC based)
- 3. Jain A. (2019) Manual of Practical Physiology. 6th ed. Arya Publications.
- 4. Glynn M., William D. (2017). Hutchison's Clinical methods. 24th edition Elsevier Publication

11. LIST OF CONTRIBUTORS

Dr. Chirag Shah

Professor & HOD, Department of Human Physiology & Biochemistry

Smt. M. K. Sanghvi Homoeopathic Medical College, Miyagam-Karjan - 391240

Dr. Juhi Gupta

Assistant Professor,

Government Homoeopathic Medical College & Hospital, AYUSH Parisar, Bhopal 462003

Dr. Shishir Mathur

Professor & Vice Principal,

Dr. MPK Homoeopathic College, Hospital & Research Centre, Jaipur

Dr Ajay Chaudhary,

FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Homoeopathic Pharmacy)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

Course-Homoeopathic Pharmacy

Course code: Hom-UG-HP

INDEX

Sr. No	Description	Page Number
1	Preamble	02
2	Program Outcomes (PO)	03
3	Course Outcomes (CO)	04
4	Teaching Hours	05
5	Course Content	13
6	Teaching Learning Methods	21
7	Content Mapping (Competencies Table)	22
8	Practical Topics	107
9	Assessment	110
10	List of Recommended Books	115
11	List of Contributors	122

1. PREAMBLE

Pharmacy holds a unique place in Homoeopathic practice and education. It involves knowledge of sources of drugs and the process through which these are processed to obtain dynamic, potent homoeopathic drugs for use at the bedside. It encompasses knowledge of drug action, drug proving, methods of Quality testing, standardization & storage with up todate information of changing drug laws related to Homoeopathic Pharmaceutical Industry & Homoeopathy.

We all know the travails which Master went through while establishing the right to manufacture and dispense what he had so painfully discovered. The challenges have not lessened in the modern era when 'scientific' evidence has been gathered for dubbing Homoeopathic medicines as nothing more than a placebo. It is important that the entrant to our science is introduced to the scientific nature of the process employed to prepare our medicines and he develops confidence in the soundness of the practices as well as its efficacy. The student should also appreciate the more than 250 year advance that Hahnemann was able to establish of Homoeopathic science. We now know that Homoeopathy is the 'greenest' of all medical systems in existence and that is sustainable, eco-friendly and the most economic while being effective over a wide range of conditions.

The way that this can be conveyed is by adopting an integrated approach to Pharmacy education and training. Effective linkages with the subjects of Homoeopathic Philosophy and Materia Medica will be able to convey the strong roots that the practice of Pharmacy has not only in the philosophical approach but also the experimental results as seen through the proving from which the world of Materia Medica has evolved.

Simultaneously, the recent advances in the bio-physical and quantum physics has opened new avenues to address the age-old question of how homoeopathic medicines act. A host of researchers are already doing work which the student needs to be made conversant with. That will produce an insight of the way new researches and developments in related fields of the 21st century are able to start explaining Hahnemann's insights of the 18th! This will also firmly root the student in the first year itself to being a participant in ongoing research related to the discipline which will be his own. Hence the teacher of Pharmacy has a crucial role to play in being abreast of the developments in the field and lend to the student the excitement that becomes a part of teaching-learning.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student must

- 1)Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
- 2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
- 3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
- 4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
- 5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
- 6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
- 7) Develop the capacity for critical thinking, self reflection and a research orientation as required for developing evidence based homoeopathic practice.
- 8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
- 9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3.COURSE OUTCOMES

At the end of the course of Homoeopathic Pharmacy, I BHMS Student will be able to

- 1. Explain the principles that govern homoeopathic pharmacy.
- 2. Discuss the pharmacognosical basis of homoeopathic drugs with respect to their identification, nomenclature, source, part used, method of collection and preparation.
- 3. Prepare homoeopathic medicines from their respective sources according to the different scales & methods of potentisation on a small scale in the laboratory.
- 4. Describe the pharmacology of homoeopathic drugs with respect to the types of drug action, sphere of action and pharmacological action of homoeopathic drugs integrated with Homoeopathic Materia Medica, Anatomy and physiology.
- 5. Relate the methodology of Homoeopathic Drug Proving integrated with Organon of Medicine.
- 6. Apply the principles of Homoeopathic Posology in different health care setting like OPD/IPD integrated with Organon of Medicine and Homoeopathic Materia Medica.
- 7. State the methods of standardization and quality control of homoeopathic medicines to ensure the genuineness of homoeopathic medicines.
- 8. Explain the principles of pharmaconomy, dispensing and preservation of homoeopathic medicines.
- 9. Engage the principles of pharmaco-vigilance, and adverse drug reaction in relation to homoeopathic medicines.
- 10. Write an ideal prescription.
- 11. Evaluate the scope for research in homoeopathic pharmacy in the context of the recent advancements in pharmaceutical sciences

1. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical + Posting at IPD/OPD/Hospital Dispensing Section
01	Homeopathic Pharmacy	100 hrs.	110 hrs.

Teaching Hours (Theory)

A. List of Topics	A. List of Topics		C.Teaching Hours
a) General Concepts and Orio	entation:		
History of Pharmacy with emphasis on emergence of Homoeopathic Pharmacy.	Definition of Pharmacy & Homoeopathic Pharmacy Concept of Drug substance, Drug, Medicine & Remedy Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)		03
Homoeopathic Pharmacy Basics	Sources of Homoeopathic Pharmacy Branches of Pharmacy Scope of Homoeopathic Pharmacy Specialty and originality of Homoeopathic Pharmacy The Principles of Homoeopathy		04

	Law of Similia, Simplex & Minimum Theory of Chronic Disease & Vital Force		
	Doctrine of Drug Proving & Drug Dynamisation		
Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP	I	04
	Official –(HPI) & Unofficial Pharmacopoeias – (M Bhattacharya & Co's Homoeopathic Pharmacopoeia		
	Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex)		
	Monograph, Contents of Monograph with its individual importance		
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules	I	02
	Role of Laboratory in Homoeopathic Pharmacy Education		
Weights and	Metrology	1	01
measurements.	Basics & Units of Apothecary System, British Imperial System, Metric System		
	Interrelationship between various systems of Weight & Measure		
	Concept on Domestic Measures with Metric Equivalents		

_	T		
Nomenclature	The Basic Rules of Nomenclature		02
	Nomenclature of Homoeopathic Drugs		
	Important terminologies like scientific names,		
	common names, synonyms		
	Anomalies in Nomenclature		
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy	I	02
b) Raw Material: Drugs and	Vehicles		
Source of drugs in	9 ,	I	07
Homoeopathy	kingdom, Mineral kingdom, Nosodes, Sarcodes,		
	Imponderabilia, Synthetic source,		
	New Sources - Allersode, Isodes with reference to their clinical utility		
	Introduction to Bowel Nosodes, Tissue remedies		
Collection of drug		I	03
substances	drugs from all available sources		
Vehicles.	Definition, classification, General Use	I	06
	Source, Properties & Particular use of Vehicles		
	with respect to List Provided in Appendix D		
	Preparation – Commercial Lactose, Alcohol		
	Purity tests – Water, Alcohol, Sugar of Milk		
c) Homoeopathic Pharmaceutics:			

Mother tincture and its	Extraction – Principles & Various Methods	II	07
preparation	Old Method (Based on Class I to IX)		
	Concept of Uniform Drug Strength		
	Estimation of Moisture Content - Necessity		
	New Method/Modern Approach of Homoeopathic Drug Preparation		
Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale	II	03
Drugs Dynamisation	The Evolution of Dynamisation Concept in Homoeopathy	II	06
	Potentisation & its types		
	The Merits of Potentisation		
	Succussion & Trituration		
	Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency		
	Post-Hahnemannian Potentization Techniques		
External applications	Scope of administration of External Applications in Homoeopathic Practice	II	05
	Dr Hahnemann's View as per Organon (5 th & 6 th Ed)		

	Preparation & Uses of lotion, glycerol, liniment and ointment. Commercial Preparation of Ointment		
Posology	Basic principles of Homoeopathic Posology Related aphorisms of Organon of medicine. Criteria for Selection of Potency & Repetition of Dose Various Kinds of Dose, Emphasis on Minimum Dose	III	06
Prescription	Prescription Writing Important Abbreviations Parts & Contents of Prescription Merits & Demerits of Prescription Writing	III	02
Dispensing of Homoeopathic Medicines	Various Dosage Forms – Solid, Liquid Dosage Forms, Methods of Dispensing	II	02
Placebo.	Concept of Homoeopathic Placebo The Philosophy of administration of placebo Concept of Placebo Effect	II	01
Pharmaconomy	Routes of Homoeopathic drug administration.	II	02
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles	II	02

d) Pharmacodynamics			
■ Doctrine of Signature.	Basic Concept, Its Evolution & Application in Ancient Medical System Supporters of the Doctrine Dr Hahnemann's view on the Doctrine	II	01
■ Drug Proving.	Homoeopathic Pharmacodynamics With reference to aphorisms 105 – 145 of Organon of Medicine – 6 th Ed) Post Hahnemannian Drug Proving Homoeopathic Pathogenetic Trial (HPT) CCRH & Other Protocols on HPT Other Noted Provers & their work on Drug Proving	III	06
Adverse Drug Reactions	Basic Idea, Reporting of ADE Drug safety with Ref to HPI Medication errors, Causality Assessment Incompatible Remedies	II	02
■ Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy Activities of Pharmacovigilance Centres Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations	II	02

Pharmacological study of drugs	listed in Appendix-A (Any 15)	III	05
e) Quality Control:			
Standardisation in Homoeopathy	Different Methods of Standardisation Quality Control of Raw Materials – Various	II	02
	Evaluation techniques		
	In Process Quality Control		
	Quality Control of finished products – Various standard parameters		
Industrial pharmacy.	Good Manufacturing Practices (GMP)	II	02
	Schedule M1		
Homoeopathic pharmacopoeia	Functions and Activities of HPL relating to quality control of drugs.	II	01
laboratory (HPL)	Pharmacopoeia Commission for Indian Medicines		
f) Legislations pertaining to I	Homoeopathic Pharmacy:	III	04
The Drugs and Cosmetics Act	, 1940 (23 to 1940)		
Drugs and Cosmetics Rules, 1	945		
Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)			
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)			
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)			
Dangerous Drug Act, 1930			

g) Recent Advances in Homoeopathic Pharmacy	III	02
Modern theories related with Homoeopathic Drug action		
Principles of Drug action		
 Introduction to Nanomedicine 		
 Molecular Mechanism of Drug Action 		
 Mechanism of Action of Homoeopathic Medicines 		
Scope of Research in Homoeopathic Pharmacy	III	01
Drug Discovery		
Principles of New Drug discovery		
Clinical evaluation of New Drugs		
 Pre-Clinical Research in Homoeopathic Pharmacy 		
h) Homoeopathic Pharmacy - Relationships	III	02
Relation of Homoeopathic Pharmacy with Anatomy		
Relation of Homoeopathic Pharmacy with Physiology		
Relation of Homoeopathic Pharmacy with Materia Medica		
With reference to Source of Drugs, Identification, Common Name of Drugs,		
Role of Drug Proving & Other Types of Proving in construction of Materia		
Medica, Clinical Verification		
Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae,		
Liliaceae, Anacardiaceae, Rubiaceae etc		

Teaching Hours (Practical)

Hom	noeopathic Pharmacy Practicals	Teaching Hours	Peyton's 4 step assessment criteria
	Particulars of Experiments		
1	Estimation of size of globules	2	Execution
2	Medication of globules (Small Scale)	2	Execution
3	Purity test of Sugar of milk	2	Comprehension & Execution
4	Purity test of water	2	Comprehension & Execution
5	Purity test of Ethyl alcohol	2	Comprehension & Execution
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.	2	Execution
7	Preparation of dispensing alcohol from strong alcohol.	1	Comprehension & Execution
8	Preparation of dilute alcohol from strong alcohol.	1	Comprehension & Execution
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)	3	Execution
10	Trituration of one drug as per HPI	1	Execution
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.	2	Execution
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency	2	Execution
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C	2	Execution
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C	2	Execution
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.	1	Execution
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.	1	Execution

17	Preparation of $0/2$ potency (Solid form) (LM scale) of 1 Drug from $3^{\rm rd}$ Degree Trituration.	2	Execution
18	Preparation of external applications – Lotion	1	Execution
19	Preparation of external applications – Glycerol	1	Execution
20	Preparation of external applications – Liniment	1	Execution
21	Preparation of external applications – Ointment	1	Execution
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses	1	Execution
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses	1	Execution
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)	8	Execution
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)	4	Execution

5. **COURSE CONTENT**

A. THEORY

Table 4: Homoeopathic Pharn	Table 4: Homoeopathic Pharmacy Theory		
a) General Concepts and Orie	ntation:		
History of Pharmacy with emphasis on emergence of	Definition of Pharmacy & Homoeopathic Pharmacy		
Homoeopathic Pharmacy.	Concept of Drug substance, Drug, Medicine & Remedy		
	Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)		
Homoeopathic Pharmacy	Sources of Homoeopathic Pharmacy		
Basics	Branches of Pharmacy		
	Scope of Homoeopathic Pharmacy		
	Specialty and originality of		
	Homoeopathic Pharmacy		
	The Principles of Homoeopathy		
	Law of Similia, Simplex & Minimum		
	Theory of Chronic Disease & Vital Force		
	Doctrine of Drug Proving & Drug Dynamisation		

Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP
	Official –(HPI) &Unofficial Pharmacopoeias –
	(M Bhattacharya & Co's Homoeopathic Pharmacopoeia
	Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex)
	Monograph, Contents of Monograph with its individual importance
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules
	Role of Laboratory in Homoeopathic Pharmacy Education
Weights and measurements.	Metrology
	Basics & Units of Apothecary System, British Imperial System, Metric System
	Interrelationship between various systems of Weight & Measure
	Concept on Domestic Measures with Metric Equivalents
Nomenclature	The Basic Rules of Nomenclature
	Nomenclature of Homoeopathic Drugs
	Important terminologies like scientific names, common names, synonyms
	Anomalies in Nomenclature
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy
b) Raw Material: Drugs and V	ehicles

Source of drugs in Homoeopathy	Different sources - Plant kingdom, Animal kingdom, Mineral kingdom, Nosodes, Sarcodes, Imponderabilia, Synthetic source, New Sources - Allersode, Isodes with reference to their clinical utility Introduction to Bowel Nosodes, Tissue remedies								
Collection of drug General and Specific guidelines for collecting drugs from all available sources substances									
Vehicles.	Definition, classification, General Use								
	Source, Properties & Particular use of Vehicles with respect to List Provided in Appendix D								
	Preparation – Commercial Lactose, Alcohol								
	Purity tests – Water, Alcohol, Sugar of Milk								
c) Homoeopathic Pharmace	eutics:								
Mother tincture and its	Extraction – Principles & Various Methods								
preparation	Old Method (Based on Class I to IX)								
	Concept of Uniform Drug Strength								
	Estimation of Moisture Content - Necessity								
	New Method/Modern Approach of Homoeopathic Drug Preparation								
Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale								

Drugs Dynamisation	The Evolution of Dynamisation - Concept in Homoeopathy						
	Potentisation & its types						
	The Merits of Potentisation						
	Succussion & Trituration						
	Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency						
	Post-Hahnemannian Potentization Techniques						
External applications	Scope of administration of External Applications in Homoeopathic Practice						
	Dr Hahnemann's View as per Organon (5 th & 6 th Ed)						
	Preparation & Uses of lotion, glycerol, liniment and ointment.						
	Commercial Preparation of Ointment						
Posology	Basic principles of Homoeopathic Posology						
	Related aphorisms of Organon of medicine.						
	Criteria for Selection of Potency & Repetition of Dose						
	Various Kinds of Dose, Emphasis on Minimum Dose						
Prescription	Prescription Writing						
	Important Abbreviations						
	Parts & Contents of Prescription						
	Merits & Demerits of Prescription Writing						
Dispensing of	Various Dosage Forms – Solid, Liquid Dosage Forms,						
Homoeopathic Medicines	Methods of Dispensing						

Placebo.	Concept of Homoeopathic Placebo							
	The Philosophy of administration of placebo							
	Concept of Placebo Effect							
Pharmaconomy	Routes of Homoeopathic drug administration.							
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles							
d) Pharmacodynamics								
 Doctrine of Signature. 	Basic Concept, Its Evolution & Application in Ancient Medical System							
	Supporters of the Doctrine							
	Dr Hahnemann's view on the Doctrine							
■ Drug Proving.	Homoeopathic Pharmacodynamics							
	With reference to aphorisms 105 – 145 of Organon of Medicine – 6 th Ed)							
	Post Hahnemannian Drug Proving							
	Homoeopathic Pathogenetic Trial (HPT)							
	CCRH & Other Protocols on HPT							
	Other Noted Provers & their work on Drug Proving							
■ Adverse Drug	Basic Idea, Reporting of ADE							
Reactions	Drug safety with Ref to HPI							
	Medication errors, Causality Assessment							
	Incompatible Remedies							

Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy							
	Activities of Pharmacovigilance Centres							
	Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations							
Pharmacological study of drugs	listed in Appendix-A (Any 15)							
e) Quality Control:								
• Standardisation in	Different Methods of Standardisation							
Homoeopathy	Quality Control of Raw Materials – Various Evaluation techniques							
	In Process Quality Control							
	Quality Control of finished products – Various standard parameters							
Industrial pharmacy.	Good Manufacturing Practices (GMP)							
	Schedule M1							
Homoeopathic	Functions and Activities of HPL relating to quality control of drugs.							
pharmacopoeia laboratory (HPL)	Pharmacopoeia Commission for Indian Medicines							
f) Legislations pertaining to H	omoeopathic Pharmacy:							
The Drugs and Cosmetics Act,	1940 (23 to 1940)							
Drugs and Cosmetics Rules, 19	Drugs and Cosmetics Rules, 1945							
Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)								
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)								
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)								

Dangerous Drug Act, 1930

g) Recent Advances in Homoeopathic Pharmacy

Modern theories related with Homoeopathic Drug action

- 1. Principles of Drug action
- 2. Introduction to Nanomedicine
- 3. Molecular Mechanism of Drug Action
- 4. Mechanism of Action of Homoeopathic Medicines

Scope of Research in Homoeopathic Pharmacy

- 1. Drug Discovery
- 2. Principles of New Drug discovery
- 3. Clinical evaluation of New Drugs
- 4. Pre-Clinical Research in Homoeopathic Pharmacy

h) Homoeopathic Pharmacy - Relationships

Relation of Homoeopathic Pharmacy with Anatomy

Relation of Homoeopathic Pharmacy with Physiology

Relation of Homoeopathic Pharmacy with Materia Medica

With reference to Source of Drugs, Identification, Common Name of Drugs, Role of Drug Proving & Other Types of Proving in construction of Materia Medica, Clinical Verification

Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae, Liliaceae, Anacardiaceae, Rubiaceaeetc

B. Practical – Lab Work – Field – Clinical Hospital Work

1. Laboratory Work -

Practical Class (Experiments) - Maintaining Record of Experiments Conducted

(Principle, Requirements, Calculation if applicable, Process, Label, Conclusion/Inference)

Practical Class (Demonstration) – Maintaining Records of Practical Demonstrated

(Principle, Requirements, Calculation if applicable, Process, Label, Conclusion/Inference)

Field Visits-

- A) Maintain File/Report on Visit to GMP Compliant Large Scale Medicine Manufacturing Unit (Format should be as per Appendix E)
- B) Maintain File/Report on Visit to Medicinal Plant Garden (Format should be as per Appendix F)

Activity -

- (a) Clinical Hospital Work Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) Record to be maintained as per format in Appendix G
- **(b) Seminar** Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned Record to be maintained as per Appendix H
- (c) Herbarium Maintenance of 30 Plant Drug Substances Samples

B. PRACTICALS

Tabl	e 5 : Homoeopathic Pharmacy Practicals					
Sr No.						
INO.	Particulars of Experiments					
1	Estimation of size of globules					

2	Medication of globules (Small Scale)
3	Purity test of Sugar of milk
4	Purity test of water
5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3 rd Degree Trituration.
18	Preparation of external applications – Lotion
19	Preparation of external applications – Glycerol
20	Preparation of external applications – Liniment
21	Preparation of external applications – Ointment
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses

23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, Vla, Vlb)

Demonstration

- 1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)
- 2. Estimation of moisture content using water bath
- 3. Paper chromatography & TLC of any mother tincture
- 4. Laboratory methods Sublimation, distillation, decantation, filtration, crystallization.
- 5. Preparation of mother tincture Maceration and Percolation
- 6. Study & demonstration of Drug Substances (listed in Appendix B)-
- i)Macroscopic Characteristic (Any 15)
- ii) Microscopic characteristic (Any 05)
- 7. Study & demonstration of vehicles (Solid, Liquid & Semi solid as available)
- 8. Microscopical study of Trituration (One drug up to 3X Potency)
- 9. Medication of Globule (Large Scale)

Activities

- 1. Collection of 30 drugs for herbarium
- 2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
- 3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
- 4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles &keep record

5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

Demonstration

- 1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
- 2. Estimation of moisture content using water bath-02 Hours
- 3. Paper chromatography & TLC of any mother tincture-04 Hours
- 4. Laboratory methods Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
- 5. Preparation of mother tincture Maceration and Percolation- 04 Hours
- 6. Study & demonstration of Drug Substances (listed in Appendix B)- 10 Hours
- i)Macroscopic Characteristic (Any 15)
 - ii) Microscopic characteristic (Any 05)
- 7. Study & demonstration of vehicles (Solid, Liquid & Semi solid as available)- 02 Hours
- 8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours
- 9. Medication of Globule (Large Scale)-1 Hour

Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G- 20 Hours

Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned-07 Hours

6.TEACHING LEARNING METHODS

The Teaching Learning activities in Homoeopathic Pharmacy requires change in structure & process in order to be more skill based & providing hands on experience. The Teaching Learning methods with respect to Homoeopathic Pharmacy may be covered in the following manner —

- a) Class Room Lectures Oral Presentation, Board Work, Power point Presentation
- b) **Tutorials** Special Classes on Doubt Clearing of Completed topics/Chapters, Special Classes for Slow Learners (involving Students in Groups comprising 5-10)
- c) **Practical Class** Demonstration & Explanation of the Experiments, this would follow by conduction of the Experiment by the students on their own, write up of the Experiment conducted
- d) Clinical Class Visit to IPD/OPD for gaining Knowledge on Prescription writing, Administration of Homoeopathic medicines based on Homoeopathic Posology, Visiting Hospital Pharmacy to observe & Gain Knowledge on dispensing techniques
- e) Field Visit Visit to One GMP Compliant Homoeopathic Manufactory.

Visit to One Medicinal Plant Garden

f) Student Activities – Working out the Assignments, Projects, Power point presentations as assigned

7.CONTENT MAPPING (COMPETENCY TABLE)

Topic: History of Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –

Interpret the difference in concept of Pharmacy in different AYUSH systems of medicine

_	,							,						
	Sr.	Generi	Subject	Miller'	Specifi	Specific	Bloom'	Guilb	Must	Teaching -	Assessment /Evaluation		Integr	ation
	No	С	Area	s Level	С	Learning	S	ert's	to	Learning Method	Formative Tu	Typo		
		Compe	D	Does/	Compe	Objectives	Domai	Level	len over/		Formative	Type (Sum mative		
		tencies		Shows	tencies		n	S	know/					
				how/					desira					
				Knows					ble)		
				how/										
				Know					to ,					
									know/					
									Nice to					
									know					
L														
	Но		History of	Knows	Must	Define	Cogniti	Lvel1	Must	1.Lecture	1.Structur	Theory 8	k Horizo	ntal
	mU		Pharmac		be able	Pharmacy	ve	Recal	Know	Demonstrations	ed Oral	Viva Voce	with	
	G-		y with		to					2. Small Group	Examinati		Organ	on of
	HP-	Integra	emphasis		interpr						on		Medic	ine
	1.1.	tion of	to		et the					Discussions/	2			
	1		emergen		differe						2.			
			ce of		nce in						Tutorials			
- 1				1					1			<u> </u>		1

	Knowl	Homoeo		concep					3.Peer teaching	3		+
	edge	pathic		t of					(Think-Pair-Share,	Assignmen		
	cage	Pharmac		Pharm					Jigsaw Strategy)	ts		
		У		acy among various					4. Quiz	4. MCQ's 5. 2 marks		
				system					Seminars	question		
	Synthe			s of		_				-		
Ho mU G- HP- 1.1.	sis and applica tion of knowl edge		Knows	AYUSH	Define Homoeop athic Pharmacy		Level 1 Recal	Must know	6. Integrated Teaching with Organon of Medicine	6.SAQ's and LAQ's		
Но			Knows		Describe	-	Level	Nice to				
mU					the Basic		2	Know				
G-					concepts		Unde					
HP-					of		rstan					
1.1.					Different		d					
3					schools of Pharmacy							
					with							
					reference to AYUSH							
Но			Knows	<u>.</u>	Differentia		Level	Must				
m-					te		2	know				
UG-					between		Unde					
HP-					Drug-		rstan					
1.1. 4					Medicine- Remedy		d					

TOPIC: Basics of Homoeopathic Pharmacy

Topic: Basics of Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to – Enumerate the fundamental Principles of Homoeopathic Pharmacy

Sr.	Generi	Subjec	Miller's	Specific	Specific	Bloom'	Guilbert'	Must to	Teaching -	Assessmer		Integration
No	c Comp	t Area	Level Does/ Shows	Compet encies	Learnin	s Domain	s Levels	know/	Learning Method	/Evaluatio	n	
	etenci es		how/ Knows how/ Know	encies	g Objecti ves	Domain		desirable to know/Nice to know	Wethou	Formativ e	Summati ve	Horizontal Integration with Organon of
Ho mU G- HP- 1.2.	Integr ation of Knowl edge Synthe sis and	Basics of Homoe opathi c Pharm acy	Knows	Must be able to state the fundam ental Principl es governi	1.Enum erate the Sources of Homoe opathic Pharma cy	Cogniti ve	Level 1 Recall	Must Know	1.Lecture Demonstrat ions 2. Small Group Discussions	1.Structu red Oral Examinat ion 2. Tutorials	SAQ MCQ LAQ Viva Voce	Medicine

	1			, , , , , , , , , , , , , , , , , , , ,			T			<u> </u>
Но	Applic	Knows	ng	2.Explai	Level 2	Must Know	Peer	3.		
mU	ation		Homoe	n the	Understa		teaching	Assignm		
G-	of		opathic	Branch	nding		(Think-Pair-	ents		
HP-	knowl		Pharma	es of	nuing		Share,	4 N4CO's		
1.2.	edge		су	Homoe			Jigsaw	4. MCQ's		
2				opathic			Strategy)	5. 2		
				Pharma			2 0 .	marks		
				су			3. Quiz	question		
							4. Student			
Но		Knows		3.Illustr	Level 2	Must Know	Seminars	6.SAQ's		
mU				ate the	Understa			and		
G-				Scope	nding		5. Guest	LAQ's		
HP-				of	J		Lecture			
1.2.				Homoe			6. Problem			
3				opathic			based			
				Pharma			learning			
				су						
Но	-	Knows		4.Descr	Level 2	Must Know	_			
m-				ibe the						
UG				Original	Understa					
HP-				ity &	nding					
1.2.				Specialt						
4				y of						
				Homoe						
				opathic						
				Pharma						
				су						
Но		Knows		5.Explai	Level 2	Must Know				
mU				n the						
G-				Funda						

HP-		mental	Uı	Indersta			
1.2.		Principl	no	iding			
5		es,					
		Laws 8					
		Doctrin					
		es					
		related					
		to					
		Homoe					
		opathic					
		Pharma					
		су					

TOPIC: Nomenclature of Homoeopathic Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to — State the basic rules of Nomenclature of Homoeopathic medicines

.

Sr.	Generic	Subject	Mille	Specific	Specific	Bloom's	Guilber	Must	Teaching -	Assessment /Eva	aluation	
No	Compet encies	Area	r'sLe vel Does / Sho ws how/ Kno	Competencies	Learning Objectives	Domain	t's Levels	know/ desira ble to know/	Learning Method	Formative	Summa	ative

			l					T				
			WS					Nice				
			how/					to				
			Kno					know				
			w									
Hom	Integrati	Nomencla	Kno	Must be able to	1.State the	Cognitive	Level 1	Must	1.Lecture	1.Structured	SAQ	
UG-	on of	ture of	ws	describe the	Basic rules		D II	Know	Demonstrati	Oral	\(' - \(' - \)	
HP-	Knowled	Homoeop		principles	of		Recall		ons	Examination	Viva Vo	ce
1.3.1	ge	athic		followed in	Nomenclatu				2. Small	2. Tutorials		
		Medicines		nomenclature	re				Group			
	Synthos:			of Homoeopathic					Discussions/	3. Assignments		
	Synthesi s and			medicines					Peer teaching	4. MCQ's		
	Applicati								(Think-Pair-	5. 2 marks		
Hom	on of		Kno		2.Describe		Level 2	Must	Share, Jigsaw	question		
UG-	knowled		ws		the		Unders	Know	Strategy)			
HP-	ge				nomenclatu		tanding		3. Quiz			
1.3.2					re of		tanding					
					Homoeopat				4. Student			
					hic Drugs				Seminars			
Hom			Kno		3.Enumerat		Level 1	Must	5. Guest			
UG-			ws		e the		Recall	Know	Lecture			
HP-					important		Necan		6. Problem			
1.3.3					terminologi				based			
					es related to				learning			
					Nomenclatu							
					re							
Hom			Kno		4.Define		Level 1	Must				
UG-			ws		Scientific		Recall	Know				
					Name		NECALI					
			<u> </u>	l				1			I	

HP-								
1.3.4								
Hom	Kno	5.Define		Level 1	Must			
UG-	ws	Common		Recall	Know			
HP-		Name		Recail				
1.3.5								
Hom	Kno	6.Enumerat	Cognitive	Level 1	Must			
UG-	ws	e the		D II	Know			
HP-		advantages		Recall				
1.3.6		of Scientific						
		Name						
Hom	Kno	7.Enumerat	Cognitive	Level 1	Must			
UG-	WS	e the		Recall	know			
HP-		Advantages						
1.3.7		of Common						
		Name						
Hom	Kno	8.Identify	Cognitive	Level 3	Nice	1.Lecture		
UG-	ws	the existing		Proble	to	Demonstrati		
HP-		anomalies		m	know	on		
1.3.8		in		Solving		2.Procedural		
		Nomenclatu		Joiving		Skills		
		re of				Teaching		
		Homoeopat						
		hic				3. Problem		
		Medicines				Based		
						Learning		
								₩

TOPIC: Pioneers of Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to.-State the Contribution of various Pioneers in the field of Homoeopathic Pharmacy

Sr.	Generic	Subject	Miller	Specific	Specific	Bloom's	Guilber	Must to	Teaching -	Assessment /Eva	luatio	n
No	Compet	Area	's Level Does/ Show s how/ Know s how/ Know	Competencies	Learning Objectives	Domain	t's Levels	know/ desirable to know/Ni ce to know	Learning Method	Formative	Sumr ve	nati
Ho mU G- HP- 1.4. 1	Integrati on of Knowled ge Synthesi s and Applicati on of knowled ge	Pioneers of Homoeopa thic Pharmacy	Know s	Must be able to state the contributions of various pioneers in the field of Homoeopa thic Pharmacy	1.Outline the contributions of the Pioneers of Homoeopath y in the field of Homoeopathi c Pharmacy	Cognitive	Level 1 Recall	Nice to Know	1.Lecture Demonstrations 2. Small Group Discussions/ 3. Quiz 4. Student Seminars	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	SAQ MCQ Viva Voce	

TOPIC: Pharmacopoeia

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able abide by the homoeopathic pharmacopoeia guidelines for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/	Specific Competenci	Specific Learning	Bloom' s	Guilbe rt's	Must to know/	Teaching - Learning	Assessn /Evalua	
			Shows how/ Knows how/ Know	es	Objectives	Domain	levels	desirabl e to know/ Nice to know	Method	Forma tive	Sum mati ve
Hom UG-	Problem solution	Pharmacop oeia	Knows	Must be able abide by the	1. Define Pharmacop oeia	Cogniti ve	Level 1 Recall	Must Know	1.Lecture Demonstratio ns	1.Stru cture d Oral	SAQ MC Q

HP-	Integration	of			homoeopat				2. Small	Exami	Viva	
1.5.1	Knowledge				hic				Group	nation	Voce	
Hom UG- HP- 1.5.2	Synthesis application knowledge	and of	K	Knows	pharmacop oeia guidelines for preparation of homoeopat hic medicines.	2. Enumerate the different types of homoeopat hic pharmacop oeia with suitable examples.	Level 1 Recall	Must Know	Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars	2. Tutori als 3. Assign ments 4. MCQ' s		
Hom UG- HP.1. 5.3			k	Knows		3. Explain the different types of homoeopat hic pharmacop oeia.	Level 2 Under standi ng	Must Know		marks questi on 6.SAQ 's, LAQ's 7.Proj		
Hom UG- HP- 1.5.4			K	Knows		4. Explain HPI in detail	Level 2 Under standi ng	Must Know		ects		
Hom UG-			K	(nows		5. Explain what is	Level 2	Must Know				

HP- 1.5.5		monogra ph?	Under standi					
			ng					
Hom UG- HP- 1.5.6	Knows how	6.Apply the guidelines laid down in the official homoeopat hic pharmacop oeia w.r.t. identificatio n, collection, preservatio n, preparation and dispensing of homoeopat hic medicine		know	 Practical Demonstration Lecture Demonstration Projects Herbarium Journal 	DOPS 2. OSPE 3. Evalu ation of projec	SAC MC QL Viv Voc Pra tica Exa mir tion / Che klis	va oce ac al ina ina
Hom UG- HP- 1.5.7	Knows how	7.Demonstr Afferate care, e professiona lism & commitmen			1. Practical Demonstratio	1. DOPS 2. OSPE	Viv	va oce

		t & follow		2. Lecture	3.	
		all the		Demonstratio	Evalu	
		guidelines		n	ation	
		meticulousl		3. Projects	of	
		y as given in		3. Projects	projec	
		official		4. Herbarium	ts	
		homoeopat		E lavenal	4.	
		hic		5. Journal	l l	
		pharmacop			Evalu	
		oeia w.r.t.			ation	
		identificatio			of	
		n,			Journ	
		collection,			al &	
		preservatio			Herba	
		n,			rium	
		preparation				
		and				
		dispensing				
		of				
		homoeopat				
		hic				
		medicine				
					ı l	

TOPIC: Plant Kingdom

Topic: Plant Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the plant drug substances for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/	Specific Competenci es	Specific Learning Objectives	Bloom' s	Guilber t's Levels	Must to know/	Teaching - Learning Method	Assessment /Evaluation		
			Knows how/ Know		Objectives	Domai n	LEVEIS	desirable to know/ Nice to know	Wethod	Formative		pe mm ve
Hom UG- HP- 1.6.1	Integration of knowledge Synthesis and application of knowledge Classroom to herbarium and lab transfer	Sources of drugs	Knows	Must be able to identify the plant drug substances for preparation of homoeopat hic medicines.	1. Explain in detail the part used and drug prepared from plant kingdom	Cognitiv e	Level 2 Unders tanding	Must know	1.Lecture Demonstr ations 2. Small Group Discussion s/ Peer teaching (Think- Pair- Share,	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and	LA Viv	cQ Q
Hom UG- HP- 1.6.2			Knows		2. List any 4 examples of drugs from particular part of the plant.		Level 1 Recall	Must know	Jigsaw Strategy) 3. Quiz 4. Student Seminars	LAQ's 7. Herbarium		

Hom UG- HP- 1.6.3	Knows	3. Explair classification of plankingdom with examples.		Level 2 Unders tanding	Must know	5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos			
Hom UG- HP- 1.6.4	Does	4. Identify the plant and its parts used for preparation of homoeopath ic medicines	ve	Level 3 Proble m solving	Must know	1.Practical Demonstr ation 2.Procedu ral Skills Teaching 3. Herbarium 4. Experienti al learning (Projects)	1.DOPS 2. OSPE 3. Herbarium	cal Ex	acti ami tion
Hom UG- HP- 1.6.5	Shows how	5.Demonstra te care while identifying 8 collecting the		Level 1 Receivi	Nice to know	1.Lecture Demonstr ation	1.Herbarium	cal Ex	acti ami tion

		plant drug		2. Problem		
		substances		Based		
				Learning		

TOPIC: Animal Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the animal drug substances for preparation of homoeopathic medicines.

Sr.	Generic	Subject	Miller's	Specific	Specific	Bloom'	Guilber	Must to	Teaching -	Assessment		
No	Competencies	Area	Level	Compete	Learnin	sDoma	t's	know/	Learning	/Evaluation		
			Does/ Shows how/ Knows how/ Know	ncies	g Objecti ves	in	Levels	desirable to know/Nice to know	Method	Formative	Sui	nmat

				1			1					$\overline{}$
Hom	Integration	of			Must be		Cogniti	Level 2		1.Lecture	1.Structure	LAQ
UG-	knowledge		of drugs	Knows	able to	· ·	ve	Underst	Must know	Demonstra	d Oral	
HP-					identify	the part		anding		tions	Examinatio	MCQ
1.7.1					the	used				2. Small	n	Viva
	Synthesis	and			animal	and				Group	2. Tutorials	Voce
	application	of			drug	drug				Discussions		1
	knowledge				substanc	prepare				/	3.	1
					es for					'	Assignment	1
					preparati	animal				Peer	S	1
	Classroom	to			on of					teaching	4. MCQ's	1
	herbarium	and			homoeop	m				(Think-		1
	lab transfer				athic					Pair-Share,	5. 2 marks	1
					medicine					Jigsaw	question	1
					S.					Strategy)	6.SAQ's and	1
										3. Quiz	LAQ's	1
										4. Student	7.	1
										Seminars	Herbarium	1
										5. Guest		1
Hom				Knows		2. List		Level 1	Must Know	Lecture	ļ i	1
UG-						any 4		Recall			ļ i	1
HP-						exampl		Necali		6. Problem	ļ i	1
1.7.2						es of				based	ļ i	1
						drugs				learning		1
						from				7. Flipped	ļ i	1
						particul				Classroom	ļ i	1
						ar part					ļ i	1
						of the				8. Videos	ļ i	1
						animal.					ļ i	1
											ļ i	1
												1

Hom UG-	Knows	3. Explain		Level 2	Must Know			
HP- 1.7.3		classific ation of		Underst anding				
1.7.5		animal kingdo m						
Hom UG- HP- 1.7.4	Does	4. Identify the animal and its parts used for prepara tion of homoe opathic medicin es	Cogniti	Level 3 Proble m Solving	Must Know	1.Practical Demonstra tion 2.Procedur al Skills Teaching 3. Herbarium 4. Experientia I learning (Projects)	1.DOPS 2. OSPE 3. Herbarium	etica imina n
Hom UG- HP- 1.7.5	Shows	5.Demo nstrate care while identify ing & collecti ng the animal	Affecti ve	Level 1 Receivi ng	Must Know	1.Lecture Demonstra tion 2. Problem Based Learning	1.Herbariu m	ictica imina n

		drug				
		substan				
		ces				

TOPIC: Mineral Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the mineral drug substances for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Knows	Specific Compet encies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nic e to	Teaching - Learning Method	Assessment /Evaluation Formativ e	
Hom UG- HP- 1.8.1	Integration of knowledge Synthesis and application of knowledge	Sources of drugs	Knows	Must be able to identify the mineral drug substan ces for preparation of	1. Explain the part used and drug prepared from mineral kingdom	Cognitiv e	Level 2 Understa nding	know Must know	1.Lecture Demonstr ations 2. Small Group Discussion s/ Peer teaching	1.Structu red Oral Examinat ion 2. Tutorials	LAQ SAQ MCQ Viva Voce

			Ι.	1		1		/=! : !		
	Classroom to		homoeo					(Think-	3.	
	herbarium and		pathic					Pair-	Assignme	
	lab transfer		medicin					Share,	nts	
			es.					Jigsaw Strategy)	4. MCQ's	
Hom UG- HP- 1.8.2		Knows		2. List any 4 examples of drugs from prepared from minerals.		Level 1 Recall	Must know	3. Quiz 4. Student Seminars 5. Guest	5. 2 marks question 6.SAQ's and	
				minerais.				Lecture – 6.	LAQ's	
Hom UG- HP- 1.8.3		Knows		3. Explain the classificatio n of mineral kingdom		Level 2 Understa nding	Must know	Problem based learning 7. Flipped Classroom 8. Videos	Herbariu m	
Hom UG- HP- 1.8.4		Does		4. Identify the mineral used for preparation of homoeopat hic medicines	Cognitiv e	Level 3 Problem solving	Must know	1.Practical Demonstr ation 2.Procedu ral Skills Teaching 3. Herbariu m	1.DOPS 2. OSPE 3. Herbariu m	Practi al Exami ation

								4. Experienti al learning (Projects)		
Hom UG- HP- 1.8.5		Shows	5.Demonstr ate care while identifying &collecting the mineral drug substances	Affectiv e	Level 1 Receiving	Nice know	to	1.Lecture Demonstr ation 2. Problem Based Learning	1.Herbari um	Practi al Exami ation

TOPIC: Sarcodes & Nosodes

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the drug substances from nosodes and sarcodes for preparation of homoeopathic medicines.

Sr.		Miller'		Bloom's	Guilbert's	Must to	Assessment
No		S			Levels		/Evaluation

	Generic Compet encies	Subj ect Area	Level Does/ Shows how/ Knows how/ Know	Specific Competenc ies	Specific Learning Objectives	Domain		know/ desirabl e to know/Ni ce to know	Teaching - Learning Method	Formative	Summativ e
Ho mU G- HP- 1.9. 1	Integrat ion of knowle dge Synthesi s and applicat ion of knowle dge Classroo m to herbari um and lab transfer	Sour ces of drug s	Knows	Must be able to identify the drug substances from nosodes and sarcodes for preparatio n of homoeopat hic medicines	1. Explain the part used and drug prepared from nosodes 2. List any 4 examples of drugs from prepared from nosodes.	Cognitiv	Level 2 Understand ing Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture	1.Structure d Oral Examinatio n 2. Tutorials 3. Assignment s 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	LAQ SAQ MCQ Viva Voce

Ho mU G- HP 1.9. 3	Knows	3. Explain classificatio n of nosodes. 4.Explain the part	Level 2 Understand ing Level 2 Understand	Must Know Must Know	6. Problem based learning7. Flipped Classroom8. Videos	
G- HP 1.9. 4		used and drug prepared from sarcodes	ing			
Ho mU G- HP 1.9.	Knows	5. List any 4 examples of drugs from prepared from sarcodes	Level 1 Recall	Must Know		
Ho mU G- HP 1.9.	Knows	6. Explain classificatio n of sarcodes	Level 2 Understand ing	Must Know		

Ho mU G- HP 1.9.	Does	7. Identify the sarcode/nos ode used for preparation of homoeopat hic medicines	Cognitiv e	Level 3 Problem solving	Must know	1.Practical Demonstrati on 2.Procedural Skills Teaching 3. Experiential	1.DOPS 2. OSPE	Practical Examinati on
Ho mU G- HP 1.9.	Shows	8.Demonstr ate care while identifying & collecting the diseased part/secreti on for preparation of nosodes&he althy part/secreti on for preparation of sarcodes	Affectiv e	Level 1 Receiving	Nice to know	learning (Projects) 1.Lecture Demonstration 2. Problem Based Learning	1.Monogra phs	Practical Examinati on

TOPIC: Imponderabilia

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the drug substances from energy sources for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level	Specific Competen	Specific Learning	Bloom's Domain	Guilber t's	Must to know/	Teaching - Learning	Assessme /Evaluation	
			Does/ Shows how/ Knows how/ Know	cies	Objectives	Joinain	Levels	desirable to know/Nic e to know	Method	Formativ e	Sumn ative
Hom UG- HP- 1.10. 1	Integration of knowledge Synthesis and application of knowledge	Sources of drugs	Knows	Must be able to identify the drug substance s from energy sources for	1. Explain the energy used and drug prepared from imponderab ilia	Cogniti ve	Level 2 Underst anding	Must know	1.Lecture Demonst rations 2. Small Group Discussio ns/	1.Struct ured Oral Examina tion 2. Tutorials 3.	LAQ SAQ MCQ Viva Voce
	Classroom to herbarium and lab transfer			preparatio n of homoeop athic medicines					Peer teaching (Think- Pair- Share, Jigsaw	Assignm ents 4. MCQ's 5. 2	
Hom UG- HP-			Knows		2. List any 4 examples of drugs prepared from		Level 1 Recall	Must know	Strategy) 3. Quiz	marks question	

1.10.		imponderab ilia			4. Student Seminars	6.SAQ's and LAQ's	
Hom UG- HP- 1.10.	Knows	3. Explain classificatio n of imponderab ilia.	Level 2 Underst anding	Must know	5. Guest Lecture 6. Problem based learning 7. Flipped Classroo m 8. Videos		
Hom UG- HP- 1.10. 4	Does	4. Identify the energy versource used for preparation of homoeopat hic medicines from imponderab ilia	Proble m solving	Nice to know	1.Practica I Demonst ration 2.Proced ural Skills Teaching 3. Experient ial learning (Projects)	1.DOPS 2. OSPE	Prac al Exai nati

Hom	Shows	5.Demonstr	Affectiv	Level 1	Nice	to	1.Lecture	1.Monog	Pract
UG- HP- 1.10. 5	how	ate care & commitmen t while identifying & collecting the different energy sources for preparation of imponderab ilia medicines		Receivi	know		Demonst ration 2. Problem Based Learning	raphs	al Exam natio

TOPIC: Allersodes, Isodes, Synthetic Source

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify drug substances of Allersodes, Isodes, Synthetic Source for preparation of homoeopathic medicines.

Sr.	Generic	Subject	Miller's	Specific	Specific	Bloom's	Guilbert'	Must to	Teaching -	Asses
No	Competencies	Area	Level Does/	Competenci	Learning	Domain	s Levels	know/	Learning	smen
			Shows how/	es	Objectives	Domain		KITOVV	Method	t
										/Eval

			Knows how/ Know					to know/Ni ce to know		n Form ative	Sumr
Hom UG- HP- 1.11. 1	Integration of knowledge Synthesis and application of knowledge Classroom to herbarium and lab transfer	Sources of drugs	Knows	Must be able to identify drug substances of Allersodes, Isodes, Synthetic Source for preparation of homoeopat hic medicines.	1. Explain the preparation of Allersodes, Isodes& Synthetic Source of homoeopat hic medicines	e Cognitiv	Level 2 Underst anding	Must	1.Lecture Demonstr ations 2. Small Group Discussio ns/ Peer teaching (Think- Pair- Share, Jigsaw Strategy) 3. Quiz	1.Str uctur ed Oral Exam inatio n 2. Tutor ials 3. Assig nmen ts 4. MCQ' s	LAQ SAQ MCQ Viva Voce

Hom	I	Vn ours	2 1:4	+ 201/ 1		Lovel 1	Muct	1 C+udo-+	ГЭ	
Hom		Knows		st any 4		Level 1	Must	4. Student		
UG-				ples of		Recall	know	Seminars	mark	
HP-			drug					5. Guest	S	
1.11.			prep	ared				Lecture	quest	
2			from					Lecture	ion	
			Aller	sodes,				6.	C C A	
			Isode	es&Synt				Problem	6.SA	
				Source				based	Q's	
								learning	and	
									LAQ's	
								7. Flipped		
								Classroo		
								m		
								0.17.1		
								8. Videos		
Hom		Does	3.	Identify	Cognitiv	Level 3	Must		Proje	Pract
UG-			the	part	е	Dualdana	know	Experienti	cts	al
HP-			used	for		Problem		al learning		Exam
1.11.			prep	aration		solving		(Projects)		natio
3			of					, , ,		
				sodes,						
			Isode							
			Synth							
			Sour	ce.						
										Щ

T		1 1.5 .	A CC .:	1. 1.4	T			T	
Hom	Shows how	4.Demonstr	Affectiv	Level 1	Nice	to	1.Lecture	1.Proj	Pract
UG-		ate care &	е	Receivin	know		Demonstr	ects	al
HP-		commitmen					ation		Exam
1.11.		t while		g			2.		natio
4		identifying					2. Problem		
		& collecting							
		the different					Based		
		parts for					Learning		
		preparation							
		of							
		Allersodes,							
		Isodes&							
		Synthetic							
		Source							

TOPIC: Collection of Drug Substances

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to collect a particular part/ source for preparation of homoeopathic drugs

Sr.	Generic	Subject Area	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teachin	Assess	ment
No	Competencies		Level Does/	Competen	Learning	Domain	Levels	len oue/	g -	/Evalua	ation
			Shows	cies	Objectives	Domain		know/	Learning		
				Cics	Objectives					Form	Su
			how/					desirabl	Method		
			Knows					_		ative	mm
								е			ativ
			how/ Know								""
											e
							1		1		Ш

Ho mU	Problem solution	Collection of Drug	Knows	Must be able to	1. Explain the general rules	Cognitiv e	Level 2 Understa	to know/Ni ce to know Must know	1.Lectur	1.Stru cture	LAC SAC
G- HP- 1.1 2.1	Integration of Knowledge Synthesis and application of knowledge	Substances		collect a particular part/ source for preparatio n of homoeop athic drugs	for collecting drugs from vegetable kingdom.		nding		Demons trations 2. Small Group Discussi ons/ Peer teaching (Think-Pair-Share,	d Oral Exami natio n 2. Tutori als 3. Assig nmen ts	MC Q Viv a Voo e
Ho mU G- HP- 1.1 2.2	Classroom to Herbarium transfer		Knows		2. Explain the particular rules for collecting drugs from vegetable kingdom.		Level 2 Understa nding	Must know	Jigsaw Strategy) 3. Quiz 4. Student	4. MCQ's 5. 2 marks quest ion	

Ho mU G- HP- 1.1 2.3	Practice based learning and improvement	Knows	3. Explain the general rules for collecting drugs from animal kingdom.	Level 2 Understa nding	Must know	Seminar s 5. Guest Lecture 6. Flipped	6.SAQ 's and LAQ's 7.Proj ects 8.	
Ho mU G- HP- 1.1 2.4		Knows	4. Explain the particular rules for collecting drugs from animal kingdom.	Level 2 Understa nding	Must know	Classroo m 7. Videos	Herba rium	
Ho mU G- HP- 1.1 2.5		Knows	5. Explain the collection of drugs from mineral kingdom.	Level 2 Understa nding	Must know			
Ho mU G- HP- 1.1 2.6		Knows	6. Explain collection of Nosodes, Sarcodes & Impondera bilia.	Level 2 Understa nding	Must know			

Ho mU G- HP- 1.1 2.7	Does	7. Collect the drugs from vegetable kingdom.	Psycho motor	Level 3 Automati on	Must know	1. Practical Demons trations 2. Procedu ral Skills Teachin	1.DO PS 2.OSP E 3.Proj ects 4.Spo tting	Pra cti al Ex mi ati n
Ho mU G- HP- 1.1 2.8	Does	8. Collect the drugs from animal kingdom.		Level 3 Automati	Must know	g 3.Experi ential Learning	5.Her bariu m.	
Ho mU G- HP. 1.1 2.9	Does	9. Collect the drugs from nosodes, sarcodes & imponderabil ia.		Level 2 Control	Must know			
Ho mU G- HP- 1.1	Shows how	10. Demonstrate care & commitment while	Affective	Level 1 Recieving	Nice to know	1. Lecture Demons tration	Herba rium	Pra cti al Exa mi

2.1	collecting	2.	ati
0	drugs from	Practical	n
	vegetable	Demons	
	kingdom,	tration	
	animal		
	kingdom,		
	nosodes,		
	sarcodes		
	&impondera		
	bilia.		

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to clean the instruments used in homoeopathic pharmaceutical laboratory.

	Miller's			Must to	Assessment /Evalua	tion

Sr.	Generic	Subje	Level	Specific	Specific	Bloom'	Guilbert's	know/	Teaching -	Formative	Summ	nati
No	Competenci es	ct Area	Does/ Shows how/ Knows how/ Know	Compete ncies	Learning Objectives	s Domain	Levels	desirable to know/Ni ce toknow	Learning Method		ve	
Hom UG- HP- 1.13. 1 Hom UG- HP- 1.13.	Integration of Knowledge Synthesis and application of knowledge	Clean sing of instru ments	Knows	Must be able to clean the instrume nts used in homoeo pathic pharmac eutical laborator y	1. Explain the cleansing of mortar & pestle. 2. Explain the cleansing of spatula.	Cogniti	Level 2 Understand ing Level 2 Understand ing	Must know Must know	1.Lecture Demonstrati ons 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz 4. Student	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	LAQ S MCQ Viva Voce	5AC
Hom UG- HP.1 .13.3	Classroom to Lab transfer Practice based learning and		Knows		3. Explain the cleansing of glass bottles.		Level 2 Understanding	Must know	Seminars 5. Flipped Classroom			

Hom	improveme	Knows	4. Explain		Level 2	Must			
UG- HP.1	nt	Kilows	the cleansing of corks.		Understand ing	know			
Hom UG- HP.1 .13.5		Knows	5. Explain the cleansing of wooden instruments		Level 2 Understand ing	Must know			
Hom UG- HP.1 .13.6		Does	6. Demonstrat e the cleansing of mortar & pestle.	Psycho motor	Level 3 Automatism	Must know	 Practical Demonstrations Procedural Skills Teaching Experiential Learning 	1.DOPS 2.OSPE 3.Spotting	Practical Examina ion
Hom UG- HP.1 .13.7		Does	7. Demonstrat e the cleansing of spatula		Level 3 Automatism	Must know			
Hom UG- HP-		Does	8. Demonstrat e the cleansing of		Level 3 Automatism	Must know			

1.13. 8		glass bottles.						
Hom UG- HP- 1.13. 9 Hom UG-	Does	9. Demonstrat e the cleansing of corks. 10. Demonstrat		Level 3 Automatism Level 3	Must know Must know			
HP- 1.13. 10	Does	e the cleansing of wooden instruments		Automatism				
Hom UG- HP- 1.13.	Shows how	11. Demonstrat e care while cleaning the instruments .	Affectiv e	Level 1 Receiving	Nice to know	 Lecture Demonstrati on Practical Demonstrati on 	1.DOPS 2.OSPE	tical ninat

TOPIC: Lab Methods

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select and apply a particular lab method for preparation of homoeopathic medicines and for standardization of homoeopathic medicines.

Sr.	Generic	Subject	Miller'	Specific	Specific	Bloom'	Guilbe	Must to	Teaching -	Assessme	
no	Competencies	Area	S	Competenci	Learning	S	rt's	rt's Levels know/	Learning	/Evaluation	
			Level Does/ Shows	es	Objectives	Domain	Leveis	desirable	Method	Formati ve	Sun mat e
			how/ Knows how/ Know					know/Ni ce to know			
Hom .UG- HP-	Problem solution	Lab Methods	Knows	Must be able to select and	1. Define decantation, sedimentatio	Cognitiv e	Level 1 Recall	Must know	1.Lecture Demonstrati ons	1.Struct ured Oral	SAC MC
1.14.	Integration of Knowledge			apply a particular lab method for	n, filteration, distillation, sublimation, precipitation.		Recall		2. Small Group Discussions/	Examina tion 2.	Viva Voc
	Synthesis and application of knowledge			preparation of homoeopat hic medicines	precipitation				Peer teaching (Think-Pair- Share, Jigsaw	Tutorials 3. Assignm ents	
	Classroom to lab transfer			and for standardiza tion of homoeopat					Strategy) 3. Quiz 4. Student Seminars	4. MCQ's 5. 2 marks question	

	Practice based		hic					5. Guest	6.SAQ's
	learning and		medicines					Lecture	and
	improvement							6. Problem	LAQ's
								based	7.Projec
								learning	ts
								7. Flipped	
								Classroom	
								8. Videos	
om		Knows	_	2. Explain the	-	Level	Must		
G-				process of		2	know		
P-				decantation,s					
.14.				edimentation		Under			
				, filteration,		standi			
				distillation,		ng			
				sublimation,p					
				recipitation					
om		Knows		3.Explain the	-	Level	Must		
JG-				homoeopathi		2	know		
IP-				c uses of		Under			
.14.				decantatio,		standi			
				sedimentatio		ng			
				n,filteration,d		Ü			
				istillation,sub					
				limation,prec					
				ipitation					

Hom .UG- HP- 1.14.	knows how	4.Differentiat e between filteration&di stillation	Level 2 Under standi ng	Must know			
Hom .UG- HP- 1.14.	Knows	5. Differentiate between decantation &filteration in detail.	Level 2 Under standi ng	Must know			
Hom .UG- HP- 1.14. 6	Does	6. Select a specific lab method according to the different processes carried out in a homoeopathi c pharmacy laboratory.	Level 3 Proble m solvin g	Desirabl e to know			
Hom .UG- HP- 1.14. 7	Does	7. Psyconomics Psy		Desirabl e to know	 Practical Demonstrati ons Procedural 	1.DOPS 2.OSPE 3.Projec ts	Pra cal Exa na

		imation,preci pitation		Skills Teaching 3.Experienti al Learning	
Hom .UG- HP- 1.14. 8	Shows	8.Demonstra te care & e commitment while carrying out the different lab methods involved in preparation of homoeopathi c medicine	tiv Level Nice to 1 know Receiv ing	1. Lecture DOPS Demonstrati on 2. Practical Demonstrati on	Prac cal Exan natio

TOPIC: Standardization of homoeopathic drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select an appropriate method for standardization of homoeopathic medicines.

Sr. No	Generic	Subject	Miller's	Specific	Specific	Bloom'	Guilbert's	Must to	Teaching -	Assessmer	nt
	Competencies	Area	Level	Compete	Learning	sDomai	Levels	know/	Learning	/Evaluatio	า
			Does/	ncies	Objectives	n		,	Method	Formati	Sum
			Shows					desirable		ve	mativ
			how/								е

			Knows how/ Know					to know/Nic e to know			
Hom. UG- HP- 1.15. 1	Integration of Knowledge Synthesis and application of knowledge Classroom to Lab	Standardiz ation of homoeopa thic drugs	Knows	Must be able to select an appropri ate method for standardi zation of homoeop athic	1. Enumerate the different methods of standardizat ion of homoeopat hic drugs	Cogniti ve	Level 1 Recall	Must know	1.Lecture Demonstr ations 2. Small Group Discussion s/ Peer teaching (Think-	1.Struct ured Oral Examina tion 2. Tutorials 3. Assignm ents	LAQ SAQ MCQ Viva Voce
Hom. UG- HP- 1.15. 2	transfer Practice based learning and improvement		Knows	s medicine	2. Explain the individual method of standardizat ion of homoeopat hic drugs	Cogniti ve	Level 2 Understa nding	Must know	Pair- Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars	4. MCQ's 5. 2 marks question 6.SAQ's 7.Projec	
Hom. UG- HP- 1.15. 3			Does		3. Estimate the standard of homoeopat hic drugs before and		Level 2 Control	Desirable to know	- 5. Flipped Classroom 6. Videos	ts	

		after manufacturi ng of homoeopat hic medicines.	Psycho motor					
Hom. UG- HP- 1.15. 4	Does	4. Demonstrat e the microscopic study of triturations.	Psycho motor	Level 2 Control	Desirable to know	1. Practical Demonstr ations 2. Procedura I Skills Teaching	1.Spotti ng 2. Assessm ent of research project output	Viva Voce 8. Practi cal Exami natio ns
Hom. UG- HP- 1.15. 5	Does	5. Identify the drug specimen applying the different methods of standardizat ion of drugs	Cogniti ve	Level 3 Problem solving	Desirable to know	3.Experien tial Learning 4. Research Projects		
Hom. UG- HP- 1.15.	Does	6. Analyze the purity of mother tincture with the	Psycho motor	Level 2 Control	Nice to know			

Hom. UG- HP- 1.15.	Does	help of HPTLC. 7. Analyze and identify the purity of mother substances and dilutions with the help of U.V. Spectroscop y.	Psycho motor		Nice know	to			
Hom. UG- HP- 1.15. 8	Shows	8.Abide by the rules of standardizat ion of homoeopat hic drugs laid down by HPL & value the importance of genuine medicine in homoeopat hic practice.		Level 3 Internalizing	Nice know	to	 Lecture Demonstr ation Monograp hs 	Herbariu m Assignm ents	Viva Voce

TOPIC: Quality Control in Homoeopathy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to conduct the quality control as per the appropriate method

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/	Specific Competen cies	Specific Learning Objectives	Bloom's Domain	Guilbert 's Levels	Must to know/ desirable to know/Ni	Teachin g- Learning Method	Assessme /Evaluati Formati ve		
Hom II	Integration of	Quality	Know	Must	1 Enumorata	Cognitiv	Lovel 1	ce to know	1 Loctur	1 Ctruct	LAC	
Hom.U G-HP- 1.16.1	Integration of Knowledge Synthesis and application of knowledge	Quality control	Knows	Must be able to conduct the quality control as per the appropria te method	1. Enumerate the different methods of quality control.	Cognitiv e	Level 1 Recall	Must Know	1.Lectur e Demons trations 2. Small Group Discussi ons/ Peer teaching	1.Struct ured Oral Examin ation 2. Tutorial s 3. Assign	LAC SAC MC Viva Voc	Q Q a
Hom.U G-HP- 1.16.2	Classroom to Lab transfer		Knows		2. Explain the individual method of quality control in		Level 2 Underst anding	Must Know	(Think- Pair- Share, Jigsaw	ments 4. MCQ's		

	Dunation least		hath			Chunkari	5. 2
	Practice based		homoeopath			Strategy	
	learning and		У)	marks
	improvement					3. Quiz	questio n
Hom.U		Knows	3.Explain the	Level 2	Must	4.	C CAO's
G-HP-			functions of		Know	Student	6.SAQ's
1.16.3			HPL in	Underst		Seminar	7.Proje
			quality	anding		S	cts
			control of			_	
			Homoeopath			5.	
			ic medicines			Flipped	
						Classroo	
						m	
Hom.U		Does	4. Determine	Level 3	Nice to	6.	
G-HP-			the quality of	Problem	Know	Videos	
1.16.4			homoeopath	solving			
			ic medicine	Solving			
			based on the				
			parameters				
			of quality				
			control				
Hom.U	-	Does	5. Take part	Level 3	Nice to		
G-HP-			in the		Know		
1.16.5			process of	Problem			
			quality	solving			
			control at				
			different				
			stages of				
			preparation				
			of				
			UI				

		homoeopath ic medicines.						
Hom.U G-HP- 1.16.6	D oes, shows how	6. Demonstrate the microscopic study of triturations.	Psycho motor	Level 2 Control	Nice to Know	1. Practical Demons trations 2. Procedu ral Skills Teachin g 3.Experi	1.Spotti ng 2.Asses sment of the outcom e of researc h project s	Viva Voce & Praction a Exami nation s
Hom.U G-HP- 1.16.7		7. Analyze the purity of mother tinctures with the help of HPTLC.		Level 2 Control	Nice to know	ential Learning 4. Researc h Projects		
Hom.U G-HP- 1.16.8	Does	8. Analyze and identify the purity of mother substances and dilutions with the help of U.V.			Nice to know			

		Spectroscop y.						
Hom.U G-HP- 1.16.9	Does	9.Abide by the rules of quality control laid down by HPL & value the importance of genuine medicine in homoeopath ic practice.	Affectiv e	Level 3 Internali zing	Nice to	Demons tration 2. Practical Demons tration	SAQ/LA Q Project s Assign ments	Practical Examination

TOPIC: Ideal Laboratory

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –

1. State the pre requisites of an Ideal Laboratory

Sr.	Subject	Miller's		Bloom's	Guilbert's	Must to	Assessme	nt
No	Area	Level Does/		Domain	Levels		/Evaluatio	n

	Generic		Shows how/	Specific	Specific			know/	Teaching -	Form	Summ
	Competenci es		Knows how/ Know	Competenci es	Learning Objectives			desirable	Learning Method	ative	ative
								to know/Nice to know			
Hom .UG- HP- 1.17. 1	Integration of Knowledge Synthesis	Ideal Laborat ory	Knows	Must be able to state the pre requisites of an ideal laboratory	List the pre requisites for an ideal Laboratory	Cognitive	Level 2 Understan ding	Must Know	1.Lecture Demonstrati ons 2. Small Group	1.Stru cture d Oral Exami natio n	LAQ SAQ MCQ Viva Voce
Hom .UG- HP- 1.17. 2	and Application of knowledge		Knows	is a control y	Formulate the Laboratory Safety Rules		Level 3 Problem solving	Nice to know	Peer teaching (Think-Pair-Share,	2. Tutori als 3.	
Hom .UG- HP- 1.17. 3	Problem formulation Classroom		Knows		Describe the role of Laboratory in Homoeopath ic Pharmacy education		Level 2 Understan ding	Desirable to know	Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest	Assign ments 4. MCQ's 5. 2	
	to lab transfer								Lecture	marks questi on	

				6. Problem	6.SAQ	
				based	's and	
				learning	LAQ's	

TOPIC: Industrial Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to – Correlate the provisions under Schedule M-I

			•								
Sr. No	Generic	Subject	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessn	nent
	Competenc	Area	Level Does/	Competenc	Learning	Domain	Levels	knowl	Learning	/Evalua	tion
	ies		Shows	ies	Objectives			know/	Method		
			how/	1.00				desirable		Forma	Sun
			Knows					desirable		tive	ma
								to			ve
			how/ Know					know/Nice			
								to			
								know			

		-										-	<u> </u>
Hom.		Industri	Knows	Must	be	Explain	in	Cognitive	Level 2	Must Know	1.Lecture	1.Stru	LAC
UG-	of	al		able	to	details	the		Understan		Demonstra	ctured	SAC
HP-	Knowledge	Pharmac		correlat	e	provisio	ns		ding		tions	Oral	MC
1.18.		У		provisio	ns	under			ung		2. Small	Exami	Viv
1				related	to	Schedule	e M-				Group	nation	Voc
	Synthesis			Schedul	e	I					Discussions	2.	
	and			M1	ļ						/	Z. Tutori	
	Application				ļ						'	als	
	of										Peer		
	knowledge										teaching	3.	
					ļ						(Think-Pair-	Assign	
					ļ						Share,	ments	
					ļ						Jigsaw	4.	
	Problem				ļ						Strategy)	MCQ's	
	formulatio				ļ						3. Field		
	Torritulatio				ļ						Visit	5. 2	
	Classroom				ļ						VISIL	marks	
	to lab				ļ							questi	
	transfer				ļ							on	
					ļ							6.SAQ'	
					ļ								
					ļ							s and	
					ļ							LAQ's	

TOPIC: Homoeopathic Vehicles- Solid Vehicles

Topic:Homoeopathic Vehicles- Solid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular solid vehicle for preparation or dispensing of homoeopathic medicines.

Sr.	Generic	Subject	Miller's Level	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assess	
No	Competenci	Area	Does/ Shows	Competencie	Learning	Domain	Levels	know/	Learning	ment	
	es		how/ Knows	S	Objectives	Domain		KIIOW/	Method	/Evalua	
			how/ Know					desirab		tion	
								le		Formati	Summ
								to		ve	ative
								know/		VC	ative
								Nice to			
								Trice to			
								know			
Hom	Integration	Vehicles	Knows	Selecting a	1.Define	Cognitive	Level 1	Must	1.Lecture	1.Struct	LAQ
.UG-	of			particular	Vehicle			Know	Demonstrat	ured	SAQ
HP-	Knowledge			solid vehicle			Recall		ions	Oral	MCQ
1.19.				for					2. Small	Examin	Viva
1				preparation					Group	ation	Voce
	Synthesis			or dispensing					Discussions	2.	
	and			of homosonath					/	Tutorial	
	Application of			homoeopath ic medicines.					Peer	S	
	knowledge			ic medicines.	3 61				teaching	3.	
Hom	Kilowieuge		Knows		2.Classify		Level 2	Must	(Think-Pair-	Assign	
.UG-					vehicles in	ו	Understan	Know	Share,	ments	
HP-					detail		ding		Jigsaw		
1.19.									Strategy)	4.	
2										MCQ's	

	5 11	Ι.,		2 11 1 11 11		14		20:		
Hom .UG- HP- 1.19. 3	Problem formulation Classroom to lab transfer		nows	3. List all the solid vehicles used in homoeopath y.		Level 1 Recall	Must Know	3. Quiz4. StudentSeminars5. GuestLecture6. Problem	5. 2 marks questio n 6.SAQ's and LAQ's	
Hom .UG- HP- 1.19. 4		Kı	nows	4. Explain the preparation, properties and uses of all solid vehicles		Level 2 Understan ding	Must Know	based learning		
Hom .UG- HP- 1.19. 5		D	oes	5. Select the appropriate solid vehicle for dispensing of homoeopath ic medicines, potentisation etc.		Level 3 Problem Solving	Must Know			
Hom .UG- HP- 1.19. 6		D	oes	6. Identify the given solid vehicle.	Cognitive	Level 3 Problem solving	Must Know	1.Practical Demonstrat ion 2.Procedura I Skills Teaching	1.DOPS 2. OSPE	Practi cal Exami natior

Hom .UG- HP- 1.19.	Show How	7. Estimate the purity of the given solid vehicle.	_	Level 2 Control	Must know	3. ProblemBasedLearning4.Experientiallearning		
Hom .UG- HP- 1.19. 8	Shows how	8.Demonstra te care and commitment in preparing & dispensing of homoeopath ic medicine with accuracy	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstrat ion 2.Procedura I Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Practical Demonstrat ion	1.DOPS	Practi cal Exami nation

TOPIC: Homoeopathic Vehicles- Liquid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular liquid vehicle for preparation or dispensing of homoeopathic medicines.

Sr. No	Generic	Subject	Miller's	Specific	Specific	Bloom'	Guilbert's	Must to	Teaching -	Assessme	ent	
	Competenci es	Area	Level	Competen cies	Learning Objective	S	Levels	know/	Learning Method	/Evaluati	on	
	C 3		Does/ Shows	Cics	Objective	Domai n		desirable	Wicthod	Formati ve	Sum tive	ıma
			how/					to				
			Knows					know/Nic				
			how/					e to				
			Know					know				
Hom.U	Integration	Vehicles	Knows	Selecting a	1.Define	Cogniti	Level 1	Must	1.Lecture	1.Struct	LAQ	
G-HP-	of			particular	Vehicle	ve	Recall	Know	Demonstrat	ured	SAQ	
1.20.1	Knowledge			liquid			incean		ions	Oral	MC	
				vehicle for					2. Small	Examin	Viva	
				preparatio					Group	ation	Voc	e
Hom.U	Synthesis		Knows	n or	2.Classify		Level 2	Must	Discussions/	2.		
G-HP- 1.20.2	and Application of knowledge			dispensing of homoeop athic	vehicles in detail		Understan ding	Know	Peer teaching (Think-Pair-	Tutorial s		
Hom.U	Kilowieuge		Knows	medicines	3. List all		Level 1	Must	Share,	Assign		
G-HP-					the liquid		Recall	Know	Jigsaw	ments		
1.20.3					vehicles				Strategy)			
	Problem				used in				3. Quiz	4. MCQ's		
	formulation				homoeop athy.				J. Quiz	IVICQ 3		
	TOTTIGIATION				aury.							

11000 11		V	4 5		1 1 2	N 4	4 C+d 1		1
Hom.U G-HP- 1.20.4	Classroom to lab	Knows	4. Explain the preparatio		Level 2 Understan ding	Must Know	4. StudentSeminars5. Guest	marks questio	
	transfer		n, properties and uses of all liquid vehicles.		5		Lecture 6. Problem based learning	n 6.SAQ's and LAQ's	
Hom.U		Does	5. Select		Level 3	Must	_		
G-HP- 1.20.5		Does	the appropriat e liquid vehicle for dispensing of homoeop athic medicines , potentisat ion etc.		Problem solving	Know			
Hom.U G-HP- 1.20.6		Does	6. Identify the given liquid vehicle.	Cogniti ve	Level 2 Understan ding	Must Know	1.Practical Demonstrat ion 2.Procedura I Skills Teaching	1.DOPS 2. OSPE	Practic al Examin ation

Hom.U G-HP- 1.20.7	Shows	7. Psycon Estimate motor the purity of the given liquid vehicle.	r Control	Must Know	3. ProblemBasedLearning4.Experiential learning		
Hom.U G-HP- 1.20.8	Shows	8.Demons trate care ve and commitm ent in preparing & dispensing of homoeop athic medicine with accuracy	ti Level 1 Receiving	Nice to Know	1.Lecture Demonstrat ion 2.Procedura I Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Practical Demonstrat ion	1.DOPS	Practic al Examin ation

TOPIC: Homoeopathic Vehicles- Semi-solid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular semi solid vehicle for preparation or dispensing of homoeopathic medicines.

Sr.	Generi	Subje	Miller	Specific	Specific	Learning	Bloom's	Guilbert's	Must to	Teaching -	Assessment /E	valua	tion
No	c Comp etenci es	ct Area	's Level Does/ Show s how/ Know s how/ Know	Competen	Objectives	S	Domain	Levels	know/ desirable to know/Ni ce to know	Learning Method	Formative	Sum ve	mati
Hom .UG- HP- 1.21. 1 Hom .UG- HP- 1.21. 2	Integr ation of Knowl edge Synthe sis and Applic ation of	Semis olid Vehicl es	Know s Know s how	Selecting a particular semi-solid vehicle for preparatio n or dispensing of homoeop athic medicines.	1.Define \(\) 2.Classify		Cognitive	Level 1 Recall Level 2 Understand ing	Must know Must Know	1.Lecture Demonstrati ons 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	LAQ MCC Viva Voc	-

Hom	knowl	Know	3. List all the semi-		Level 1	Must	4. Student	6.SAQ's ar	ind
.UG- HP- 1.21. 3	edge	S	solid vehicles used in homoeopathy		Recall	Know	Seminars 5. Guest Lecture 6. Problem	LAQ's	
Hom .UG- HP- 1.21. 4	Proble m formul ation	Knows	4. Explain the preparation, properties and uses of all semi-solid vehicles		Level 2 Understand ing	Must Know	based learning		
	Classr oom to lab								
Hom .UG- HP- 1.21. 5	transf er	Does	5. Select the appropriate semisolid vehicle for dispensing of homoeopathic medicines, preparation of external applications etc.		Level 3 Problem solving	Must Know			
Hom .UG- HP- 1.21. 6		Does	6. Identify the given semi-solid vehicle.	Cognitive	Level 3 Problem solving	Must know	1.Practical Demonstrati on 2.Procedural Skills Teaching	1.DOPS 2. OSPE	Practical Examina ion

Hom	Show	7. Estimate	the	Psychom	Level 2	Must	3. Problem		\top
.UG-	s how	purity of the		otor		know	Based		
HP-	311011	semisolid vehi		0.01	Control	Kilow	Learning		
1.21.		Semisona vem	cic.				Learning		
7							4.		
/							Experiential		
							learning		
Hom	Show	8.Demonstrate	e	Affective	Level 1	Nice t	o 1.Lecture	1.DOPS	Practio
.UG-	s how	care	and		Dosoiving	know	Demonstrati		Exami
HP-		commitment	in		Receiving		on		ion
1.21.		preparing	&				2.0		
8		dispensing	of				2.Procedural		
		homoeopathic					Skills		
		medicine	with				Teaching		
		accuracy					3. Problem		
		-					Based		
							Learning		
							4.		
							Experiential		
							learning		
							5. Practical		
							Demonstrati		
							on		

TOPIC: External Applications

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prescribe an external application as per the scope and limitations of external applications.

Sr. No	Generic Competenc	Subject Area	Miller's Level Does/	Specific Compet	Specific Learnin	Bloom'sD omain	Guilber t's	Must to	Teaching - Learning	Assessment /Evaluation		Integr tion
	ies		Shows how/ Knows how/ Know	encies	g Objecti ves		levels	know/ desirabl e to know/ Nice to know	Method	Formative	Summ ative	
Hom .UG- HP- 1.22. 1	Integration of Knowledge Synthesis and Application of knowledge Problem formulatio n	External Applicatio ns	Knows	Prescri bing an externa I applica tion as per its scope and limitati ons	1.Defin e Externa l Applica tion	Cognitive	Level 1 Recall	Must	1.Lecture Demonstratio ns 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture	1.Structure d Oral Examinatio n 2. Tutorials 3. Assignment s 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	LAQ SAQ MCQ Viva Voce	Horizo tal wir Organ n Medio ne

Hama		1/2011/0	2 1:5+	Laval 1	N 4 a ±	C Dualdan		
Hom		Knows	2. List	Level 1	Must	6. Problem		
.UG-	Classroom		all the	Recall	know	based		
HP-	to lab		externa	ricou		learning		
1.22.	transfer		1			7 Flinnad		
2	transier		applica			7. Flipped		
			tions			Classroom		
			used in					
			homoe					
			opathy					
			ораспу					
<u></u>	_	.,						
Hom		Knows	3.	Level 2	Must			
.UG-			Explain	Underst	know			
HP-			the	anding				
1.22.			prepara	arianig				
3			tion					
			&uses					
			of					
			specific					
			homoe					
			opathic					
			externa					
			I					
			l applies					
			applica .·					
			tions					

		17		1				1	
Hom		Knows	4.		Level 2	Must			
.UG-			Explain		Underst	know			
HP-			the		anding				
1.22.			scope &		anung				
4			limitati						
			ons of						
			externa						
			1						
			applica						
			tions in						
			homoe						
			opathy						
Hom		Does	5.		Level 3	Must			
.UG-			Select		Dualda	know			
HP-			the		Proble				
1.22.			approp		m				
5			riate		solving				
			vehicle						
			for						
			prepara						
			tion of						
			externa						
			applica						
			tion.						

	I		Π_	1		T		1	1	
Hom		Does	6.		Level 3	Desirab				
.UG-			Select		Proble	le to				
HP-			approp			Know				
1.22.			riate		m					
6			externa		solving					
			applica							
			tion as							
			per the							
			case.							
Hom		Does	7.Demo	Psychomo	Level 2	Must	1.Practical	1.DOPS	Practi	
.UG-		Ch h.	nstrate	tor	6	know	Demonstratio	2 0605	cal	
HP.1		Shows how	the		Control		n	2. OSPE	Exami	
.22.7			prepara						nation	
			tion of				2.Procedural			
			specific				Skills			
			externa				Teaching			
			L				3. Problem			
			l annline							
			applica 				Based			
			tions				Learning			
							4. Experiential			
							learning			
Hom		Shows how	8.Demo	Affective	Level 1	Nice to	1.Lecture	1.DOPS	Practi	
.UG-		Does	nstrate		Receivi	know	Demonstratio		cal	
HP-		Dues	care				n		Exami	
1.22.			and		ng				nation	
8			commit				2.Procedural			
			ment in				Skills			
			prepari				Teaching			
			hichaii							

ng &	3. Problem	
dispens	Based	
ing of	Learning	
externa I applica tion with accurac y	4. Experiential learning 5. Practical Demonstratio n	

TOPIC: Metrology

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select appropriate scale of measurement in the homoeopathic pharmaceutical laboratory.

	Generic	Subj	Miller's	Specific		Specific	Bloom's		Must to	Teaching - Learning	Assessment /	[/] Evalua	tion
	Competen cies	ect Are a	Level Does/ Shows how/ Knows how/ Know	Compet cies	cen	Learning Objectives	Domain	rt's levels	know/ desirabl e to know/N ice to know	Method	Formative	Sumn	nativo
.UG- s HP- 1.23. 1 P fi	ntegratio n of Knowledg	Met rolo gy	Knows	Must able select appropries scale measurent in homoeouthic pharma utical laborate.	of em the opa	1. Enumerate the different scales of measureme nt for preparation of homoeopat hic drugs	Cognitiv e	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Problem Based learning 5. Flipped classroom	1.Structure d Oral Examinatio n 2. Tutorials 3. Assignment s 4. MCQ's 5. 2 marks question	LAQ MCQ Voce	SA Viv

						6.SAQ's	
Hom .UG- HP- 1.23. 2	Synthesis and application of knowledge	Knows	2. Explain the different scales of measureme nt for preparation of homoeopat hic drugs	Level 2 Under standi ng	Must Know		
Hom .UG- HP- 1.23.		Does	3. Select appropriate scale of measureme nt for	Level 3	Must Know		

		preparation of homoeopat hic drugs.		Proble m solvin g				
Hom .UG- HP- 1.23. 4	Does	4. Measure the given quantity of the drug substance and vehicle for preparation of homoeopat hic medicines	Psychom	Level 3 Auto matis m	Must know	Practical Demonstrations Experiential Learning	1. DOPS 2. OSPE	Viva Voce Practical Examinations
Hom .UG- HP- 1.23. 5	Shows	5.Show care while measuring the drugs for preparation of homoeopat hic medicines	Affective	Level 2 Respo nd	Must know	 Lecture Demonstration Practical Demonstration 	1.DOPS 2.OSPE	Theory Practical Examination

TOPIC: Potentisation& Scales of Potentisation

Learning Outcomes (LO): At the end of the topic of Potentisation, I-BHMS student must be able to:

1. Prepare Homoeopathic Medicine according to the scale.

Sr.	Generic	Subj	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment		Integ	ratior
No	Compe	ect	Level	Compet	Learning	Domain	level	know/	Learning	/Evaluation			
	tencies	Area	Does/ Shows how/ Knows how/ Know	encies	Objectives			desirab le toknow /Nice to know	Method	Formative	Summati ve		
Hom .UG- HP- 1.24. 1	Proble m solutio n Integra tion of knowle dge Practic e based learnin	Pote ntisa tion	Knows	Prepare Homoe opathic Medici ne accordi ng to the scale.	1. Explain the different scales of potentisati on	Cogniti	Level 2 Understa nding	Must	1.Lecture Demonstration s 2.Practical Demostrations 3. Small Group Discussions/Pe er teaching (Think-Pair- Share, Jigsaw Strategy) 4. Problem based learning	1.Structur ed Oral Examinati on 2. Tutorials 3. Assignmen ts 4. SAQ's and LAQ's 5. MCQ's	LAQ SAQ MCQ Viva Voce	Orgar Medi Horiz	cine-

			0.5.1.				l = 0. 1 . l	4.6.		
Hom	g and	Knows	2.Explain	Cogniti	Level 2	Must	5. Student	1.Structur		
.UG-	improv		the two	ve	Understa	Know	Seminars	ed Oral		
HP-	ement		methods		nding		6.Study Tour	Examinati		
1.24.			potentisati				(Field Visit)	on		
2			on				,	2.		
	Synthes						7. Integrated	Tutorials		
	is and						Teaching with			
	Applica						Organon of	3.		
	tion of						Medicine	Assignmen		
	knowle							ts		
	dge							4. SAQ's		
								and LAQ's		
	Classro							5. MCQ's		
	om to									
Hom	lab	Does	3. Select the	Cogniti	Level 3	Must	1	DOPS		
.UG-			appropriate	ve		Know				
HP-			vehicles		Problem			Spotting		
1.24.	Practic		used for		solving			OSPE		
3	al skills		potentisati							
			on.					Assessme		
								nt of PBL		
Hom		Shows	4.	Psycho	Level 3	Must	1. Practical	1.DOPS	Practical	
.UG-		How	Demonstrat	motor	ALITONAA	Know	Demonstration	3 OCDE	Examinat	
HP-			e trituration		AUTOMA		2 Dungan di sad	2. OSPE	ion	
1.24.			according		TISM		2.Procedural			
4			to the scale				Skills Teaching			
			of							
			potentisati							
			on.							

Hom		Shows	5.	Psycho	Level 3	Must	1. Practical	1.DOPS		
.UG-		How			LCVEI 3			1.0013		
	'	поw	Demonstrat	motor	AUTOMA	Know	Demonstration	2. OSPE		
HP-			е .		TISM		2.Procedural			
1.24.			succussion				Skills Teaching			
5			according				Simila i cuci iii g			
			to the scale							
			of							
			potentisati							
			on.							
Hom		Shows	6. Prepare	Psycho	Level 3	Must	1. Practical	1.DOPS		
.UG-		How	8X (Liq)	motor		Know	Demonstration			
HP-			potency		AUTOMA			2. OSPE		
1.24.			from 6X		TISM		2.Procedural			
6			(Triturate)				Skills Teaching			
			(Jumping							
			Potency)							
Hom		Knows	7.Demonstr	Affectiv	Level 1	Nice to	Practical	DOPS	Practical	
.UG-		how	ate care	е	DECIE: (181	Know	Demonstration		Examinat	
HP-			and		RECIEVIN				ion	
1.24.		Shoes	commitme		G					
7		how	nt in							
'										
			preparing							
			medicine							
			with							
			accuracy							

TOPIC: Old Methods of Preparation of Homoeopathic Drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prepare the homoeopathic medicines as per the old methods.

Sr. No	Generic	Subject	Miller	Specif	Specific	Bloom's	Guilbert'	Must	Teaching -	Assessment /E	valuati	on
	Competen	Area	's Level Does/ Show s how/ Know s how/ Know	ic Comp etenci es	Learning Objectives	Domain	s Levels	to know/ desira ble to know/ Nice to know	Learning Method	Formative	Sumr	nativ
Hom.U G-HP- 1.25.1	Problem solution Integratio n of Knowledg e Synthesis and applicatio	Old Methods of Preparati on of Homoeo pathic Drugs	Know s	Must be able to prepa re the homo eopat hic medic ines as per the	1. Classify Old Methods of preparation of homoeopathic drugs.	Cognitiv e	Level 2 Understa nding	Must know	1.Lecture Demonstratio ns 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	LAQ MCQ, Voce ative &Sun ve)	Form

Hom.U	n of	Know	old	2.Enlist the		Level 1	Must	4. Student	6.SAO's and	
G-HP- 1.25.2	knowledg e Classroom to lab transfer Practice based learning	S	meth fundamental rule, drug strength, drug: vehicle ratio nature of drug substances & 5 examples or drugs under Class I-IX according to	fundamental rule, drug strength, drug: vehicle ratio nature of drug substances & 5 examples of drugs under Class I-IX according to Old methods.		know	4. Student Seminars5. Guest Lecture6. Problem based learning7. Flipped Classroom	6.SAQ's and LAQ's 7.Projects		
Hom.U G-HP- 1.25.3	and improvem ent	Know		3.Explain the preparation &potentisati on of mother tinctures under class I-IV according to the scale.		Level 2 Understa nding	Must know			
Hom.U G-HP- 1.25.4		Know s		4.Explain the preparation &potentisati on of mother solutions under Class V & VI		Level 2 Understa nding	Must know			

Hom.U G-HP- 1.25.5	Knows	5.Explain the potentisation of mother substances under Class VII, VIII & IX according to the scale.	Level 2 Understa nding	Must			
Hom.U G-HP- 1.25.6	Does		Psycho Level 3 motor Automati	Must know	 Practical Demonstrations Procedural Skills Teaching 	1. DOPS 2. OSPE	Practical Examinati on
Hom.U G- HP.1.25 .7	Does	7. Demonstrate the potentisation of mother tincture	Level 3 Automati	Must Know			

		according to the scale				
		under Class I-				
		IV according				
		to Old				
		Method.				
Hom.U	Does	8.Demonstra	Level 3	Must		
G-HP-		te the	Automati	Know		
1.25.8		preparation	sm			
		of mother	5			
		solution				
		under Class				
		V-VI				
		according to				
		Old Methods.				
Hom.U	Does	9.	Level 3	Must		
G-HP-		Demonstrate	Automati	Know		
1.25.9		the	sm			
		potentisation	3111			
		of mother				
		solution				
		according to				
		the scale				
		under Class				
		V-VI				
		according to				
		Old Method				

Hom.U G-HP- 1.25.10	Does	10. Demonstrate the potentisation of mother substances according to the scale under Class VII, VIII & IX according to Old Method.		Level 3 Automati sm	Must Know				
Hom.U G-HP- 1.25.11	Show s how	11.Demonstr ate care & commitment in preparing and dispensing medicine with accuracy according to the scale and Class under Old Methods.	Affective	Level 1 Receiving	Nice to know	1. Practical Demonstration	DOPS	Practi Exam on	

TOPIC: New Methods of Preparation of Homoeopathic Drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prepare the homoeopathic medicines as per the new methods.

Sr. No	Generic	Subject	Miller	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment /Eva	aluation
	Compet encies	Area	's Level Does/ Show s how/ Know s how/ Know	Compete ncies	Learning Objectives	Domain	Levels	know/ desirabl e to know/ Nice to know	Learning Method	Formative	Summati ve
HomU G-HP- 1.26.1	Proble m solutio n Integra tion of Knowle dge	New Method s of Preparat ion of Homoeo pathic Drugs	Know s	Must be able to prepare the homoeop athic medicine s as per the new methods	1. Define Maceration & Percolation .	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	LAQ SAC MCQ Viva Voce
HomU G-HP- 1.26.2	Synthes is and applica		Know		2. Explain the process of maceration		Level 2 Understan ding	Must know	4. StudentSeminars5. Guest Lecture	6.SAQ's and LAQ's 7.Projects	
HomU G-HP- 1.26.3	tion of knowle dge		Know s		3.Explain the process of percolation		Level 2 Understan ding	Must know	6. Problem based learning		

HomU		Know	4.Differenti		Level 2	Must	7. Flipped		
G-HP- 1.26.4	Classro om to lab transfe r	s how	ate between old & new methods of preparatio n of homoeopa thic drugs		Understan ding	know	Classroom 8. Videos		
HomU G-HP- 1.26.5	Practic e based learnin g and improv ement	Know s how	5.Differenti ate between maceration & percolation in detail.		Level 2 Understan ding	Must know			
HomU G-HP- 1.26.6		Know s	6. Define the terms-merc, magma, menstrum		Recall	Must know			
HomU G-HP- 1.26.7		Does	7. Demonstra te the preparatio n of mother tincture by maceration	Psychom otor	Level 2 Control	Must know	 Practical Demonstrations Procedural Skills Teaching Experiential Learning 	1.DOPS 2.OSPE 3.Projects	Practical Examination

			1	1	T	Т	T	
HomU G-HP- 1.26.8 HomU G-HP- 1.26.9	Does	8.Demonst rate the preparation of mother solution by percolation 9. Demonstrate the		Level 2 Control Level 2 Control	Must know Desirab le to know			
HomU G-HP- 1.26.1	Shows how	towing of a percolator 10.Demons trate care &commitm	Affective	Level 1 Receiving	Nice to know	Lecture Demonstration Practical	DOPS	tical nina
0		ent in preparing of homoeopa thic medicine with accuracy according				Demonstration		

_							
			to the New				
			methods of				
			preparatio				
			n of				
			homoeopa				
			thic drugs.				ļ

TOPIC: Pharmaconomy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select appropriate route of administration of homoeopathic medicines.

Sr. No	Generic	Subject	Mille	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment /Eva	aluatio	J
	Compet encies	Area	r's Level Does / Show s how/ Know s how/ Know	Compete	Learning Objectives	Domain	Levels	know/ desirabl e to know/ Nice to know	Learning Method	Formative	Sumn	nativ

Hom	Integrat	Pharmac	Know	Must be	1. Enumerate	Cognitiv	Level 1	Must	1.Lecture	1.Structured	LAQ	SAC
UG- HP- 1.27. 1	ion of Knowle dge Synthes is and	onomy	S	able to select appropria te route of administr ation of	the different routes of administratio n of homoeopathi c medicines.	e	Recall	know	Demonstration s 2. Small Group Discussions/ Peer teaching (Think-Pair-	Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	MCQ Voce	
Hom UG- HP- 1.27. 2	applicat ion of knowle dge Classro om to		Knows	homoeop athic medicines	2. Explain the different routes of administratio n of homoeopathi c medicines.		Level 2 Understand ing	Must know	Share, Jigsaw Strategy) 3. Quiz 4. Flipped Classroom 6. Videos	question 6.SAQ's		
Hom UG- HP- 1.27. 3	Clinic transfer		Does		3. Select appropriate route of administratio n of homoeopathi c medicines according to the case		Level 3 Problem solving	Desirab le to know				
Hom UG- HP-					4. Administer the homoeopathi	Psychom otor	Level 2 Control	Nice to know	1. Practical Demonstration s		Viva \	/oce

1.27.	Show	c medicine			2.Experiential	2. Simulation		
4	s how	through			Learning	based		
		appropriate route of administratio n according to the case			3. Projects4. Case based Learning5. Simulation teaching	assessment		
Hom	Know	5.Show care Affective	ve Level 2	Desirab	1. Lecture	Case based	LAQ	SAC
UG- HP- 1.27. 5	s how	while administerin g homoeopathi c medicine via different routes	Respond	le to know	Demonstration 2. Practical Demonstration 3. Case based Learning 4. Simulation teaching	2. Simulation based	MCQ Voce	

TOPIC: Dispensing of Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be to

- 1. Select an appropriate dosage form for dispensing of homoeopathic medicines.
- 2. Dispense homoeopathic medicine to patients.

Sr.	Generic	Subje	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment /	'Evalu	ation
No	Compete	ct Area	Level Does/ Shows how/ Knows how/ Know	Competen	Learning Objectives	Domain	Levels	know/ desirabl e to know/ Nice to know	Learning Method	Formative	Sum e	mati
Hom UG- HP- 1.28. 1	Problem solution Integratio n of Knowledg e	Dispe nsing of homo eopat hic medic ines	Knows	Select an appropriat e dosage form for dispensing of homoeopa thic medicines.	1. Enumerate the different dosage forms.	Cognitiv e	Level 1 Recall	Must know	1.Lecture Demonstration s 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy)	Assignment	LAQ MCC Voce	Q Viv
Hom UG- HP- 1.28. 2	and Applicatio n of Knowledg e Classroo m to		Knows	Dispense homoeopa thic medicine to patients	2. Explain the various modes for dispensing of solid dosage forms		Level 2 Understand ing	Must know	3. Quiz4. StudentSeminars5. Problembased learning6. GuestLecture	5. 2 marks question 6.SAQ's and LAQ's		

Hom	OPD/IPD/	Knows	3. Explain the		Level 2	Must			
UG- HP- 1.28. 3	Pharmacy transfer		various modes for dispensing of liquid dosage forms		Understand ing	know			
Hom UG- HP- 1.28.		Knows	4. Enlist the vehicles used for dispensing of various dosage forms	•	Level 1 Recall	Must know			
Hom UG- HP- 1.28. 5		Knows	5. Explain the quality assurance while dispensing homoeopathic medicines.		Level 2 Understand ing	Nice to know			
Hom UG- HP- 1.28. 6		Shows how Does		Psychom otor	Level 2 Control	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning	1.DOPS 2. OSPE	Practical Examina on
Hom UG- HP-		Shows how Does	7. Demonstrate the dispensing		Level 2 Control	Must know	4. Experiential learning		

1.28. 7		of solid dosage forms						
Hom UG- HP- 1.28. 8	Does	8. Demonstrate care and commitment while dispensing of homoeopathic medicines.	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 3. Problem Based Learning	1.DOPS	ctical minat

TOPIC: Placebo

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to indicate placebo in a particular case

Sr.	Generic	Subjec	Mille	Specific	Specific	Bloom	Guilbert's	Must to	Teaching -	Assessment /Eva	aluation
No	Compet	t Area	r's Level Does / Show s how/ Kno ws how/ Kno	Competen	Learning Objective s	's Domai n	levels	know/ desirable to know/Nice to know	Learning Method	Formative	Summative

		,		Г	1		1		Г		_	T		
HP- 1.29. 1 Integrati on of Knowle dge Hom UG- HP- 1.29. 2 Small Group Discussions/ Recall		Problem	Placeb				1. Define	_	Level 1			1.Structured		SAC
1.29. 1.29.		solution	0	WS			Placebo	ive	Recall	Know	Demonstrations			Viva
1.9. Integrati on of Knowle dge Hom Synthesi s and HP-1.29. On of knowled ge Hom UG-HP-1.29. Classroo m to clinic transfer Hom UG-HP-1.29. Does Discussions/ 2. Tutorials a particular case Discussions/ 2. Tutorials 3. Assignments (Think-Pair-Share, Jigsaw Strategy) 5. 2 marks question Level 1 Must Know Becall Know Strategy) 7. Projects Level 1 Must Know Becall Know Becall Bearning Must Know Becall Strategy S											2. Small Group	Examination	Voce	
Thom Synthesi uge s and HP- applicati 1.29. On of Classroo HP- HP- 1.29. Clinic 3 and UG- HP- 1.29. Does Thom UG- HP- 1.29. Thom UG- HP- I.29. The III III III III III III III III III I					-						1	2. Tutorials		
Knowle dge Knowle dge Knowle dge Knowle dge Knowled ge Knowle	1	_				ular								
Hom Synthesi UG- Kno Ws Enumera te the vehicles used as placebo Hom UG- HP- 1.29. The distribution of transfer Hom UG- HP- 1.29. Does Does A. MCQ's Share, Jigsaw Strategy) 3. Case based learning Level 1 Must Know Recall Level 1 Must Know Recall Level 2 Must Know Understan ding Level 2 Must Know Must Know Now Understan ding Problem solving Problem solving					case							3. Assignments		
Hom UG-HP- 1.29. Hom UG-HP- 1.29. Does Classroo m to clinic transfer Hom UG-HP- 1.29. Hom UG-HP- 1.											'	4. MCQ's		
Hom UG- HP- 1.29. Classroo m to 1.29. 3 Hom UG- HP- 1.29. 1 Hom UG- HP- 1.29. 2 Does											Strategy)	5. 2 marks		
Hom Synthesi UG- HP- 1.29. On of UG- HP- 1.29. Synthesi S and HP- 1.29. On of Classroo HP- 1.29. On of UG- HP- HP- HP- HP- HP- HP- HP- HP- HP- HP											2 Casa basad	question		
HP- 1.29. On of knowled ge Hom UG- HP- 1.29. Classroo m to clinic transfer Hom UG- HP- 1.29. Does Does Does Enumera te the vehicles used as placebo Level 2 Must Know Understan ding Understan ding Level 3 Must Know Understan ding Level 3 Must Know Must Know Does Problem solving	Hom	Synthesi		Kno			2.		Level 1	Must		6 5 4 0 %		
HP- applicati 1.29. on of knowled ge Hom UG- HP- 1.29. Classroo m to clinic transfer Hom UG- HP- 1.29. Does Does The the vehicles used as placebo Level 2 Must Know Understan ding Level 3 Must Know Hom UG- HP- 1.29. Does A.Select a placebo for a particular Problem solving	UG-	s and		ws			Enumera		Docall	Know	learning			
Level 2 Must	HP-	applicati					te the		Recail			7.110,100		
Hom UG- HP- 1.29. Hom UG- HP- 1.29. Thom UG- HP- 1.29. Hom UG- HP- 1.29. Does Placebo Level 2 Must Know Understan ding Level 3 Must Know Problem solving Problem solving	1.29.						vehicles							
Hom UG- HP- 1.29. 3	2	knowled												
UG- HP- 1.29. 3		ge					placebo							
HP- 1.29. 3	Hom			Kno	-		3. Explain		Level 2	Must	-			
HP- 1.29. 3	UG-	Classuss		ws			the			Know				
1.29. Solving Clinic transfer	HP-						indicatio							
Transfer Hom UG- HP- 1.29. Does	1.29.						ns of		aing					
Hom UG- HP- 1.29. Does 4.Select a placebo for a particular Problem solving Problem	3						placebo							
UG- HP- 1.29. placebo for a particular Problem solving Know	Hom	Gansiei		Door	-		4 Soloct a		Lovol 2	Muct	-			
HP- 1.29. Problem solving				משטם					revel 2					
1.29. particular solving							· -		Problem	KIIOW				
									solving					
T Case							·							
	7						Case							

TOPIC: Preservation of Homoeopathic Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to preserve homoeopathic medicines for long shell life.

Sr.	Generic	Subject	Miller'	Specific	Specific Learning	Bloom's	Guilbert'	Must to	Teaching -	Assessment /Ev	valuation	
No	tencies	Area	s Level Does/ Shows how/ Know s how/ Know	Compete ncies	Objectives	Domain	s Levels	know/ desirable to know/Nice to know	Learning Method	Formative	Summat	ive
Hom UG- HP- 1.30. 1 Hom UG- HP- 1.30. 2	Integra tion of Knowle dge Synthes is and applica tion of knowle dge	Preserv ation of Homoe opathic medicin e	Know s Know s	Must be able to preserve homoeo pathic medicine s for long shell life	1. Enumerate the different methods of preservation of homoeopathic medicines 2. Explain the individual method of preservation of homoeopathic medicine.	_	Level 1 Recall Level 2 Understanding	Must Know Must Know	1.Lecture Demonstrati ons 2. Small Group Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's		SAQ Viva

	1	-				1		1	T	T	ı	
Hom			Does	3. Select	an		Level 3	Must		7.Projects		
UG- HP- 1.30. 3	Classro om to Clinic transfe r			appropriate mode preservation homoeopathi medicines.			Problem solving	Know				
	Practic e based learnin g and improv ement			·			_					
Hom UG- HP- 1.30. 4			Does	4. Demonstrate method preservation mother substances preparations	of of &	Psychom otor	Level 2 Control	Desirable to Know	 Practical Demonstrations Procedural Skills Teaching 	Viva Voce Practical Examination	Practica Examina n	
Hom UG- HP- 1.30. 5			Does	5. Demonstrathe method preservation potentised homoeopathi medicines	of of			Desirable to Know	3.Experiential Learning 4. Projects			

Hom UG- HP- 1.30.	Does	6. Demonstrate the method of preservation of homoeopathic mother tinctures			Desirable to Know			
Hom UG- HP- 1.30. 7	Shows	7.Show care & A commitment while preserving homoeopathic preparations and potentised medicine.	Affective	Level 2 Respond	Nice to know	Lecture Demonstrati on Practical Demonstrati on	SAQ, 2 marks question Projects Assignments Tutorials Viva Voce Practical Examination	Practical Examinatio n

TOPIC: Pharmacovigilance and adverse drug reaction

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify any adverse drug reaction and comprehend the necessity of pharmacovigilance in homoeopathy

			Bloom's	Must to		[/] Evalu	ation

Sr.	Generic	Subject	Miller's	Specific	Specific	Domain	Guilber	know/	Teaching -	Formative	Summ	at
No	Competenc ies	Area	Level Does/	Competen	Learning Objectives		t's levels	desirable	Learning Method		е	
			Shows		,			to				
			how/					know/Ni				
			Knows					ce to				
			how/									
			Know					know				
Hom	Problem	Pharma	Knows	Must be	1. Define	Cognitiv	Level 1	Must	1.Lecture	1.Structure		SA
UG- HP-	solution	covigila nce and		able to identify	adverse drug reaction	е	Recall	Know	Demonstrati ons	d Oral Examinatio	MCQ Voce	Viv
1.31.		adverse		any					2. Small	n		
1	Integration	drug		adverse					Group	2. Tutorials		
Hom	of	reaction	Knows	drug	2. Enumerate	†	Level 1	Must	Discussions/			
UG-	Knowledge			reaction	the types of			Know		3.		
HP-				Comprehe	adverse drug		Recall		Peer teaching (Think-Pair-	Assignment s		
1.31.	Synthesis			nd the of	reactions				Share, Jigsaw			
2	and			pharmaco vigilance					Strategy)	4. MCQ's		
Hom	application		Knows	in	3. Explain the	1	Level 2	Must	3. Case based	5. 2 marks		
JG-	of		KIIUWS	homoeopa	management			Know	learning	question		
HP-	knowledge			thy	of adverse		Unders			6.SAQ's,		
1.31.					drug reactions		tanding			7.Projects		
3	Classroom				in							
	to clinic				homoeopathy							
Hom	transfer		Knows]	4.Define	1	Level 1	Desirable	1 .			
UG-					pharmacovigil		Recall	to Know				
HP-					ance		, ccan					
1.31.												
4]			

Hom	Knows	5.Explain in	Level 2	Desirable	
UG-		detail the	Unders	to know	
HP-		process of	tanding		
1.31.		pharmacovigil	tanung		
5		ance in			
		Homoeopathy			

TOPIC: Doctrine of Signature

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to apply doctrine of signature while selecting a Homoeopathic simillimum.

Sr.	Generi	Subje	Miller's	Specifi	Specific	Domain	Guilbe	Must to	Teaching -	Assessment /Eva	aluatio	n
No	c Comp etenci es	ct Area	Level Does/ Shows how/ Knows how/ Know	c Compe tencie s	Learning Objectives		rt's Levels	know/ desirable to know/Nice toknow	Learning Method	Formative	Sumr e	nativ
Hom UG- HP- 1.32.	Proble m formul ation	Doctr ine of Signa ture	Knows	Must be able to apply doctri	1. Defin Doctrine of Signature	e Cognitiv of e	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/	1.Structured Oral Examination 2. Tutorials	LAQ MCQ Voce	
Hom UG- HP- 1.32. 2	Integr ation of		Knows	ne of signat ure while selecting a	2. Explaidoctrine consignature with suitable examples	of	Level 2 Unders tandin g	Must Know	Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	3. Assignments4. MCQ's5. 2 marks question		

Hom UG- HP- 1.32. 3 Hom UG- HP-	Knowl edge Synth esis and applic ation of knowl edge	Shows how	Homo eopath ic simili mum	3.Apply the logic behind doctrine of signature in patients showing the same signs particularly in one sided case. 4.Select a remedy for a one -sided case		Level 3 Proble m solving Level 3 Proble m	know	to	4. Student Seminars5. Case based learning6.Case Simulation7. Experiential Learning	7.Projects 8.Assessment of case 9. Simulation		
1.32. 4 Hom UG- HP- 1.32. 5		Shows hows		based on the doctrine of signature 5.Demonstrate care, professionalism & commitment while prescribing on the basis of doctrine of signature	Affectiv e	m solving Level 2 Respo nd	Nice know	to	 Case based learning Case Simulation Experiential Learning 	of case	Viva	Voce

TOPIC: Drug Proving

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prove a given drug on healthy human being

Sr. No	Generic Compete	Subj ect	Miller's Level	Specific Compet	Specific Learning	Bloom's	Guilbert' s level	Must to	Teaching - Learning	Assessment /Evaluation		Int tio	egra n
HomUG- HP- 1.33.1	ncies	Area	Does/ Shows how/ Knows how/ Know	encies	Objectives	Domain		know/ desirable to know/Ni ce to know	Method	Method Formative	Type (Sum mativ e)		
HP-	Problem Solution	Drug Prov ing	Knows	Proving a given drug on healthy human	1. Define Drug Proving.	Cognitiv e	Level 1 Recall	Must Know	1.Lecture Demonstrati ons 2. Small Group	1.Structur ed Oral Examinati on	LAQ SAQ MCQ Viva Voce	tal Or n Me	rizon with gano of edici
HomUG- HP- 1.33.2	Integrati on of Knowled ge		Knows	being	2. Illustrate the qualities of an ideal prover.	Cognitiv e	Level 1 Recall	Must Know	Discussions/ Peer teaching (Think-Pair- Share, Jigsaw Strategy)	Tutorials 3. Assignmen ts 4. MCQ's		ne	
HomUG- HP- 1.33.3	Synthesis and applicati on of knowled ge		Shows how		3. Apply the selection criteria (inclusion & exclusion) for provers during drug proving.	Cognitiv e	Level 3 Problem Solving	Desirable to know	4. Quiz5. StudentSeminars6. GuestLecture	5.SAQ's and LAQ's 6. 2 marks questions			

HomUG- HP.1.33. 4	Problem solving	Knows	4. Explain the methodology for drug proving.	Cognitiv e	Level 2 Understa nd	Must Know	7. Integrated Teaching with Organon of Medicine			
HomUG- HP- 1.33.5		Does	5. Design the protocol for Drug Proving.		Level 3 Problem Solving	Nice to know	 Lecture Demonstrati on 2.Procedural Skills Teaching 	1.Simulati on based assessmen t	LAQ SAQ Viva Voce	
HomUG- HP- 1.33.6		Does	6. Select ideal prover for drug proving		Level 3 Problem Solving	Desirable to know	3. ProblemBasedLearning4. Role Plays5.Experiential			
HomUG- HP- 1.33.7		Does	7. Prepare the test substance for drug proving.	Psychom otor	Level 2 Control	Nice to know	learning 6. Team based learning			
HomUG- HP- 1.33.8		Does	8. Formulate the team for drug proving	U	Level 3 Problem Solving	Nice to know				
HomUG- HP- 1.33.9		Does	9. Record the symptoms of drug proving	Psychom otor	Level 2 Control	Nice to know				

	Г		J		Ι .	1		<u> </u>	
HomUG-	Does	10. Interprete		Level 3	Nice to				
HP-		the provers	Cognitiv	Problem	know				
1.33.10		symptoms	e	solving					
HomUG-	Does	11. Translate	-	Level 3	Nice to	_			
HP-		the provers			know				
1.33.11		symptoms in		Problem					
		Materia		solving					
		Medica							
		language							
HomUG-	Shows	12. Show	Affective	Level 2	Nice to	1. Lecture	1.Simulati	Viva	
HP-	how	professionalis	Airective		know	Demonstrati	on based	Voce	
1.33.12		m and care		Respondi		on	assessmen		
		during drug		ng		2.Procedural	t		
		proving				Skills			
		towards the				Teaching			
		provers.							
						3. Problem Based			
HomUG-	Does	13. Value the	-	Level 3	Nice to				
HP-	3003	privacy &			know				
1.33.13		integrity of the		Internaliz		4. Role Plays			
		provers.		е		5.			
						Experiential			
						learning			
HomUG-	Does	14. Value the		Level 3	Nice to	6. Team			
HP-		consent of the		Internaliz	know	based			
1.33.14		prover.		e		learning			
				-					

TOPIC: Posology

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to

- 1. Select a particular potency for a particular case.
- 2. Select a particular dose for a particular case.
- 3. Repeat the dose as per the criteria for repletion of doses.

Sr.	No	Generic	Sub	Miller'	Specific	Specific	Bloom'	Guilbert'	Must to	Teaching -	Assessment /E	valuation	Integ	rati
		Compet	ject	s Level	Compete	Learning	S	s Levels	know/	Learning Method			on	
		encies	Are	Does/	ncies	Objectives	D ' -		KIIOW					
			а	Shows		-	Domain		desirabl		Formative	Summative		
				how/					е					
				Knows										

			how/ Know					to know/ Nice to know					
HomU G-HP- 1.34.1	Proble m solutio n Integra tion of Knowle dge	Pos olo gy	Knows	Selecting a particula r potency for a particula r case. Selecting a particula r dose for	1.Define posology	Cogniti ve	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	LAQ SAQ MCQ Viva Voce	Horiz al Organ of Medi	with non
HomU G-HP- 1.34.2	Practic e based learnin g and improv ement Synthes		Knows	a particula r case. Repeatin g the dose as per the criteria for repletion	2.Explain the criteria for selection of potency		Level 2 Understan d	Must know	Seminars 5. Guest Lecture 6. Integrated Teaching with Organon of Medicine 7. Case based learning	6.SAQ's and LAQ's 7. Simulation based assessment 8. Case based assessment			
HomU G-HP- 1.34.3	is and applicat ion of knowle dge		Knows	of doses.	3.Apply the criteria for selection of potency for a particular case.		Level 3 Problem solving	Desirab le to know	8. Case simulation learning				

HomU G-HP- 1.34.4	Classro om to OPD/IP D transfer	Knows	4. Enlist the different types of doses	Level 1 Recall	Must know				
HomU G-HP- 1.34.5	transiei	Knows	5. Explain the criteria for repetition of doses.	Level 2 Understa nding	Must know				
HomU G-HP- 1.34.6		Shows	6.Apply the criteria for repetetion of doses for a particular case.	Level 3 Problem Solving	Desirab le to know				
HomU G-HP- 1.34.7		Does	7. Choose the correct potency for a particular case	Level 3 Problem Solving	Desirab le to know	 Lecture Demonstration Procedural Skills Teaching Problem Based Learning Experiential learning Team based learning 	1.Simulation based assessment 2. Case based assessment 3. OSPE	LAQ SAQ MCQ Practical Examinati on	

HomU G-HP- 1.34.8	Does	8. Choose the proper dosage for a particular case	Level 3 Desirab Problem Solving le to	6.Case based learning 7. Case simulation learning			
HomU G-HP- 1.34.9	Does	9. Design the dosage and repetition for a particular case	Level 3 Nice to know Solving				
HomU G-HP- 1.34.1 0	Shows	10.Show professional ism and care while selection of potency & dose.	Respond Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.Simulation based assessment	Viva Voce	
HomU G-HP- 1.34.1 1	Shows how	11. Value the privacy & integrity of the patient/cas e	Level 3 Nice to know e	5. Team based learning 6. Case based learning			

HomU G-HP- 1.34.1 2	Shows	12. Value the ethical considerati ons during selection of potency, dose and repetition of doses	Nice to know	7. Case simulation learning		
HomU G-HP- 1.34.1 3	Shows how	13. Value the importance of rational prescription	Nice to know			

TOPIC: Prescription Writing

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must have knowledge of writing an ideal prescription

Sr.	Generic	Subject	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment /	'Evalua	tion
No	Compete ncies	Area	Level Does/ Shows how/ Knows how/ Know	Competen	Learning Objectives	Domain	Level	know/ desirable to know/Ni ce to know	Learning Method	Formative	Sumr e	nativ
Hom UG- HP- 1.35.	Integratio n of Knowledg e	Prescri ption Writing	Knows	Writing an ideal prescription	1.Define Prescription writing.	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstration s 2. Small Group Discussions/ Peer teaching	1.Structure d Oral Examinatio n 2. Tutorials 3.	LAQ MCQ Voce	
Hom UG- HP- 1.35. 2	based learning and improve ment		Knows		2.Explain the parts of an ideal prescription.		Level 2 Understan ding	Must Know	(Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student	Assignment s 4. MCQ's 5. 2 marks question		
Hom UG- HP- 1.35. 3	Synthesis and applicatio n of knowledg e		Knows		3. List the abbreviations used in prescription writing with meaning.		Level 1 Recall	Must Know	Seminars 5. Guest Lecture 6. Case based learning	6.SAQ's and LAQ's		

	,							,	1	
Hom		Knows	4. Explain the		Level 2	Must	7. Case			
UG-			advantages		Understan	Know	simulation			
HP-			of		ding		learning			
1.35.	Problem		prescription		ч _Б					
4	solution		to the							
			patients and							
			to the							
	Classroo		physician.							
	m to									
	OPD/IPD									
Hom	Transfer	Shows	5. Critically		Level 3	Nice to				
UG-		how	analyse a		Problem	know				
HP-			prescription		solving					
1.35.			for any faults.		Solving					
5										
Hom		Does	6. Write an	Psychom	Level 2	Must	1. Lecture	1.Simulatio	Pract	ical
UG-			ideal	otor	Control	know	Demonstration	n based	Exam	inati
HP-			prescription		Control		2.Procedural	assessment	on	
1.35.							Skills Teaching	2. Case		
6								based		
							3. Problem	assessment		
							Based Learning			
Hom		Shows	7. Criticize a	Cognitive	Level 3	Nice to	4. Experiential	3. OSPE		
UG-		how	wrong		Problem	know	learning			
HP-			prescription		solving					
1.35.					Joiving		5. Team based			
7							learning			
							6.Case based			
							learning			

								7. Case simulation learning8. Practical Demonstration			
Hom			8.Show	Affective	Level 2	Nice	to		1.Simulatio	Pract	
UG-			professionalis		Respond	know		Demonstration	n based	Exam	inati
HP-			m and					2.Procedural	assessment	on	
1.35.			commitment					Skills Teaching			
8			while writing a prescription					3. Problem			
			with					Based Learning			
		Shows how	accuracy.					4. Experiential learning5. Team based learning6. Case based			
Hom			9. Value the		Level 3	Nice	to	learning			
UG-			privacy &		Internalize	know					
HP-			integrity of		micernanze			7. Case			
1.35.			the					simulation			
9			prescription.					learning			
Hom	-		10. Value the		Level 3	Nice	to	8. Practical			
UG-			ethical		Intornali-a	know		Demonstration			
HP-			consideration		Internalize						
			s during								

1.35.			writing a				
10			prescription				
Hom			11. Value the	Level 3	Nice to		
UG-			importance	Internalize	know		
HP-			of rational	iiiteiiialize			
1.35.			prescription				
11							

TOPIC: Legislation

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to follow and practice ethically all the laws that govern homoeopathic pharmacy.

Sr.	Generic	Subje	Miller's	Specific	Specific learning			Must to	Teaching -	Assessment /	Evalua [•]	tion
No	Compete ncies	ct Area	Level Does/ Shows how/ Knows how/ Know	Competen cies	Objectives	Domain	s Levels	know/ desirable to know/Ni ce to know	Learning Method	Formative	Sumn e	nativ

		_				_	_					
Hom	Integrati	Legisl	Knows	Must be	1.List all the acts	Cognitiv	Level 1	Must	1.Lecture	1.Structure	LAQ	Viva
UG-	on of	ation		able to	that govern the	е	Recall	know	Demonstration	d Oral	Voce	
HP-	Knowled			follow and	legal aspects of				S	Examinatio		
1.36.	ge			practice	homoeopathic				2. Small Group	n		
1				ethically all the	pharmacy.				Discussions/	2. Tutorials		
	Synthesi			laws that					Peer teaching	3.		
	s and			govern					(Think-Pair-	Assignment		
lle see	Applicati		l/n avva	homoeopa	2. Illustrate the		Lovel 2	Must	Share, Jigsaw	S		
Hom UHP-	on of		Knows	thic			Level 2	know	Strategy)	4. MCQ's		
1.36.	knowled			pharmacy.	provisions under the Drugs &		Understa	Know	3. Quiz	4. MCQ 5		
	ge				Cosmetic Act		nding		3. Quiz	5. 2 marks		
2					Cosmetic Act				4. Student	question		
Hom			Knows		3. Illustrate the		Level 2	Must	Seminars	6.SAQ's and		
UG-					provisions under		Understa	know	5. Guest	LAQ's		
HP-	Problem				the Schedule M1		nding		Lecture	LAQ3		
1.36.	solution						liuling					
3	301411011								6. Problem			
Hom			Knows		4. Illustrate the		Level 2	Must	based learning			
UG-			KIIOWS		provisions under		LCVC1 Z	know	7. Flipped			
HP-					the Drugs &		Understa	KITOW	Classroom			
1.36.					Magic Remedies		nding					
4					Act							
-					7100							
Hom	1		Knows		5. Illustrate the		Level 2	Must	-			
UG-					provisions under			know				
HP-					the Medicinal &		Understa					
1.36.					Toilet		nding					
5					Preparation Act							
					1 reparation Act							

Hom	Knows	6. Illustrate the		Level 2	Must			
UG- HP- 1.36. 6		provisions under the Dangerous Drugs Act		Understa nding	know			
Hom UG- HP- 1.36. 7	Knows	7. Illustrate the provisions under the Prevention of Illicit Traffic in Narcotic Drugs & Psychotropic Substances Act		Level 2 Understa nding	Must know			
Hom UG- HP- 1.36. 8	Knows	8. Illustrate the provisions under the Homoeopathic Central Council Act		Level 2 Understa nding	Must know			
Hom UG- HP- 1.36. 9	Does Shows how	9.Demonstrate the labelling of homoeopathic medicine according to Part IX of the Drugs &	Psychom otor	Level 2 Control	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning	1.DOPS 2. OSPE	LAQ Practica Examina on

		Cosmetic 1940	Act				4. Experiential learning				
Hom UG- HP- 1.36. 10	Knows	10.Demons care commitment and abide by provisions down in various acts	and nt by the laid the	Level 1 Receivin g	Nice know	to	1.LectureDemonstration3. ProblemBased Learning	Role Assess	Play ment	Viva '	Voce

TOPIC: Drug Action

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to differentiate the different mechanisms of drug action of homoeopathic medicines

Sr.	Generi	Subj	Miller's	Specific	Specific	Bloom's	Guilbert's	Must to	Teaching -	Assessment /E	valuati	on
No	c Compe tencies	ect Area	Level Does/ Shows how/ Knows how/ Know	Competen	learning Objectives	Domain	Levels	know/ desirable to know/Nice to know	Learning Method	Formative	Sumr	nativo
Hom UG- HP- 1.37. 1	Integra tion of Knowl edge	Drug Actio n	Knows	Must be able to differentia te the different mechanis ms of drug	1. Classify the different types of drug action.	Cognitive	Level 2 Understan ding	Nice to Know	1.Lecture Demonstration s 2. Small Group Discussions/	1.Structured Oral Examination 2. Tutorials 3. Assignments	LAQ MCQ Pract Exam n Viva	ical inatio

	1 1	1		I		1	I	1			
Hom	Synthe		Knows	action of	2. Explain the		Level 2	Desirable	Peer teaching	4. MCQ's	
UG- HP- 1.37. 2	sis and applica tion of knowle dge			homoeopa thic medicines	individual family drug action according to their sphere of action.		Understan ding	to Know	(Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Flipped Classroom	5. 2 marks question6.SAQ's7.Projects8. Spotting	
Hom		-	Knows		3. Explain the		Level 2	Desirable	6. Videos		
UG-	Classro				individual			to Know			
HP-	om to				family drug		Understan		7. Integrated		
1.37.	Clinic				action		ding		Teaching		
3	transfe				according to						
	r				nature of						
					drug & family						
					relationship.						
Hom			Does		4. Analyze	Cognitive	Level 3	Nice to	1. Practical	1. Spotting	
UG-			Dues		the action of	Cognitive	Level 3	know	Demonstration	1. Spotting	
HP-					drug on		Problem	KITOW	S	2. Pharmaco-	
1.37.					patients.		solving			logical action	
4					•				2.Experiential	of 30 drugs as	
									Learning	specified in	
Hom		-	Does		5. Co-relate			Nice to	3. Projects	journal	
UG-					the action of			know		3. Projects	
HP-					drugs with						
1.37.					the family						
5					characteristic						
					S.						
						l					

		0.01							_
Hom	Knows	6.Show care	Affective	Level 2	Must	1. Lecture	Journal		
UG-		in prescribing		Respond	know	2. Integrated	Assessment		
HP-		homoeopathi		Respond		_			
1.37.		c medicine				teaching of Pharmacologic			
6		based on				al drug action			
		action of				with Materia			
		drugs and				Medica			
		drug				ivicuica			
		relationships.							

TOPIC: Relation of Pharmacy with Materia Medica, Anatomy, Physiology

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to correlate homoeopathic pharmacy with Materia Medica, Anatomy and Physiology

Sr. No	Generic	Subject	Miller'	Specific		Specific	Bloom	Guilbert'	Must to	Teaching -	Assessn	ne		
	Competencies	Area	s Level	Compete	en	Learning	's	s Levels	know/	Learning	nt			
			Does/	cies		Objectives	Doma		KIIOW/	Method	/Evalua	tio		
			Shows				in		desirable		n			
			how/ Knows how/ Know				"''		to know/Nice to know		Form ative		Sumn tive	na
	D. d. l	Deletie	1/	NA -1 1		4 5 15 15	C'1	112	Destrolate to	4.1	4.61		640	
HomUG-	Problem	Relation	Knows	Must l	эe	1. Explain the	Cognit	Level 2	Desirable to	1.Lecture	1.Struct	ur 3	SAQ	
HP	formulation	of		able	to	correlation of	ive	Understa	Know	Demonstr	ed C	ral \	Viva	
1.38.1		Pharmacy		correlate	j	homoeopathic		nding		ations	Examina	ati '	Voce	
1.30.1		with		homoeo	р	pharmacy with		Hullig			on			

HomUG- HP- 1.38.2	Integration of Knowledge Synthesis and application of knowledge	Materia Medica	Knows	athic pharmacy with material medica, Anatomy and Physiolog y	the basics of Homoeopathic Materia Medica. 2. Explain the correlation of homoeopathic pharmacy with the basics of Anatomy		Desirable to Know	2. Small Group Discussion s/ Peer teaching (Think- Pair- Share, Jigsaw	Tutorials 3. Assignmen ts 4. MCQ's 5. 2 marks question	
HomUG- HP- 1.38.3			Knows		3. Explain the correlation of homoeopathic pharmacy and Physiology		Desirable to Know	Strategy) 3. Quiz 4. Student Seminars 5. Flipped Classroom	6.SAQ's, LAQ's 7.Projects	
HomUG- HP- 1.38.4			Knows how		4.Apply the principles of posology during case taking after selection of similimum based on knowledge of Homoeopathic	 Level 3 Problem Solving	Desirable to know	 Practical Demonstr ation Lecture Demonstr ation Experimen 	1. DOPS 2. OSPE 3. Evaluation of projects 4. Evaluation of case	

				1		
		Materia		tal	based	
		Medica.		Research	learning	
				projects	5.	
				4. Case	Evaluation	
				based	of PBL	
				learning	6.	
HomUG-	Knows	5. Apply the	Desirable to	5. Problem	Evaluation	
HP-	how	knowledge of	know	based	of Case	
1.38.5		drug action		learning	simulation	
		based on				
		familial		6. Case		
		relationship		simulation		
		and remedy				
		relationship as				
		noted in				
		Homoeopathic				
		Materia				
		Medica and				
		organ affection				
		with anatomy				
HomUG-	Knows	6. Apply the	Desirable to			
HP-	how	knowledge of	know			
1.38.6		sources of				
		drugs and				
		collection of				
		drugs while				
		preparation of				
		homoeopathic				
		medicines				
		according to				

HomUG- HP- 1.38.7	Knows	the scale of potentisation. 7. Apply the knowledge of pharmacologic al action of drugs with the normal physiology of human body			Desirable to know			
HomUG- HP- 1.38.8	Knows	8.Demonstrate care, professionalis m & commitment & follow all the guidelines meticulously as given in 6 th edition of Organon of medicine while selecting a particular homoeopathic medicine in a particular potency.	Affecti	Level 1 Receivin g	Nice to know	 Practical Demonstr ation Lecture Demonstr ation Experimen tal Research projects Case based learning 	1. DOPS 2. OSPE 3. Evaluation of projects 4. Evaluation of case based learning 5. Evaluation of PBL 6. Evaluation	Viva

		5. Problem of Case based simulation learning
omUG-	9.	6. Case
P-	Demonstrate	simulation
38.9	care,	
	professionalis	
	m &	
	commitment &	
	follow all the	
	guidelines	
	meticulously	
	as given in 6 th	
	edition of	
	Organon of	
	medicine while	
	preparation of	
	homoeopathic	
	medicine	
	according to	
	the scale of	
	potentisation.	

HomUG-	10.	
HP-	Demonstrate	
1.38.10	care,	
	professionalis	
	m &	
	commitment &	
	follow all the	
	guidelines	
	meticulously	
	as given in 6 th	
	edition of	
	Organon of	
	medicine while	
	prescribing a	
	particular	
	external	
	application for	
	a particular	
	case.	
lomUG-	11. Should	
HP-	ensure that all	
1.38.11	the resources	
	are used to the	
	fullest without	
	any wastage	
	while	
	preparing	

		homoeopathic medicine.				
		medicine.				I
						I
						ı
						I

TOPIC: Recent advancements and scope of research in Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to undertake a short term research in Homoeopathic Pharmacy

Sr.	Generic	Subject	Miller's	Specific	Specific	Bloom's		Must to	Teaching -	Assessment /Eva	aluatio	n
No	Compet encies	Area	Level Does/ Shows how/ Knows how/ Know	Compete ncies	Learning Objectives	Domain	s levels	know/ desirable to know/Nice toknow	Learning Method	Formative	Sumn ve	nati
Ho mU G- HP- 1.3 9.1	Proble m solutio n	Recent advance ments and scope of research in	Knows	Must be able to undertak e a short term research in	1.Enumerate the types of research in homoeopathi c pharmacy	Cognitiv e	Level 1 Recall	Nice to know	1.Lecture Demonstration s 2. Small Group Discussions/	1.Structured Oral Examination 2. Assignments 3. MCQ's		-

	ı					I					1	-
	Integra	Homoeo		Homoeo					Peer teaching	4.SAQ's		
	tion of	pathic		pathic					(Think-Pair-			
	Knowle	Pharma		Pharmac					Share, Jigsaw			
	dge	су		у					Strategy)			
	_			^								
Но			Knows		2.Explain the		Level 2	Nice to	3. Visit to			
mU	Cymthos				recent		Understa	Know	research			
G-	Synthes				advancement				laboratories			
HP-	is and				s in the field		nding					
1.3	applicat				of							
9.2	ion of				homoeopathi							
	knowle				c pharmacy							
	dge				- p							
Но			Does		3.Design the		Level 3	Nice to				
mU					protocol for a		5 11	know				
G-	Classro				short term		Problem					
HP-	om to				research		solving					
1.3	lab				proposal in							
9.3					homoeopathi							
9.3	transfer				-							
					c pharmacy							

Non-Lecture Activities

- 1. Collection of 30 drugs for herbarium
- 2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
- 3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
- 4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles and keep record

5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

8.PRACTICAL TOPICS

Hom	oeopathic Pharmacy Practicals
Sr	
No.	Particulars of Experiments
1	Estimation of size of globules
2	Medication of globules (Small Scale)
3	Purity test of Sugar of milk
4	Purity test of water
5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.

16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3 rd Degree Trituration.
18	Preparation of external applications – Lotion
19	Preparation of external applications – Glycerol
20	Preparation of external applications – Liniment
21	Preparation of external applications – Ointment
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, Vla, Vlb)

Demonstration

- 1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)
- 2. Estimation of moisture content using water bath
- 3. Paper chromatography & TLC of any mother tincture
- 4. Laboratory methods Sublimation, distillation, decantation, filtration, crystallization.
- 5. Preparation of mother tincture Maceration and Percolation
- 6. Study & demonstration of Drug Substances (listed in Appendix B)-
- i)Macroscopic Characteristic (Any 15)
 - ii) Microscopic characteristic (Any 05)
- 7. Study & demonstration of vehicles (Solid, Liquid & Semi solid as available)
- 8. Microscopical study of Trituration (One drug up to 3X Potency)

9. Medication of Globule (Large Scale)

Activities

- 1. Collection of 30 drugs for herbarium
- 2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
- 3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
- 4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles &keep record
- 5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

Demonstration

- 1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
- 2. Estimation of moisture content using water bath-02 Hours
- 3. Paper chromatography & TLC of any mother tincture-04 Hours
- 4. Laboratory methods Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
- 5. Preparation of mother tincture Maceration and Percolation- 04 Hours
- 6. Study & demonstration of Drug Substances (listed in Appendix B)- 10 Hours
- i)Macroscopic Characteristic (Any 15)
 - ii) Microscopic characteristic (Any 05)
- 7. Study & demonstration of vehicles (Solid, Liquid & Semi solid as available)- 02 Hours
- 8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours
- 9. Medication of Globule (Large Scale)-1 Hour

(PD/OPD) – Record	to be maintained as per fo	ormat in Appendix G	i- 20 Hours		
Seminar – Maintain Re	ecord on Seminar Presenta	ation on Topics of Ho	omoeopathic Pharma	cy as assigned- 07 Hou	rs

9. ASSESSMENT

Assessment Summary

9A- Number of papers and Mark Distribution

Sr.	Course Code	Papers	Theory	Practical	Viva	Internal	Elective	s Grand Total
No.					Voce	Assessment-	Grade	
						Practical	Obtaine	d
1	HomUG-HP	1	100	50	40	10		100
1	11011100111	_	100		10	10		

9B - Scheme of Assessment (formative and Summative)

Sr. No		1 st term (1-6 Months)					erm (7-12	Months)	3 rd Term (13-18 Months)			
1	First Professional BHMS	1 st PA 10 Practio	Marks cal/Viva	1 ST TT 50 Marks Theory	50 Marks Practical/ Viva	2 nd PA 10 Practi	Marks cal/Viva		50 Marks Practical/ Viva	3 rd PA 10 Practi	Marks cal/Viva	UE

For Internal assessment, Only Practical/Viva marks will be considered. Theory marks will not be counted.

Method of Calculation of Internal Assessment Marks for Final University Examination:

PA1	PA2	PA3	Periodical	TT1	TT2	Terminal Test	Final
Practical/Viva	Practical/Viva	Practical/Viva	Assessment	Practical/Viva	Practical/Viva	Average	Internal
(10 Marks)	Practical, viva	Practical, viva	Average	(50 Marks)	Practical, viva	TT1+TT2/100*10	Assessment
(10 Ivial KS)	(10 Marks)	(10 Marks)	PA1+PA2+PA3/3	(30 Ivial KS)	(50 Marks)		Marks
Α	В	_	PAITPAZTPAS/S	E	_	G	D+G/2
	Ь	C	D		F		D+G/2

PA- Periodical Assessment TT- Terminal Test UE- University Examination

9C - Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Criteria
1	Practical Performance
2	Viva Voce

9 D- Paper Layout

MCQ	10 marks
SAQ	50 marks
LAQ	40 marks

9 E-I - Distribution of Theory exam

Sr. No	Paper			Type of Que "Yes" can be "No" should		
	A	В	С	MCQ	SAQ	LAQ
	List of Topics	Term	Marks	(1 Mark)	(5	(10 Marks)
					Marks)	
1	General Concepts and Orientation	I	Refer	Yes	Yes	No
2	Raw Material: Drugs and Vehicles	I	→ Next Table	Yes	Yes	Yes
3	Homoeopathic Pharmaceutics	II		Yes	Yes	Yes
4	Pharmacodynamics	III		Yes	Yes	Yes
5	Quality Control	II		No	Yes	No
6	Legislations pertaining to Homoeopathic Pharmacy	III		No	No	Yes
7	Homoeopathic Pharmacy - Relationships	111		No	Yes	No

9 E – II - Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's

А	General Concepts and Orientation	I	11	Yes	Yes	No
В	Raw Material: Drugs and Vehicles	I	25	Yes	Yes	Yes
С	Homoeopathic Pharmaceutics	II	23	Yes	Yes	Yes
D	Pharmacodynamics	III	16	Yes	Yes	Yes
Е	Quality Control	II	10	No	Yes	No
F	Legislations pertaining to Homoeopathic Pharmacy	III	10	No	No	Yes
G	Homoeopathic Pharmacy - Relationships	III	05	No	Yes	No

9 F Question paper Blueprint

Α	В	Question Paper Format
Question Serial Number	Type of Question	(Refer table 7 F II Theme table for themes)
Q1	Multiple choice Questions	1. Theme A
	(MCQ)	2. Theme B
	10 Questions	3. Theme B
	1 mark each	4. Theme B
	All compulsory	5. Theme B
	Must know part: 6 MCQ	6. Theme B
	Desirable to know: 2 MCQ.	7. Theme C
	Nice to know: 2 MCQ	8. Theme C
		9. Theme C
		10. Theme D
Q2	Short answer Questions	1. Theme A
	(SAQ)	2. Theme A
	10 Questions	3. Theme B
	5 Marks Each	4.Theme B
	All compulsory	5. Theme C
	Must know part: 9 SAQ	6. Theme C
	Desirable to know: 1 SAQ	7. Theme D

	Nice to know: Nil	8. Theme E
		9. Theme E
		10. Theme G
Q3	Long answer Questions	1. Theme B
	(LAQ)	2. Theme C
	4 Questions	3. Theme D
	10 marks each	4. Theme F
	All compulsory	
	All questions on must know	
	No Questions on Nice to know and Desirable to know	

9 G - Distribution of Practical Exam

<u>Practical, Viva& Internal Assessment</u> → 100 marks

Spotting	20 marks
Experiment	20 marks
Journal	10 marks

Viva voce	40 marks
Internal assessment	10 marks

10.LIST OF RECOMMENDED BOOKS

Text Books

- 1. Dr. Partha Mandal &Dr. Biman Mandal, A Textbook of Homoeopathic Pharmacy, Revised and Enlarged 3rd Edition, 2012, New Central Book Agency Publishers.
- 2. Dr.Sumit Goel, Art and Science of Homoeopathic Pharmacy, 4THEnlarged Revised Edition, 2021, IBPP Publishers.
- 3. Dr. D.D. Banerjee, Augmented Textbook of Homoeopathic Pharmacy, 2 nd Edition, 2012, B. Jain Publishers.
- 4. Dr. K.P. Mujumdar, Textbook of Homoeopathic Pharmacy, 2013, New Central Book Agency Publishers

Reference Texts

- 1.Banerjee SK & Sinha N. (Reprint edition, 1993). A Treatise on Homoeopathic Pharmacy. B Jain Publishers, New Delhi.
- 2. Govt. of India, Ministry of Health & Family Welfare, New Delhi (1971 to 2006). Homoeopathic Pharmacopoeia of India (1-9 Vol.)
- 3. Hughes R (Reprint edition, 1999). A Manual of Pharmacodynamics. B Jain Publishers, New Delhi.
- 4. Dr. P.N. Verma & Dr. (Mrs.) InduVaid, Encyclopaedia of Homoeopathic Pharmacopoeia, Vol- I,II,III, Edition 2002, B. Jain Publishers.

APP	APPENDIX – A							
List	List of drugs included in the syllabus of Homoeopathic Pharmacy for study of Pharmacological action: -							
1.	Aconitum Napellus	16.	Glonoinum					
2.	Adonis vernalis	17.	Hydrastis Canadensis					
3.	Allium cepa	18.	Hyoscyamus niger					
4.	Argentum Nitricum	19.	Kali bichromicum					
5.	Arsenicum album	20.	Lachesis					
6.	Atropa Belladonna	21.	Lithium carbonicum					
7.	Cactus grandifloras	22.	Mercurius corrosivus					
8.	Cantharis vesicatoria	23.	Naja tripudians					

9.	Cannabis indica	24.	Nitricum acidum
10.	Cannabis sativa	25.	Nux vomica
11.	Cinchona officinalis	26.	Passiflora incarnate
12.	Coffea cruda	27.	Stannum metallicum
13.	Crataegus oxyacantha	28.	Stramonium
14.	Crotalus horridus	29.	Symphytum officinale
15.	Gelsemium sempervirens	30.	Tabacum

APPEN	APPENDIX – B		
List of	List of drugs for identification		
i.	Vegetable Kingdom		
	1.	Aegle folia	
	2.	Anacardium orientale	
	3.	Andrographis paniculata	
	4.	Calendula officianlis	
	5.	Cassia sophera	
	6.	Cinchona officinalis	
	7.	Cocculus indicus	
	8.	Coffea cruda	
	9.	Colocynthis	
	10.	Crocus sativa	

	11.	Croton tiglium
	12.	Cynodon dactylon
	13.	Ficus religiosa
	14.	Holarrhenaantidysenterica
	15.	Hydrocotyle asiatica
	16.	Justicia adhatoda
	17.	Lobelia inflata
	18.	Nux vomica
	19.	Ocimum sanctum
	20.	Opium
	21.	Rauwolfia serpentina
	22.	Rheum
	23.	Saraca indica
	24.	Senna
	25.	Stramonium
	26.	Vinca minor
ii.	Chem	icals or Minerals
	1.	Acetic acid
	2.	Alumina
	3.	Argentum Metallicum
	4.	Argentum Nitricum

1. 2. 3. 4.	mal Kingdom Apis mellifica Blatta orientalis Formica rufa Sepia Tarentula cubensis
1. 2. 3.	Apis mellifica Blatta orientalis Formica rufa
1. 2.	Apis mellifica Blatta orientalis
1.	Apis mellifica
. Anin	nal Kingdom
11.	Sulphur
10.	Natrum Muriaticum
9.	Magnesium Phosphoric
8.	Graphites
7.	Carbo Vegetabilis
_	Calcarea Carbonica
6.	

Appendix C				
List of Instrument & Appliances for Demonstration & Study				
Crucible with lid	Test Tube	Tripod stand	Hot Air Oven	
Porcelain Basin	Conical Flask	Wire gauze	Water bath	

Mortar & Pestle Porcelain	Volumetric flask	Spatula	Macerating Jar
Ointment Slab	Minim glass	Leather pad	Percolator
Chemical Balance	Thermometer	Stop watch	Microscope
Hydrometer	Mortar & Pestle - Glass	Chopping Board	pH Meter
Alcoholometer	Glass Phials	Chopping Knife	Burette
Lactometer	Pyknometer	Sieve	Pipette
Spoon	Measuring Cylinder	Tincture Press	Dropper
Beaker	Graduated Conical Flask	Funnel	Glass Rod

Appendix – D (List of Important Vehicles for Study)

Appendix – D (List of Important Vehicles for Study)			
Solid	Liquid	Semisolid	
Sugar of Milk	Water	Vaseline	
Globules	Ethyl Alcohol	Beeswax	
Tablets	Glycerine	Lanolin	
Cane Sugar	Olive Oil	Spermaceti	
	Simple Syrup	Isin glass	
	Lavender Oil, Sesame Oil, Rosemary Oil, Almond Oil		

Appendix E Format for Maintaining Record on visit to Homoeopathic Manufactory (GMP Compliant) Date of Visit No. of Visiting Students & Teaching Faculty Name of Teaching Faculty Detail of the Instructor/s at the Manufactory How the Tour was arranged Name & Location of the Homoeopathic Manufactory History about the Manufactory Different Sections of the manufactory with its working process Activities of R&D Dept How the visit helped in correlation with topics studied in Theory Conclusion (Any other related information, not mentioned in format, if required can be included)

Appendix F

Format for Maintaining Record on visit to Medicinal Plant Garden

Date of the Visit

No. of visiting Students & Teaching Faculty

Name of Teaching Faculty

Detail of Instructor/s

How the Tour was arranged

Name & Location of the Medicinal Plant Garden

History & about the Medicinal Plant Garden

A list Medicinal Plants seen with brief description,

Conclusion

Appendix G

Format for maintaining record on Hospital Activities (Visit to OPD/IPD & Dispensing Section)

Record on Prescriptions based on Homoeopathic Principles in IPD/OPD

No of Cases: Total 10 cases (5 Acute, 5 Chronic)

Format -

Patient ID

Complaint

Diagnosis

Details of 1st Prescription – Name of Medicine, Potency, Dose with its Repetition,

Second Prescription (if Record is available)

Conclusion at the end of Acute & Chronic Cases on Lessons learnt on Homoeopathic Principles
Record on Activities/Posting in Hospital Dispensing Section
Total No. of Patients Date wise,
SI No as per Prescription Register,
Dosage form- Liquid/solid,
Name of Vehicle used,
Medication Process etc
Conclusion at the end on Lessons learnt on Homoeopathic Dispensing Techniques

Appendix H

Format for Maintaining record on Departmental Seminars

Maintenance of Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned

Circular/Notice of Departmental Seminar

Title of Topic for Presentation,

Date

Presented by Name of Student/s

Brief Report on the Seminar

Any New Information provided by the Speakers

Rating on a Scale of 10

No of Students & Faculty Members attending the Seminar

Photos

Signed by the Departmental Head

11.LIST OF CONTRIBUTORS

Dr.Parth Aphale

Professor & H.O.D. Department of Homoeopathic Pharmacy, Dr. D.Y. Patil Homoeopathic Medical College & Research Centre, Pimpri, Pune-411018

DR KAUSHIK DEB DAS

Professor & Head, Dept of Homoeopathic PharmacyCollege - The Calcutta Homoeopathic Medical College & HospitalKolkata, WB

DR RAM JYOTHIS

ANSSHMC, Kottayam, Kerala

DR VIVEK SAKTHIDHARAN

Father Muller Homoeopathic Medical College, Karnataka

COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Homoeopathic Materia Medica)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

Subject- Homoeopathic Materia Medica

Subject code: HomUG-HMM-I

INDEX

S.No	Description	Page Number
1	Preamble	02
2	Program Outcomes (PO)	03
3	Course Outcomes (CO)	04
4	Teaching Hours	05
5	Course Content	07
6	Teaching Learning Methods	10
7	Content Mapping (Competencies Table)	11
8	Assessment	25
9	List of Recommended Books	31
10	List of Contributors	32

1. PREAMBLE

Homoeopathic Materia Medica is the study of the action of drugs on healthy human being as a whole taking into consideration individual susceptibility and its reaction to various circumstances and time. A good prescription by a homoeopath mainly depends upon the case receiving, processing and a sound knowledge of Homoeopathic Materia Medica.

Each drug in Materia Medica not only has its own personality with its mental and physical constitution but also has its own affinity to an area, direction, spread, tissue, organ, system. Study of a drug in context of altered sensation, function and structure covers the pathology caused by it, which is also expressed in the pathogenesis of the drugs. Materia Medica also has symptoms from toxicological and clinical proving. All this knowledge is of utmost importance in order to apply the remedies in various clinical conditions. This can be achieved only by integrating the study of Materia Medica with other parallel subjects taught during the course.

Apart from the source books of Materia Medica there are different types of Materia Medica constructed on different philosophical backgrounds by different authors. Materia Medica also forms the platform of various repertories. Therefore, it becomes very important for a student of homoeopathy to learn the plan and construction of all the basic Materia Medica in order to understand their practical utility in practice.

It is also important to keep in mind that the end point of the teaching of HMM is not to burden the student with information of more number of remedies but to equip with an approach which will help to develop the vision towards self-guided study and apply the knowledge in practice.

This self-directed learning can ultimately lead to a critical approach of studying Materia Medica hence empowering evidence based practice and initiate the process of lifelong learning. Exploring Materia Medica is an endless journey as newer illnesses will keep on emerging and newer drugs or undiscovered facets of existing drugs will be needed to explore for managing these situations.

2. PROGRAM OUTCOMES:

At the end of BHMS program, a student must

- 1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles
- 2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.
- 3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences
- 4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
- 5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
- 6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.
- 7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.
- 8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of BHMS I course, the students should be able to-

- 1. Define the homoeopathic Materia Medica.
- 2. Understand the philosophy of homoeopathic Materia Medica.
- 3. Describe evolution, sources and construction of different types of Homoeopathic Materia Medica.
- 4. Enumerate the scope and limitations of Homoeopathic Materia Medica.
- 5. Evolve the portrait and symptomatology of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and Organon of medicine.
- 6. Observe the symptoms of a particular medicine in a clinical set-up with emphasis on individualizing symptoms.

Learning Objectives

- 1. To define the homoeopathic Materia Medica and grasp the basic concept with philosophy of it based on Hahnemannian directions.
- 2. To discuss different sources and types of homoeopathic Materia Medica.
- 3. To understand the drug in context of its pharmacological data, constitution, temperament, sphere of action, pathogenesis, both mental and physical generals, particular symptoms, characteristic/ individualising symptoms, general and particular modalities, relationship with other remedies including doctrine of signature.
- 4. To study and understand the bio-chemic system of medicine.
- 5. To identify the symptoms of a sick individual corresponding to the symptoms of a particular drug.
- 6. To develop an insight into scopes and limitations of homoeopathic Materia Medica.

4. TEACHING HOURS

Distribution of Teaching Hours:

Homoeopathic Materia Medica			
Year	Teaching hours- Lectures	Teaching hours- Non-lectures	
1 st BHMS	120	75	

4. A. Teaching Hours Theory:

S. no.	List of Topics	Hours
1.	Definition and introduction of Materia Medica	3
2.	Types of Homoeopathic Materia Medica	3
3.	Sources of Homoeopathic Materia Medica	4
4.	Study of drug picture (term I)	32
5.	Study of drug picture (term II)	33
6.	Theory of Bio chemic salts	2
7.	Individual bio chemic salts	14
8.	Study of drug picture (term III)	28
9.	Scope and Limitation of HMM	1
	Total	120

4.B. Teaching Hours Non-lecture:

Sr. No	A	В	С
	Study Setting	Term	Teaching Hours
1	OPD/IPD/Classroom	II & III	75

Non-Lecture Activities (Practical)-

Sr.	Non Lecture Teaching Learning methods	Time Allotted per Activity
No		(Hours)
		(Hours)

1	Group Discussions	5	
2	Problem based learning	5	
3	Tutorials	10	
4	Case Based Learning (live case)	55	
	Total	75	

5. COURSE CONTENTS BHMS I (Theory)

1. Introductory Lectures

- a. Definition and introduction of basic Materia Medica.Contrast between Materia Medica and Homoeopathic Materia Medica.
- b. Sources, types, construction, scope and limitation of Homoeopathic Materia Medica
- c. Theory of biochemic system of medicine, its comparison with Homoeopathy and study of 12 biochemic tissue salts with their physico-chemical reaction.

2. Homoeopathic medicines:

1. Aconite	18. CalcareaPhos	35. Hypericum
2. AethusaCynapium	19. Calendula	36. Ignatia
3. Allium Cepa	20. Carbo Veg	37. Ipecac
4. Aloe Soc	21. Chamomilla	38. Ledum Pal
5. Ammonium Carb	22. Cina	39. Lycopodium
6. Ammonium Mur	23. Cinchona	40. Natrum Carb
7. Antim Crude	24. Cocculus	41. Natrum Mur
8. Antim Tart	25. Coffea Cruda	42. Nux Vomica
9. Apis Mel	26. Colchicum	43. Podophyllum
10. Arnica Montana	27. Colocynth	44. Pulsatilla
11. Ars Alb	28. DioscoriaVillosa	45. Rhus Tox
12.Arum Triph	29. Croton Tig	46. Ruta
13. Baryta Carb	30. Drossera	47. Silicea
14. Belladona	31. Dulcamara	48. Spongia
15. Borax	32. Euphrasia	49. Sulphur
16. Bryonia Alba	33. Gelsemium	50. Symphytum
17. Calc Carb	34. HeparSulph	

3. Biochemic tissue salts:

1. Calc Flour	5. Kali Mur	9. Nat Mur*
2. Calc Phos*	6. Kali Phos	10. Nat Phos
3. Calc Sulph	7. Kali Sulph	11. Nat Sulph
4. FerrPhos	8. Mag Phos	12.Silicea*

^{*}Also included in the list of Homoeopathic medicines, hence total no. of medicines shall remain 59 for BHMS I.

Contents for Term I:

I. Introductory Lectures

- a. Definition and introduction of basic Materia Medica, contrast between Materia Medica and Homoeopathic Materia Medica
- b. Sources, typesand construction of Homoeopathic Materia Medica

II. Homoeopathic medicines:

1. Arnicamontana	8.Natrum Mur
2.Bryonia	9.Rhus tox
3.Baryta carb	10.Ruta
4.Calc Carb	11.Silicea
5.Calendula	12.Sulphur
6.Hypericum	13.Symphytum
7. Ledum pal	

Contents for Term II:

I. Homoeopathic medicines:

1. Aconite nap	11.Colchicum
2.Aloes soc	12. Colocynth
3.Apismellifica	13.Dioscorea
4. Arsenic Alb	14. Dulcamara
5.Belladona	15.Gelsemium
6.Cina	16. Ignatia
7.Chamomila	17. Lycopodium
8.Carbo veg	18. Nux vomica
9.Cinchona	19. Podophyllum

10.Cocculus	20. Pulsatilla nig.

- II. Theory of biochemic system of medicine, its comparison with Homoeopathy
- III. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. Calc Flour
2. Calc Phos
3. Calc Sulph
4. Natrum Phos
5.Natrum sulph

Contents for Term III:

I. Homoeopathic medicines:

1.Aethusacyn	9. Coffeacruda
2. Alliun cepa	10. Croton tig
3. Ammon Carb	11. Drosera
4. Ammon Mur	12. Euphrasia
5. Antim Crud	13.Hephar Sulph
6. Antim Tart	14.Ipecacuanha
7. Arum triph	15.Natrum carb
8. Borax	16.Spongia

II. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. FerrPhos	
2. Kali Mur	
3. Kali Phos	
4. Kali Sulph	
5. Mag Phos	

III. Scope and limitations of Homoeopathic Materia medica

6. TEACHING LEARNING METHODS

Lectures (Theory)	Non-lectures (Practical)
Lectures	Clinical demonstration
Small group discussion	Problem based discussion
Integrated lectures	Case Study
Assignments	
Library reference	

Different teaching-learning methods must be apply for understanding holistic and integrated Materia Medica. There has to be classroom lectures, small group discussions, case discussion where case based learning (CBL) and problem based learning (PBL) are specially helpful. In the applied Materia Medica, case discussion (CBL-PBL) method is beneficial for students. Audio visual (AV) methods for classroom teaching may be an innovative aid in order to demonstrate the related graphics and animations etc. In case of clinical demonstration – DOAP (Demonstration – Observation – Assistance – Performance) is very well applicable.

7. CONTENT MAPPING (COMPETENCIES TABLE)

Topic 1- Definition and introduction of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 1.1	Information Gathering Integration of	Definition and introduction of materia medica	Knows	Knowledge of fundamentals of HMM	Define the basic MM and HMM	Cognitive	Remember/recall Understand	Must Know	Lecture	MCQ, SAQ, Viva Voce	SAQ, Viva voce	Horizontal Integration with Organon of Medicine
HomUG- HMM-I- 1.2	information				Explain what sign and symptoms are with examples		Charlet					of Medicine
HomUG- HMM-I- 1.3					Contrast between MM and HMM							
HomUG- HMM-I- 1.4					Discuss the history of MM with emphasis on Hahnemannian directions							

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral

Topic 2- Types of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 2.1	Information Gathering	Types of Materia Medica	Knows	Identify various types of HMM	Describe various types of HMM	Cognitive	Remember/recall	Must Know	Lecture, small group discussion, demonstration	MCQ, SAQ, Viva Voce	SAQ, Viva voce	Horizontal Integration with Organon of Medicine and Pharmacy
HomUG- HMM-I- 2.2	Integration of information				Enumerate types of HMM		Understand					
HomUG- HMM-I- 2.3					Classify Homoeopath ic Materia Medica as per its types.							
HomUG- HMM-I- 2.4			Knows how		Discuss the characteristi cs of each type of HMM based on practical utility.			Desirable to know				

Topic 3- Sources of Homoeopathic Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 3.1 HomUG- HMM-I- 3.2	Information Gathering Integration of information	Sources of HMM	Knows	Identify various sources of HMM	Describe the sources of HMM Understand the concept of source books of HMM List the source books of HMM	Cognitive	Remember/recall Understand	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy Vertical and spiral integration with FMT
HomUG- HMM-I- 3.4					Discuss the plans and construction of source books of							

		HMM				

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 3.5	Information Gathering Integration of information	Sources of HMM	Knows	Identify various sources of HMM	Enumerate different types of proving as sources of HMM	Cognitive	Remember/ recall Understand	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
HomUG- HMM-I- 3.6			Knows how		Describe various proving sources of HMM							Vertical and spiral integration with FMT
HomUG- HMM-I- 3.7					Understand the basic concept of various types proving as source of HMM							
HomUG- HMM-I- 3.8				Insight into structure of various HMM	Differentiate the construction of different source			Desirable to know			SAQ, Viva voce	

	books of HMM		

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 3.9	Information Gathering Integration of information	Sources of HMM	Knows how	Identify various sources of HMM	Understand the construction of various HMM as a compilation based on the source books.	Cognitive	Remember/recall Understand	Nice to know	Lecture, Small Group discussion, Demonstration	Viva voce	Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
HomUG- HMM-I- 3.10					Draw the time line of Homoeopathic Materia Medica based on their history, evolution and							

		philosophy				

Topic 4- Homoeopathic Medicines

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert' s Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessme nt	Summativ e Assessme nt	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG -HMM- I-4.1	Information Gathering Integration of information Problem formulation Practical Skills	Homoeopat hic medicines included in: Term I, II and III	Knows, Knows how, Shows how	1.Evolve the symptom- tology of a particular drug 2. Observe the symptoms of a particular medicine in a clinical set-up	Describe the drug picture of homoeopathic medicines with following details-pharmacologic al data, constitution, temperament, sphere of action, doctrine of signature, pathogenesis, both mental and physical generals, particular symptoms, characteristic/individualizing symptoms, general and particular modalities, relationship	Cognitive, Psychomot or	Remembe r/ recall Understan d Interpret	Must Know	Lecture, Small Group discussion, Demonstratio n (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS

Sr. No.	Generic Competenc y	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert' s Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessme nt	Summativ e Assessme nt	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG -HMM- I-4.2 HomUG -HMM- I-4.3	Information Gathering Integration of information Problem formulation Practical Skills	Homoeopathi c medicines included in: Term I, II and III	Knows, Knows how, Shows how	1.Evolve the symptom- tology of a particular drug 2. Observe the symptoms of a particular medicine in a clinical set-up	.Formulate the drug picture/ symptomatolog y of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and organon of medicine. Understand the symptomatolog y of a particular medicine in regard to a particular system/organ of the body.	Psychomot or	Remembe r/ recall Understan d Interpret	Must Know	Lecture, Small Group discussion, Demonstratio n (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS

Sr. No.	Generic Competenc y	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert' s Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessme nt	Summativ e Assessme nt	Integration Department s- Horizontal/ Vertical/ Spiral
HomUG -HMM- I-4.4 HomUG -HMM- I-4.5	Information Gathering Integration of information Problem formulation	Homoeopathi c medicines included in: Term I, II and III	Knows, Knows how, Shows how	Evolve the symptom- tology of a particular drug	Identify the symptom similarity of a patient with a particular medicine in a clinical set up State the relationship of a medicine with other medicines	Cognitive, Psychomot or	Remembe r/ recall Understan d Interpret	Must Know	Lecture, Small Group discussion, Demonstratio n (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all
HomUG -HMM- I-4.6 HomUG -HMM- I-4.7	Practical Skills		Knows how Knows	Observe the symptoms of a particular medicine in a clinical set-up	Understand the relationship status of a medicine and its background Observe the variations in symptomatolog	Cognitive	Remembe r/ recall Understan d Remembe r/ recall	Desirabl e to know Nice to know	Lecture, Small Group discussion, Lecture, Small Group discussion,	MCQ, Viva Voce	Viva voce Viva voce	allied subjects in BHMS
2 40			how		y of a particular medicine in most commonly used HMM of		Understan d		Demonstratio n			

			eminent				
			authors				

Topic 5- Theory of Bio chemic tissue salts, its comparison with homoeopathy and study of 12 tissue remedies with their physico-chemical reaction:

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 5.1 HomUG- HMM-I- 5.2	Information Gathering, synthesis and application of knowledge in class room	Theory of Bio chemic tissue salts	Knows	Describe the Theory of Bio chemic tissue salts	Describe the Theory of Bio chemic tissue salts compare and contrast Homoeopathic system of medicine with Bio chemic tissue salts	Cognitive	Remember/ recall Understand	Must Know	Lecture, Small Group discussion	MCQ. Viva, Quiz Assignment	SAQ, MCQ	Horizontal Pharmacy, Biochemistry and Physiology Spiral Can compare the drug pathogenesis with Homoeopathic

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 5.3					co-relate the importance of knowledge of Biochemistry in better understanding of Bio chemic tissue salts List the 12 Bio chemic							medicines Vertical Can explore the utility of Biochemic salts in treating deficiencies in Medicine, OBG etc
5.4					tissue salts							

Sr. No.	Generic Competenc y	Subject Area	Millers Level: Does/Show s how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirabl e to know/ nice to know	T-L Methods	Formative Assessmen t	Summativ e Assessmen t	Integration Departments - Horizontal/ Vertical/ Spiral
HomUG -HMM- I-5.5 HomUG -HMM- I-5.6	Information Gathering Integration of information Problem formulation Practical Skills	Biochemi c medicines included in: Term II and III	Knows, Knows how, Shows how	1.Describe individual Biochemic tissue salts 2.Evolve the symptomtology of a particular drug 3.Observe the symptoms of a particular medicine in a clinical set-up	In addition to the competencies for homoeopathic medicines, Describe individual Bio chemic tissue salts Explain the pathogenesis and symptomolog y of each Bio chemic tissue salts as per Dr, Wilhelm H. Schuessler.	Cognitive, Psychomoto r	Remember / recall Understan d Interpret	Must Know	Lecture, Small Group discussion, Demonstratio n (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS

HomUG			Justify the				
-HMM-			portrait of				
I-5.7			each tissue				
			salt in				
			correlation				
			with the				
			knowledge of				
			Biochemistry.				
			-				

Topic 6- Scope and limitation of homoeopathic Materia Medica:

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG- HMM-I- 6.1 HomUG- HMM-I- 6.2	Information Gathering Integration of information	Scope and Limitations of HMM	Knows how	Must be able to comprehend the scope and limitations of Homoeopathic Materia Medica	List the scope and limitations of HMM Discuss the scope and limitations of HMM	Cognitive	Remember/recall Understand	Must Know Must Know	Lecture. Small group discussion Case Based learning Problem Based	LAQ SAQ Viva,	LAQ SAQ Viva,	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine.
HomUG- HMM-I- 6.3			Knows		Discuss the solutions to overcome the		Understand	Nice to know	Learning			Longitudinal and spiral with all allied subjects in

			limitations				BHMS
			of HMM				

8. ASSESSMENT

Assessment Summary

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical (Assignment+ Spotting)	Viva Voce	Internal Assessment- Practical*	Grand Total
1	HomUG-HMM-I	1	100	30+20= 50	40	10	200

^{*}Note-For Internal assessment, only Viva marks obtained in three PAs and two TTs will be considered as explained in table 8B-1 and to be calculated as per the table 8B-2 given below. Theory marks shall not be taken into account for this purpose.

8B-I - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1st term (1-6 Months)			2 nd Term (7-12 Months)			3 rd Term (13-18 Months)	
	First Professional	First PA + 1 ST TT		2 nd PA+2 ND TT		3 rd PA+UE			
1		1 st PA	1 st TT		2 nd PA	2 nd TT		3 rd PA	UE
1	BHMS	10 marks practical/viva	50 marks theory	50 marks viva	10 marks practical/viva	50 marks theory	50 marks viva	10 marks practical/viva	As per table 8A

PA: Periodical Assessment to be done only through practical/viva; TT: Term Test shall include both theory and viva; UE: University Examinations shall include both theory and viva as per table 8A

8B-II- Method of calculation of internal assessment marks for final university examination:

PA1 Practical/Viva (10 Marks)	PA2 Practical/Viva (10 Marks)	PA3 Practical/Viva (10 Marks)	Periodical Assessment Average PA1+PA2+PA3/3	TT1 Practical/ Viva (50 Marks)	TT2 Practical/ Viva (50 Marks)	Terminal Test Average TT1+ TT2/10	Final Internal Assessment Marks
A	В	C	D= A+B+C/3	E	F	G=E+F/10	D+G/2

8C - Paper Layout

Summative assessment:

Theory- 100 marks

MCQ	10 marks
SAQ	50 marks
LAQ	40 marks

$8\ D\!\!-\! I$ - Distribution of Theory exam

Sr. No	Paper			D Type of Ques "Yes" can be "No" should	asked.	
	A	В	C	MCQ	SAQ	LAQ
	List of Topics	Term	Marks	(1 Mark)	(5	(10 Marks)
					Marks)	
1	Definition and introduction of basic materia	I	Refer	Yes	Yes	No
	medica and HMM; compare HMM and other		Next			
	Materia Medica		Table			
2	Sources, types, construction, scope and	I,III		Yes	Yes	Yes
	limitation of Homoeopathic Materia Medica					
3	Theory of Biochemic system of medicine, its	II		Yes	Yes	Yes
	comparison with Homoeopathy and study of 12					
	Biochemic tissue salts with their physico-					
	chemical reaction					
4	Drug Picture- 50 Homoeopathic Medicines	II & III	1	Yes	Yes	Yes

8D– II - Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Definition and introduction of basic materia medica and HMM; compare HMM and other Materia Medica	Ι	7	Yes	Yes	No
В	Sources, types, construction, scope and limitation of Homoeopathic Materia Medica	I,III	17	Yes	Yes	Yes
С	Theory of Biochemic system of medicine, its comparision with Homoeopathy and study of 12 Biochemic tissue salts with their physico-chemical reaction	II & III	22	Yes	Yes	Yes
D	Drug Picture- 50 Homoeopathic Medicines	I,II& III	54	Yes	Yes	Yes

8E- Question paper Blue print

Question Serial Number	Type of Question	Question Paper Format (Refer table 8D- II Theme table for themes)
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part: 7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	 Theme A Theme A Theme B Theme B Theme C Theme C Theme D Theme D Theme D Theme D

Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ Nice to know: 1 SAQ	1. Theme A 2. Theme B 3. Theme C 4. Theme C 5. Theme D 6. Theme D 7. Theme D 8. Theme D 9. Theme D 10. Theme D
Q3	Long answer Questions (LAQ) Four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	 Theme B Theme C Theme D Theme D

Practical & Viva-100 marks

Viva voce	40 marks
Practical (Assignment)*	30 marks
Practical (Spotting)	20 marks
Internal assessment**	10 marks (viva/ clinical assessment)

^{*}Assignment shall comprise of compilation of complete drug-portrait of 6 polychrest remedies and 4 biochemic salts

** Method of calculation explained in table no. 8B-II

9. LIST OF RECOMMENDED REFERENCE BOOKS:

- Allen HC, 2005, Keynotes Rearranged and Classified with Leading Remedies of the Materia Medica and Bowel Nosodes, Reprint edition, B.Jain Publishers, New Delhi
- Choudhuri NM, 2006, A Study On Materia Medica Enriched with real case studies, Reprint revised edn, B.Jain Publishers, New Delhi
- Kent JT, 2015, Lectures On Homoeopathic Materia Medica, Reprint edn, B.Jain Publishers, New Delhi
- Burt W, 2009, Physiological Materia Medica, Third edn, B.Jain Publishers, New Delhi
- Boericke W, Dewey W, 2016, The Twelve Tissue Remedies By Schessler, Reprint edn, B.Jain Publishers, New Delhi
- All source books may be referred whenever required.

10. LIST OF CONTRIBUTORS

I. Dr Vijaykrishna V

MD (Hom)

Reader and PG guide Department of HMM Government Homoeopathic Medical college, Bangalore RGUHS Karnataka.

II. Dr. Vanija Sharma

M. D. (Hom.), Ph.D. (Hom.)

Associate professor and HOD Materia Medica,

Dr. MPK Homoeopathic medical college,

A constituent college of Homoeopathy University, Jaipur, Rajasthan.

FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(HOMOEOPATHIC REPERTORY and CASE TAKING)



HOMOEOPATHY EDUCATION BOARD NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

HOMOEOPATHIC REPERTORY and CASE TAKING (I PROFESSIONAL BHMS)

1. COURSE CODE: HomUG-R-I

SUBJECT NAME: HOMOEOPATHIC REPERTORY and CASE TAKING

INDEX

S. No	Description	Page Number
1	Preamble	02
2	Program Outcomes (PO)	03
3	Course outcomes (CO)	04
4	Teaching Hours	05
5	Course Contents of Hom UG-Rep-I	06
6	Teaching Learning methods	08
7	Content mapping-Learning Objectives (Theory) of Course HomUG-Rep-I	09
8	List of Practical Topics	15
9	List of Recommended Books	16
10	List of Contributors	17

1.PREAMBLE

The Homoeopathic Materia Medica has expanded manifold since the proving of "Cinchona Bark" by Dr. Samuel Hahnemann and today we have over five thousand remedies in the Materia Medica. It is impossible for any human mind to memorise all the symptoms of each drug and to recall those symptoms while prescribing. Therefore, the need of indexing of these symptoms along with the drugs producing those symptoms were felt by Dr. Samuel Hahnemann himself and subsequently by other homoeopaths for prescribing at the bedside of the patient.

Homoeopathic Repertory is a Dictionary or Storehouse or an index to the huge mass of symptoms of the Homoeopathic Materia Medica. The repertory is organized in a practical form indicating the relative gradation of drugs. Repertories not only contain symptoms of proving but also clinical and pathological symptoms found in the Homoeopathic Materia Medica. Repertories serve as an instrument at the disposal of the physician for sifting through the maze of symptoms of the vast Homoeopathic Materia Medica.

Repertories aim at simplifying the work of the physician to find the indicated remedy by eliminating the non-indicated remedies. Repertorisation is not the end but a means to arrive to the simillimum and reference to Homoeopathic Materia Medica based on sound principles of Philosophy is the final court of appeal.

Each repertory has been compiled on the basis of distinct philosophy, structure and utility. In order to use these instruments effectively, one must understand thoroughly its conceptual base, construction and utility and limitations. Even though there are a number of repertories, the student at the under graduate level is expected to learn the philosophy and application of basic core repertories namely Kent, Boger's Boenninghausen Characteristics and Repertory and Boenninghausen's Therapeutic Pocket Book. The subject of Repertory must not be taught in isolation but must be taught in horizontal integration with Anatomy, Physiology in I BHMS; Pathology, Surgery, Gynaecology and Practice of Medicine in II BHMS; Surgery, Gynaecology, Practice of Medicine in III BHMS and Practice of Medicine in IV BHMS and vertically integrated with Homoeopathic Materia Medica and Organon and Homoeopathic Philosophy in all the years. Integrated teaching in all the years will help the student to grasp and understand the subjects better and connect repertory to all other subjects.

Similarly, case taking demands virtual integration of all the subjects taught from the 1st BHMS to IV BHMS in the consulting room or at the bedside. The physician can never say that he has learnt all that is to the case taking process. Every new patient has a new lesson to teach.

The advent of computerization and resulting software has opened up vast newer avenues to collate and correlate the vast information found in the Homoeopathic Materia Medica through the repertories. Continued exploration of these connections will generate new data, newer repertories and the newer application to existing or newer illnesses.

2.PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

- 1.Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
- 2. Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
- 3.Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
- 4.Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
- 5.Be willing and able to practice homoeopathy as per medical ethics and professionalism.
- 6.Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
- 7. Develop the capacity for critical thinking, self-reflection and a research orientation as required for developing evidence based homoeopathic practice.
- 8. Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
- 9. Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3. COURSE OUTCOMES (CO):

At the end of course in Repertory, the Final BHMS student shall be able to

- 1. Describe the philosophical background, construction, utility and limitations of various repertories
- 2. Demonstrate case taking and show empathy with the patient and family during case taking
- 3. Demonstrate various steps for systematic case processing viz. analysis of case, evaluation of symptoms as per Homoeopathic principles to form Totality of symptoms
- 4. Choose the appropriate repertorial approach, Method and Technique to repertorize a case
- 5. Utilize Repertory as a tool to find out simillimum in all types of cases and in the study of Materia Medica
- 6. Integrate other subjects in understanding the construction and utility of repertories
- 7. Utilize different software for Repertorization, patient data management and record keeping.
- 8. Demonstrate aptitude to utilize repertory for research in Homoeopathy and lifelong learning

COURSE OUTCOMES OF REPERTORY FOR I BHMS

At the end of IBHMS, the student should be able to,

- 1. Define Repertory.
- 2. Explain the need and utility of repertory to find simillimum and in the study of Materia Medica
- 3. Define various terminologies used in repertory and explain their utility
- 4. Locate different rubrics related to anatomy, physiology and psychology in Kent's Repertory
- 5. Illustrate the construction of Kent's Repertory as per the Hahnemannian Anatomical schema

4.TEACHING HOURS

Total Number of Teaching Hours: 21							
Course Name	Lectures	Non-Lectures	Total				
Taking	21	-	21				
(<mark>HomUG-R-I)</mark>							

5. COURSE CONTENT(HomUG-R-I)

S.	List of Topics	Lecture Hours
No		
1	Introduction to Repertory, Definition and Meaning of	3
	Repertory	
	 General Introduction to Repertory 	
	❖ Origin of Repertory	
	❖ Need of Repertory	
	Definition of Repertory	
	❖ Meaning of REPERTORIUM	
2	Need and uses of repertory and repertorization	3
	 Uses and Scopes of Repertory 	
	 Limitations of Repertory 	
	Definition of Repertorization	
	Introduction to Methods and Techniques of	
	Repertorization	
3	Terminologies relevant to Repertory	3
	❖ Repertory	
	❖ Rubric	
	❖ Gradation	
	❖ Cross Reference	
	❖ Synonym	
	* Repertorization	
	Totality of Symptoms	
	Repertorial Totality	
	❖ Potential Differential Field	
	❖ Conceptual Image	

	❖ Case taking	
	Analysis of a case	
	Evaluation of a Case	
	❖ Longitudinal case Study	
	Cross Section Study of a case	
	❖ General Repertory	
	❖ Regional Repertory	
	❖ Logico-Utilitarian Repertory	
	Puritan Repertory	
4	Schematic representation of chapters in Kent's	6
	repertory	
	❖ Introduction to Kent's Repertory	
	Listing of Chapters in Kent's Repertory	
	❖ Correlation of Chapters in Kent's Repertory to	
	Hahnemannian Anatomical Schema	
	❖ Chapters and Rubrics related to anatomical	
	structures, physiological processes and psychology	
	in Kent's Repertory	
5	Correlation of Anatomy, Physiology and Psychology	6
	with Repertory	
	Introduction to correlation with Anatomy,	
	Physiology and Psychology with Repertory	
	 Chapters and Rubrics related to Anatomical parts in 	
	Dr. Kent's Repertory	
	Chapters and Rubrics related to Physiology in Dr.	
	Kent's Repertory	
	Rubrics related to emotions, intellect and memory	
	in Mind chapter of Dr. Kent's Repertory	

6.Teaching Learning Methods

Theory	Practicals/ Clinics
Lectures	Clinical Bedside Teaching
Small Group Discussion	Integrated Clinics
Integrated Lectures	Case Study
Integrated Seminars	Rubric Banks
Assignments	
Rubric Banks	
Library Reference	

7.Con	tent Mappin	g (Theory) of (Course HomUG	-R-I					
	Millers Level: Does/Sho ws how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formativ e Assessm ent	Sum ativ Asse mer
	1	1	T		Τ	T	Γ.	T	1
tion to Reperto of ry	Knows	acquainted with tools required to search for remedy.	term Repertory	Cognitive	(Remember / recall)	Must Know	Small Group discussio n	MCQ, SAQ, Viva Voce	
	Knows		Explain the meaning of Repertory	Cognitive	Level I (Remember / recall)	Desira ble to know	Lecture, Small Group discussio n	MCQ, SAQ, Viva Voce	
	Knows		Discuss the origin of the word Repertory	Cognitive	Level II (Understan d)	Nice to know	Lecture, Small Group discussio n	MCQ, SAQ, Viva Voce	
	Knows		List three uses and three limitations of Repertory	Cognitive	Level I (Remember / recall)	Must Know	Lecture, Integrate d teaching (with Materia Medica) Small Group discussio n	MCQ, SAQ, Viva Voce	
	Subject Area Introduction g Introduction to Reperto	Subject Area Level: Does/Sho ws how/ Knows how/ Knows Introduction to Repertor g Introduction to Repertor of ry ii Knows Knows Knows	Subject Area Level: Competency Does/Shows how/Knows how/Knows How Knows Subject Level: Competency Specific	Subject Area Level: Competenc y Does/Sho ws how/ Knows how/ Knows Introduction to Repertory, Definition and Meaning of go Introduc tion to Repertory (Search for remedy). Knows Explain the meaning of Repertory Knows Discuss the origin of the word Repertory Knows List three uses and three limitations	Area Level: Competenc V Does/Sho ws how/ Knows how/ Knows Introduction to Repertory, Definition and Meaning of Repertory g Introduction to Repertory Knows Get acquainted with tools required to search for remedy. Knows Explain the meaning of Repertory Knows Discuss the origin of the word Repertory Knows Knows List three uses and three limitations	Subject Area Millers Level: Competenc Outcome Domain Guilbert's Level Does/Sho ws how/ Knows how/ Knows how/ Knows Millers Level Outcome Domain Level Improduction to Repertory, Definition and Meaning of Repertory Get dion to Repertory Cognitive Level Improved Repertory Repertory	Subject Area Millers Level: Competenc Does/Sho ws how/ Knows how/ Knows how/ Knows how/ Knows Domain Level Must Know/ Now how/ Knows how/ Knows how/ Knows Must Knows how/ Knows how/ Knows how/ Knows Must Knows how/ Knows how/ Knows Must Knows how/ Knows how/ Knows Must Knows how/ Knows how/ Knows Must Knows how/ Knows how/ Knows how/ Knows Must Knows how/ Knows h	Subject of Area Subject of Area	Subject Area Millers Level: Competency Does/Shows how/ Knows Now/ Knows how/ Knows Now/ Knows Now/ Knows Now How How How How How How How How How H

]
eric peten	Subject Area	Millers Level: Does/Sho ws how/ Knows how/ Knows	Specific Competenc y	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formativ e Assessm ent	Sum ativ Asso men
IC 2: Ne	ed and use	es of reperto	ory and repert	orisation						
gratio of mati	Need and uses of repertor y and repertor isation	Knows	Get acquainted with tools required to search for remedy.		Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n	MCQ, SAQ, Viva Voce	
		Knows		Explain the need of Repertorizat ion to find a simillimum	Cognitive	Level II (Understan d)	Desira ble to know	Lecture, Small Group discussio n	MCQ, SAQ, Viva Voce]
		Knows		Describe the uses of Repertory	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	
		Knows		Describe the limitations of Repertory	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n	MCQ, SAQ, Viva Voce	
		Knows		Discuss the use of Repertory as a tool to	Cognitive	Level II (Understan d)	Desira ble to know	Lecture, Small Group discussio	MCQ, SAQ, Viva Voce	

ric	Subject	Millers	Specific	SLO/	Blooms	Guilbert's	Must	T-L	Formativ	Sur
eten	Area	Level: Does/Sho ws how/ Knows how/ Knows	Competenc y	Outcome	Domain	Level	Know/ Desira ble to know/ nice to know	Methods	e Assessm ent	ati Ass me
				select the remedy for a given case				n, Clinical Teaching		
	rminologie	s relevant to	o Repertory							
ering ratio of nati	Termino logies used in repertor y	Knows	To understand the definition of various terminologi es used in repertory in order to apply them for Repertoriza tion	Define different terminology associated with repertory	Cognitive	Level I (Remember / recall)	Must	Lecture, Small Group discussio n,	MCQ, SAQ, Viva Voce	
		Knows		Explain the meaning and use of each terminology	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce	
		Knows		Apply the terminology in the process of Repertorizat ion	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce	
4: Sc	hematic re	 presentatio	n of chapters	in Kent's repert	tory					1
										_

ric	Subject	Millers	Specific	SLO/	Blooms	Guilbert's	Must	T-L	Formativ	Sun
eten	Area	Level:	Competenc	Outcome	Domain	Level	Know/	Methods	е	ativ
		Does/Sho	у				Desira		Assessm	Ass
		ws how/					ble to		ent	me
		Knows					know/			
		how/					nice to			
		Knows					know			
ring	Schema	Knows	То	List the 37	Cognitive	Level I	Must	Lecture,	MCQ,	
ъ	tic		understand	chapters of	208111111	(Remember	know	Small	SAQ, Viva	
atio	represe		the	Kent's		/ recall)		Group	Voce,	
of	ntation		arrangeme	Repertory in		, ,		discussio	OSPE	
nati	of		nt of	the proper				n, Clinical		
	chapter		Chapters in	order				teaching		
em	s in		Dr. Kent's							
g	Kent's		Repertory							
	repertor									
	У									
		Shows		Demonstrat	Cognitive	Level II	Must	Lecture,	MCQ,	
		how		e the		(Understan	know	Small	SAQ, Viva	
				relation of		d)		Group	Voce,	
				chapters in Kent's				discussio	OSPE	
				Repertory to				n, Clinical teaching		
				Anatomy				ccaciiiig		
				and						
				Physiology						
				and mental						
				rubrics to						
				Psychology						
		Knows		Discuss the	Cognitive	Level II	Desira	Lecture,	MCQ,	
				correlation		(Understan	ble to	Small	SAQ, Viva	
				of chapters		d)	know	Group	Voce,	
				in Kent's				discussio	OSPE	
				Repertory to the				n, Clinical		
				tne schematic				teaching		
				representati						
				on of						
				remedies in						

eric Deten	Subject Area	Millers Level:	Specific	SLO/						
ion of a	Anatomy, F	Does/Sho ws how/ Knows how/ Knows	Competenc y and Psychology	Outcome Materia Medica with Repertor	Blooms Domain	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formativ e Assessm ent	Sum ativ Asse mer
ering ratio of mati em	Correlat ion of Anatom y, Physiolo gy and Psychol ogy with Reperto ry	Knows	To correlate the knowledge of Anatomy, physiology And Psychology in constructio n of Repertory and Rubrics	Apply the correlation of Anatomical Structures to Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understan d)	Must	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	
		Knows		Relate physiological Processes to the Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	
		Knows		Apply the correlation of psychology in Mind Chapter and Rubrics in	Cognitive	Level II (Understan d)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	

ric	Subject	Millers	Specific	SLO/	Blooms	Guilbert's	Must	T-L	Formativ	Sun
oeten	Area	Level: Does/Sho ws how/ Knows how/ Knows	Competenc y	Outcome	Domain	Level	Know/ Desira ble to know/ nice to know	Methods	e Assessm ent	Asse mer
				Kent's Repertory						
		Shows		Locate rubrics related to Anatomy, Physiology and Psychology in Kent's repertory	Psychomo tor	Level II (Control)	Must know	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	
		Knows		Apply rubrics related to Anatomy, Physiology and Psychology in understanding remedies in Materia Medica and Repertory	Cognitive	Level II (Understan d)	Must	Lecture, Small Group discussio n, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	

8.List of Practical Topics

S. No	Name of Topic	Activity/ Practical	TL Me	thod
1	Basic Structure of Repertory showing arrangement of rubric of anatomy, physiology and psychology	Arrangement of Chapters and rubrics related	Integra BHMS	

9. List of Recommended Books

- ❖ Dhawale ML (2000) Principles and Practice of Homoeopathy
- ❖ Hahnemann S (2017). Organon of Medicine 6th Edition
- ❖ Kent, JT- Repertory of the Homoeopathic Materia Medica (Sixth American Edition)
- ❖ Kishore, Jugal (2004) -Evolution of Homoeopathic Repertories and Repertorization
- ❖ Munir Ahmed R (2016). Fundamentals of Repertories: Alchemy of homeopathic methodology
- ❖ Patel, R.P (1998): The Art of Case Taking and Practical Repertorization
- Tiwari, Shashikant (2005) Essentials of Repertorisation

List of contributors:

1. Dr. Manish Arya

Professor and HOD, Department of Repertory, Dr. D.Y. Patil Homoeopathic Medical College and Research Centre, Pune

2. Dr. Lokanath Behera

Associate Professor& Head of the Department (Repertory) National Institute of Homoeopathy

3. Dr. Kamlesh Mehta

Former HOD, CMP College, Mumbai

4. Dr. Hema Parikh

Prof, MKSH, Karjan

5. Dr. Manisha Patel

HOD, Dr. R A Patel HMC, Mehsana

6. Dr. Uttara Agale

Reader, YMT, Kharghar

COMPETENCY BASED DYNAMIC CURRICULUM FOR FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

(Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology)



HOMOEOPATHY EDUCATION BOARD

NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN
No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi 10
ORGANON OF MEDICINE
HERBS IN MEDICINE

<u>INDEX</u>

Sr. No	Title	Page No.
1.	Preamble	2
2.	Course Code and Name of Course	3
3.	C <mark>ourse Outcomes (CO)</mark>	3
4.	Contents of CourseHomUG-OM-I (Course Contents, Teaching Hours)	37
5.	Table 2-Learning Objectives (Theory) of Course HomUG-OM-I	<mark>41</mark>
6.	Psychology	59
7.	<mark>Assessment</mark>	1 <mark>36</mark>
8.	References/ Resources	145
9.	List of Contributors	147

I PROFESSIONAL BHMS

Subject NAME: Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology

Subject CODE: HomUG-OM-I

TEACHING HOURS:

1 st BHMS Organon of Medicine a Psychology	and Homoeopathic Philosophy	y, and Fundamentals of				
YEAR	AR TEACHING HOURS-					
	LECTURES	NON-LECTURE				
1 ST BHMS	180	100				

Preamble-

Organon of Medicine with Homoeopathic Philosophy is a central fulcrum around which education and training of a homoeopathic physician revolves. It lays down the foundations of homoeopathic practice, education, training and research. It not only elaborates on the fundamental laws but also how to apply them in practice. It defines the qualities of a healer, guides the homoeopathic physician in inculcating values and attitude and develop skills.

Nature nurtures us. It is well depicted in our science. Therefore, Homoeopathy is in sync with Nature. The need to keep life force within us well balanced with nature is well established in Organon. Hahnemann as an ecologist was well ahead of his time. Philosophically, it connects man and his actions to the dynamic forces available in nature, thus bringing to fore the holistic approach. Lateralization of these concepts helps the student to develop insight into various facets of Life & Living. Organon orients the students to homoeopathy as an Art & Science. Its comprehensive understanding needs a core competency in logic and the concepts of generalization and individualization. Its treatment of disease process and relating to the concept of Miasm makes it a study of the process of scientific investigation.

The biggest challenge in teaching-learning of Organon is to first understand the fundamentals according to the Master's writing and then demonstrate them in practice. Quality and real time integration with other subjects helps a student to conceive the holistic perceiving of Man and Materia Medica. The concepts and knowledge required by the Physician with operational knowledge of management of patients and their diseases will need horizontal and vertical integration with Homoeopathic subjects and clinical subjects.

First BHMS will need horizontal integration with Anatomy, Physiology, Homoeopathic Pharmacy and Homoeopathic Materia Medica. Organon will have spiral integration with itself and vertical integration with clinical subjects. Second year will need integration with pathology, community medicine, forensic medicine, along with other homoeopathic subjects. Third and fourth year establishes links with clinical subjects, research methodology and pharmacology.

Science is never static. Since the time of Hahnemann, medical science has advanced by leaps and bounds. Since Homoeopathy is based on principles rooted in nature, they would stand the test of time. However, their application in the changing times and circumstances would find newer avenues to heal. This is an opportunity for a homoeopath to connect the current advances while relating with the fundamental laws. Mastering all this will make him a master healer and will move him towards higher purpose of existence.

1. Course Code and Name of Course

Course Code	Name of Course
HomUG-OM-I	Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology.

2.COURSE OUTCOMES (CO):

At the end of course in Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology, the BHMS student shall be able to:

- 1. Explain the Cardinal Principles and Fundamental laws of Homoeopathy.
- 2. Describe the concept of Health, Disease and Cure in Homeopathy
- 3. Interpret a case according to the Hahnemannian Classification of Disease
- 4. Apply the Theory of Chronic Disease to determine the miasmatical background in a case.
- 5. Demonstrate case taking and show empathy with the patient and family during case taking
- 6. Demonstrate Analysis, evaluation of the case to form the Portrait of disease
- 7. Apply the concept of Susceptibility to determine posology in a given case
- 8. Interpret the action of the medicine in a case on the basis of Remedy reactions.
- 9. Apply knowledge of various therapeutic modalities, auxiliary measures & its integration with prevalent & other concepts in the management of patients.
- 10. Identify the various obstacles to cure and plan treatment accordingly.
- 11. Display qualities, duties & roles of a Physician as true practitioner of healing art
- 12. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles

- 13. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.
- 14. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences
- 15. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
- 16. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
- 17. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.
- 18. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.
- 19. Identify socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

Specific Objectives of Organon of Medicine and Homoeopathic philosophy in1stBHMS

- 1. Recall the history of medicine and history of homoeopathy to relate its evolution
- 2. Correlate the first six aphorisms of Organon of Medicine for the study of anatomy, physiology, pharmacy.
- 3. Discuss the concept of health, indisposition and disease and its importance into the learning of anatomy, physiology, pharmacy and psychology
- 4. Discuss concept of Dynamization with health, disease and drug
- 5. Develop portrait of drug in the context of knowledge of anatomy, physiology, psychology and pharmacy
- 6. Explain the procedure and ethics of Drug proving

COURSE OUTCOMES (CO)of Organon of Medicine and Homoeopathic Philosophy for I BHMS

At the end of I BHMS, the student should be able to,

- 1. Summarize the important milestones in the History of Medicine and development of Homoeopathy.
- 2. Value the contributions and qualities of Dr. Hahnemann as a physician and person
- 3. Recall the contributions of stalwarts in development of Homoeopathy
- 4. Explain the Cardinal Principles and Fundamental laws of Homoeopathy
- 5. Explain the Homoeopathic concept of Health, Disease and Cure in light of modern concepts

- 6. Apply Inductive and Deductive Logic in the study of the Basic principles of Homoeopathy
- 7. Describe the important features of the various editions and Ground plan of Organon of Medicine
- 8. Explain the meaning and significance of aphorisms §1-27
- 9. Relate the concepts of homoeopathic philosophy with other pre-, para-, and clinical skills by way of horizontal, vertical and spiral integration.

3. Contents of Course HomUG-OM-I

Course Contents-

- 1. Introduction:
 - 1.1. History of medicine
 - 1.2. History of Homoeopathy
 - Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy
 - 1.3. Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, M L Sircar& B K Sarkar.
 - 1.4 History and Development of Homoeopathy in brief in India, U.S.A. and European countries
 - 1.5. Fundamental Principles of Homoeopathy.
 - 1.6. Basic concept: Individualistic, Holistic& Dynamic
 - 1.6.1. Life; Hahnemann's concept and modern concept.
 - 1.6.2. Health: Hahnemann's concept and modern concept.
 - 1.6.3. Disease: Hahnemann's concept and modern concept.
 - 1.6.4. Cure.
 - 1.7. Understanding Homoeopathy in vertical, horizontal & spiral integration with pre, para & clinical subject.
- 2. Logic: To understand Organon of medicine and homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive and deductive reasoning. Preliminary lectures on inductive and deductive logic (with reference to philosophy book of Stuart Close Chapter 3 and 16).
- 3. § 1 to 27 of Organon of medicine, § 105 to 145
- 4. The physician purpose of existence, qualities, duties and knowledge
- 5. Vital force- dynamization- homoeopathic cure- natures law of cure & its Implicationsdrug proving

1: Topics with reference list referring to Chapters from the text books						
Topic	Kent	Roberts	Close	Dhawale		
Understanding the first six aphorisms and its application in the study of anatomy, physiology, pharmacy.	1-6	1	6	4		
Concept of health, indisposition and disease and its importance in learning anatomy, physiology, pharmacy and psychology	1 to 9	2, 3, 4	6	2		
Dynamization and relating with health, disease and drug	10, 11	2-6	14, 15	2, 16		
Developing portrait of drug with help of knowledge of anatomy, physiology, psychology and pharmacy	13,21- 25,26	15	15	16		

Non lectures - community - OPD/IPD -

Students will be exposed to OPD/PD-community from first BHMS:

Students will understand the first six aphorisms in action and will get sensitized to socio-cultural-political-economical perspective of the community. They should develop insight into what constitutes health and how disease develops.

Introduce Journals from 1st year-

Habit of collecting evidence and noting them down vis-a-vis the expected objective will train them for evidence-based learning and inculcating the habit of using logic so inherent in Homoeopathic practice.

They also will realize the importance of skill and attitude and relevance of each subject in relation to Organon and Homoeopathic philosophy

They will write their experience of the clinic/OPD in relation to Observation/Cure/relief/Mission/Prevention/acute/chronic/indisposition etc.

- (i) 5 medicines from HMM to correlate with Physiology-Anatomy-Pharmacy.
- (ii) 5 cases observed in OPD

Teaching Learning Method

Assignments- Group work

Problem Based Learning through Cases- Literature

Group Discussion – Problem based learning

Project work with its presentations in class

Practicing Evaluation & Feedback system- after Project work, assignments & Group Discussions.

Teaching Hours-

1 st BHMS Organon Classroom teaching and non-lecture hours						
YEAR	TEACHING HOURS- LECTURES	Non-lecture				
1 ST BHMS	130	78				

Teaching Hours Theory

Sr. No.	List of Topics	Term	Lectures	Non- Lectures
1	History of medicine in brief History and Development of Homoeopathy In brief in India, U.S.A. & European Countries	I	5	5
2	Short history of Hahnemann's life, his contributions & situation leading to discovery of Homoeopathy	I	5	5
3	Brief History & Contributions of Boenninghausen, Hering, Kent, RL Dutt, ML Sircar & BK Sirkar	1	15	
4	Logic: To understand organon of medicine & homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive & deductive reasoning. Preliminary lectures on inductive & deductive logic with reference to philosophy of Stuart Close.	I	5	5
5	Science & Art in Homoeopathy	1	5	
6	Different Editions & Constructions of Hahnemann's Organon of Medicine	1	10	5
7	Fundamental Principles of Homoeopathy	II	20	5
8	Basic concept of: Individualistic & Holistic Life: Hahnemann's concept & Modern Concept Health: Hahnemann's Concept & Modern Concept Disease: Hahnemann's Concept & Modern Concept Cure: Hahnemann's Concept & Modern Concept	II	5	5
9	§1-27&105-145 of Organon of medicine	11/111	60(20+40)	48
			130	78

4. Table 2-Learning Objectives (Theory) of Course HomUG-OM-I

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Acquirin g and Integrati on of Informat ion	History of Medicine as it is evolved with important milestone s	Knows	Explain History of Medicine with important milestone s	Describe the evolution of Medicine	Cognit ive	Level II Understand and interpret	Must Know	Lecture, small group discussio n, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Practise of medicine
		Knows		Summarize important Milestones in Development and Evolution of Medicine	Cognit ive	Level II Understand and interpret	Nice to Know	Lecture, small group discussio n, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Practise of medicine

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
		Knows		Describe the contribution of various Stalwarts in development of medicine	Cognit ive	Level II Understand and interpret	Nice to Know	Lecture, small group discussio n, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Practice of medicine

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
Acquirin g and Integrati on of Informat	History of Homoeop athy as it is evolved with important milestone s	Knows	Describe History of Homoeop athy	Describe History of Homoeopath y	Cognit ive	Level II Understand and interpret	Must Know	Lecture small group discussio n Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica repertory
				Describe the important milestones in the evolution of Homoeopath y	Cognit ive	Level II Understand and interpret	Must Know	Lecture small group discussio n Seminars Quiz	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica repertory

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
				Discuss the significance of important milestones in the evolution of Homoeopath y	ive	Level II Understand and interpret	Must Know	Lecture small group discussio n Seminar s Quiz	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica repertory

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Acquirin) – LIFE HISTOI Hahnema	Knows	Describe	Explain in	Cognit		Must	Lecture	MCQ,	MCQ,	Materia
g and Integrati on of Informat ion	nn's Life History		Hahnema nn's Life History	detail the Life history of Dr. Hahnemann with his contribution towards Homoeopath y	ive	Understand and interpret	Know	Small Group Discussi ons Presenta tion	SAQ, LAQ, Quiz	SAQ, LAQ, Viva	Medica
				Discuss the contribution and qualities of Dr. Hahneman n as a physician and person	Affect ive	Level II Understand and interpret	Must Know	Lecture Small Group Discussi ons Presenta tion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Acquirin g and Integrati on of Informat ion	Stalwarts of Homoeop athy	Knows	Life History of Different Stalwarts In Homoeop athy	Describe Life History of Following stalwarts Dr. Kent, Dr. Boger, Dr.Boenningh ausen. Dr, Hering, Dr. T.F. Allen, Dr. M.L. Sircar	Cognit	Level II Understand and interpret	Desira ble to know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory
				Discuss the Contributions of stalwarts in development of Homoeopath y	Cognit ive	Level II Understand and interpret	Desira ble to know	Lecture Small Group Discussio n Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
TOPIC 1(1.4	– HISTORY &	DEVELOPME	NT OF HOMO	EOPATHY IN INI	DIA. USA 8	& EUROPEON CO	UNTRIES			•	
Acquirin g and Integrati on of Informat ion	History & Developm ent of Homoeop athy in India, USA & European Countries	Knows	History & Developm ent of Homoeop athy in India, USA & European Countries	Explain the History & development of Homoeopath y in India, USA and European countries	Cognit ive	Understand and interpret	Desira ble to know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica
		Knows		Discuss the Contributions of stalwarts in development of Homoeopath y in India, USA and European countries	Cognit ive	Level II Understand and interpret	Desira ble to know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory

TOPIC 1(1.5): Fundamental Principles of Homoeopathy

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
Acquirin g and Integrati on of Informat ion	Fundame ntal Principles of Homoeop athy	Knows	Understa nding the Fundame ntal Principles that govern Homoeop athy	Enumerate the cardinal principles of Homoeopath y	Cognit ive	Level II Understand and interpret	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmac y
		Knows		Explain the Cardinal Principles and Fundamental laws of Homoeopath y	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmac y
		Knows		Describe the significance and	Cognit ive	Understand (Level II)	Must know	Lecture	MCQ, SAQ,	MCQ, SAQ,	Materia Medica

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
				importance of Cardinal Principles and Fundamental laws				Small Group Discussi on Seminar s	LAQ, Quiz	LAQ, Viva	Pharmac y
TOPIC		t of Health Di	sease and Cure	as per Hahnema	ann's conce	ept and correlation	on with mo	dern concept	<u>.</u>		1
Acquirin g and Integrati on of Informat ion	Concept of Health Disease and Cure	Knows	Knowledg e and applicatio n of concept of Health, Disease and Cure	Define the terms Health, disease and cure according to Dr.	Cognit ive		Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy physiolog y pharmacy Materia Medica
		Knows		Define the terms Health, disease and cure	Cognit ive	Remember (Level I)	Must know	Lecture Small Group Discussio	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy physiolog y pharmacy

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
				according to modern concept.				n Seminars			
		Knows		Explain Health, disease and cure according to Dr Hahnemann	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy , physiolog y, pharmacy
		Knows		Differentiate the Hahnemannia n concept of health, disease and cure from the modern concept	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Anatomy Physiolog y Pharmac

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
TOPIC 1(1	.7): Different	t editions a	nd Construc	tions of Orgar	on of Me	edicine					
Acquirin g and Integrati on of Informat ion	Different editions and Constructi ons of Organon of Medicine	Knows	Significan ce of Different editions and Constructi ons of Organon of Medicine	Explain the history & development different editions and Constructions of Organon of Medicine	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica physiolog y and pharmacy
		Knows		Differentiate between Different editions and Constructions of Organon of Medicine	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmac y

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Topic 2:	Logic										
Acquirin g and Integrati on of Informat ion	Logic in Homoeop athy	Knows	Utility and Correlating Logic to Homoeopat hy	Inductive Logic 2.Deductive Logic	Cognit ive	Understand and interpret	Must know	Lecture Small Group Discussi on Seminar	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertor y
		Knows		Differentiate between inductive and deductive logic using examples	Cognit ive	Level 2 Understand and interpret	Must know	Lecture Small Group Discussio n Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Apply the concept of Inductive and Deductive Logic to the	Cognit ive	Level III Decision/pr oblem solving	Must know	Lecture Small Group Discussio	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Repertor y

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
				Fundamental Principles of Homoeopath Y				n Seminars			
Topic3: A	ohorisms 1-2	27 and 105-:	L45				•				
Acquirin g and Integrati on of Informat	Aphorism	Knows	Understa nding the meaning of Aphorism	Explain the meaning and significance of	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Anatomy , Physiolog y Pharmac
ion			S	Aph. 1-27				Seminar s			y Materia Medica
				Explain Drug proving as per Aph 105-145	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on, seminar	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Integrate d teaching with Homoeop athic Pharmacy

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Topic 4 : F	hysician- Pu	rpose of ex	kistence, qua	lities, duties a	and knov	vledge					
Acquirin	Homoeop	Knows	Qualities	Recognize	Affect	Receiving	Desira	Lecture	MCQ,	MCQ,	
g and	athic		and	the	ive		ble to	Small	SAQ,	SAQ,	
Integrati	Physician		Attributes	qualities,			know	Group	LAQ,	LAQ,	
on of			of a	duties and				Discussi	Quiz	Viva	
Informat			Physician	knowledge				on			
ion				expected				Seminar			
				from a				S			
				physician							
				Explain the	Cognit	Understand	Must	Lecture	MCQ,	MCQ,	
				Mission,	ive	(Level II)	know	Small	SAQ,	SAQ,	
				qualities,				Group	LAQ,	LAQ,	
				duties & role of a				Discussi	Quiz	Viva	
				of a Physician as				on			
				true				Seminar			
				practitioner				S			
				of healing art							

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
Topic 5: V	ital force- dy	<u>namisation</u>	n- homoe <mark>opa</mark>	thic cure- nat	ures law	of cure & its I	mplicatio	ns- drug pr	oving		
Acquiring and Integratio n of Informati on	Concept of Vital Force and Drug Dynamizat ion	Knows	Importanc e of Vital Force in health, disease and Cure and Drug Dynamizat ion	Explain the roleof vital force in health, disease and cure	Cogniti ve	Understand (Level II)	Must know	Lecture Small Group Discussio n Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacy
		Knows		Explain the concept of Homoeopat hic Dynamizatio n	Cogniti ve	Understand (Level II)	Must know	Lecture Small Group Discussio n Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Pharmacy
		Knows		Enumerate the methods of Homoeopat hic	Cognit ive	Remember (Level I)	Must know	Lecture Small Group Discussio	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Pharmac y

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/ Vertical/ Spiral
				Dynamizatio n				n Seminars			
		Knows		Explain the Nature's therapeutic law of cure	Cognit ive	Understand (Level II)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Apply Nature therapeutic law of cure to Homoeopat hy	Cognit ive	Understand (Level III)	Must know	Lecture Small Group Discussi on Seminar s	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

Generic Compet ency	Subject Area	Millers Level: Does/Sh ows how/ Knows how/ Knows	Specific Compete ncy	SLO/ Outcome	Bloo ms Doma in	Guilbert's Level	Must Know/ Desira ble to know/ nice to know	T-L Methods	Formati ve Assess ment	Summa tive Assess ment	Integratio n Departm ents- Horizonta I/Vertical/ Spiral
		Knows		Explain Drug Proving					MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Pharmacy

Table 3. Non-Lecture Activities

Sr. No	Non-Lecture Teaching Learning methods	Total Time Allotted per Activity (Hours)
1	Seminars/ Workshops	
2	Group Discussions	
3	Problem based learning	
4	Integrated Teaching	78 hours
5	Case Based Learning	
6	Self-Directed Learning	
7	Tutorials, Assignments, Projects	
	Total	78 hours

Psychology

Preamble

Mind is an invisible dynamic force operating on the body which can be seen and felt with its expressions at multiple levels. While understanding Man it is important to know how he behaves, feels and thinks in general of his life and in different situations.

Health is that balanced condition of the living organism in which the integral, harmonious performance of the vital functions tends to the preservation of the organism ensuring the normal development of the individual. In a similar way, study of mind is an inseparable component of the study of man and is essential for prescribing. Thus mind remains an integral component of Homoeopathic prescribing.

In § 5 of Organon of Medicine, Dr Hahnemann talked of basic knowledges required for Homoeopathic practice of Holistic cure. According to him homoeopathic physician has to have knowledge of:

- a Constitution of Man
- b. His moral & intellectual character
- c. Mode of living habits
- d. His social & domestic relations
- e. His adaptations with the environment

Above knowledge will help the Homoeopathic physician not only to understand the person in the patient but also to identify the cause of suffering by delving in to detailed enquiry. This may take the form of exploring evolutionary aspects from childhood to present, from family history – past history to present illness - all of which will indicate the qualities of the human in health as well as in disease.

Psychology is a science of mind and behaviour which is important and necessary in all areas of life including the growth and development of human being. Theoretically, psychology examines psychological phenomena and behavioural patterns that appear as individual's external behavioural reactions against any stimulus - be it Biological—Psychological—Emotional—Social-Spiritual.

Modern concept of psychology has talked of Mental Health and Hygiene which indicates the importance and great need for ensuring psychological wellbeing in us. This state is under constant stress due to the rapid changes taking place in the life situation due to internal pressures and external environment.

Index

Sr. No	Title	Page No.
1	Course Outcomes	61
2	Course Content	63
3	Teaching Methods	134
4	Number of Teaching Hours	135
5	Table.7- Assessment Summary	136
6	Number of papers and Mark Distribution	136
7	Scheme of Assessment (formative and Summative)	137
8	Calculation Method for Internal assessment Marks	138
9	Evaluation Methods for Periodical Assessment	138
10	Paper Layout	139
11	Distribution of Theory exam	140
12	Theme table	141
13	Question paper Blue print	142
14	Distribution of Practical Exam	144
15	Text Books and Reference books	145
16	List of Contributors	147

Course outcomes:

- 1. Explain the concept of Mind as perceived by Hahnemann and other stalwarts
- 2. Define the structure of the mind as conscious and unconscious and its various constituents / components in terms of Emotion, Thinking, Behaviour, Sleep and Dreams
- 3. Identify the conscious expressions of Mind as Emotion, Thought and Behaviour
- 4. Explain the neurophysiological basis of mental functioning
- 5. Discuss the relationship between the growth of the brain and the mind and its correlation with physical growth of the from infancy to old age and psychosocial development.
- 6. Evaluate the role that emotions and intellectual functions play in our daily lives
- 7. Derive the importance of the role of 'Learning' in human adaptation and change
- 8. Discuss 'Personality' as a synthesis of inborn traits and learnt responses occurring over the growing years
- 9. Realize the various forms of 'conflict', their origins and their role in determining the quality of our personal and social lives
- 10. Integrate the concept of mind as conceived in homoeopathic philosophy with that in modern psychology
- 11. Demonstrate the importance of the study of the Mind in approaching the study of Repertory and Materia Medica
- 12. Realize how a healthy individual experiences the harmonious functioning of the different constituents of the mind
- 13. Summarise the importance of knowledge of Psychology in Modern life and in Homoeopathic practice

General Instructions

- 1. Instructions in psychology should be planned in such a way that students should be able to present a basic understanding of the structure of mind, brain and its functioning with the kind of interrelationship they are sharing with each other.
- 2. Each topic should be planned in parallel with others subjects of Homeopathy where ever relevant to achieve integration with other subjects.
- 3. Since this subject is dealing with the human mind and its functions, topic should be dealt in more interactive ways where maximum learning will be achieved by doing rather than memorizing the things.
- 4. Emphasis would be more on the organization of the brain areas, their functions and correlated with the medical concept and philosophical concept of Mind.

- 5. Student should learn the psychological organization with learning the importance of special senses and their functions in great details that forms the foundation of the subject.
- 6. Most of the basic topics can be studied in interactive ways, discussion based on clinical case or any relevant event/ incidence of daily life.
- 7. Topics having philosophical connection should be taught with the help of discussion or in the form of story -telling with connections to the principles of philosophy.
- 8. Topics requiring a lot of analysis of information can be taught with role-play with directed observation method followed by discussion on the same pointing out its relevance and importance.
- 9. Nice to know topics along with a lot of community related information should be dealt with survey methods
- 10. Topics which are interrelated with other subjects of Homoeopathy should be presented and discussed.
- 11. Lectures or demonstration on the clinical and applied part of psychology should be arranged in the 3rd semester of the course and it should aim at demonstrating the structural-physiological –psychological basis of mental expressions of the symptoms and its value in Homeopathy.
- 12. Learning of applied psychology would be more qualitative in the various OPDs/Peripheral OPDs where contact with community will improve their knowledge, observation skills, attitude of communication with the community.
- 13. Some of the theoretical lectures should conclude with discussion on the learning achieved with its importance.
- 14. Periodical seminars on general topics related to philosophical aspect and its connection with psychology should be arranged for vertical, horizontal and spiral integration.
- 15. Role of observation and correlation should be demonstrated while discussing the intricacies of the subject of psychology.
- 16. Inter-departmental or joint seminars should be planned
- 17. While working on community survey- purpose should be kept very broad with the following objectives.
 - (i) Experiencing the community in actuality for the demographic configuration, different cultural traditions, different practices and inter-relationship and its effect on Mind and Body as a joint system.
 - (ii) Learning the functioning of human being in multiple situations of stress and process of getting adapted with those.
 - (iii) Quality of Mental Health of the community and its varied expressions
 - (iv) Quality of Inter-relationship within different castes, communities, religions and its impact on Individuals

Course contents:

Note: Each topic should be related with relevant clinical examples and the relationship with the subjects of Homoeopathic Philosophy, Materia Medica and Repertory must be made.

- 1. Introduction to the study of Mind in Homoeopathy
 - A. Concept of Mind- i. Contemporary schools of psychology
 - ii. Concept of Mind by Hahnemann
- 2. Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements
 - A. Psychological Organisation i. Definition of Emotions and its types
 - ii. Definition of Thinking and its types
 - iii. Definition of Behaviour and its types
 - B. Effects on Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
 - C. Interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
 - D. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Materia Medica
 - E. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Repertory
- 3. Physiological and Evolutionary basis of behaviour -
 - A. Instincts, Conditioned and unconditioned reflexes
 - B. Conscious and unconscious behaviour
 - C. Scientific study of Behaviour and its expressions
 - D. Evolutionary study of behaviour
 - E. Understanding Relationship of Behaviour to Emotions and Thought
 - F. Expressions of Behaviour in Repertory and Materia Medica

- 4. Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica
 - A. Scientific study of Emotions i. Definition of Emotions and its types
 - ii. Effects Emotions on Mind and Body
 - iii. Effect of emotions on sexual behaviour
 - iv. Interrelationship of Emotions on Mind and Body
 - B. Representation of Emotions in Materia Medica-
 - C. Representation of Emotions in Repertory
- 5. Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica Basic concepts of Thinking
 - A. Definition of Thinking and its types
 - B. Intelligence and its measurement
 - C. Effects of Thinking /Thought (Cognition) on Mind and Body
 - D. Representation of Thinking /Thought (Cognition) in Materia Medica
 - E. Representation of Thinking /Thought in Repertory
- 6. Motivation and their types with role in our lives

Study of Motivation and its types

Importance of study of Motivation for Homoeopathic Physicians

- 7. Learning and its place in adaptation
 - A. Study Learning:

Definition of Learning and its types

Study of relevance of Learning for Homoeopathic Physician

Study of disturbances/ malfunctioning of Learning

B. Adaption

Definition and its dynamic nature

Successful and unsuccessful adaptation

- 8. Growth and development of Mind and its expressions from Infancy to old age Study of Developmental Psychology
 - i. Normal developments since birth to maturity (both physical and psychological)
 - ii. Deviations- in Growth and Development and its effects on later behaviour
 - iii. Understanding the bio-psycho-socio-cultural-economical-political-spiritual concept of evolution
 - iv. Importance of above study to understand Materia Medica drug proving
- 9. Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica
 - i. Definition of Personality and its types
 - ii. Various constituents of Personality like Traits and Temperament
 - iii. Theories of Personality by psychologists
 - iv. Measures for the assessment of Personality, relationship to Temperament and representation in Materia Medica
- 10. Conflicts: their genesis and effects on the mind and body
 - i. Conflicts and their types
 - ii. Genesis of Conflicts and effects on the mind and body
 - iii. Genesis of Conflicts and related Materia Medica images
- 11. Applied Psychology: Clinical, Education, Sports, Business, Industrial Application of knowledge of Psychological Components and its Integration in understanding
 - i. Psychological basis of Clinical Conditions
 - ii. Education
 - iii. Sports
 - iv. Business
- 12. Psychology and Its importance in Homoeopathic Practice for Holistic management of the Patient.

Semester 1 Topic 1: 1. Introduction to Psychology with overview of different schools

Sr.No 1	Generic	Subject	Millers	Specific	Specific	Bloom's	Guilbert's	Must	TL	Formative	Summative	Integration	
	competency	area	Know/ Know	competency	Learning Objectives /	domain	level	know / desirable to know /	method / media	Assess ment	Assessment	Horizontal Vertical / Spi	iral
			how/ Show		Outcomes			nice to know					
			how/										
			Does										
lomUG- DM-I.1.1	Information collection	What is Psychology	Knows	Discuss Psychology as a science	Define Psychology	Cognitive	Recall level	Must know	Class room Lecture	MCQ	SAQ LAQ		
	Information collection		know		Discuss the psychology as a science	cognitive	understand level II	Desirable to know	Lecture	True /False sentences	Short Note	Concept Logic-Induct /Deductive Logic f Organon	tiv
	Information Analysis		Knows		Discuss the factors which make Psychology as a science	Cognitive	Understand Level II	Must know	Lecture	MCQ	SAQ Viva		
	Integration of information		Knows how		Explain the utility of the subject for a Homoeopath	Cognitive	Interpret Level II	Desirable to know	Lecture with discussion	MCQ	SAQ Viva	Horizontal integration of Organon	wi

	Information	Different	Knows	Know	the	Classify	Cognitive	Understand	Must	Class	SAQ	SAQ	Concept of	
	collection	schools of		differen		different		Level II	know	room		Viva	Man/	
HomUG- OM-I.1.2		Psychology		schools Psycholo		schools of psychology based on their Concept and objectives and methods.				lecture		VIVa	Individualiza from the Organon(us as a preparat of concept fo next topic)	eful tion

Semester 1: Topic 2-Concept of Mind in Psychology and Homoeopathy

Sr.No	Generic	Subject	Millers	Specific	Specific	Bloom	Guilbert	Must	TL	Format	Summ	Integrati
2	compete ncy	area	Know/ Know how/ Show how/Doo	compete	Learnin g Objecti ves / Outcom es	's domai n	's level	know / desira ble to know / nice to know	method / media	ive Assess ment	-ative Assess ment	on - Horizont al / Vertical / Spiral
Hom UG- OM- I.2.1	Informat ion collectio n	Concept of Mind in Psycholog y and Homoeop athy	Knows	Describe the concept of Mind	Describ e concept of Mind in differen	Cognit ive	Underst and and interpre t Level II	Must know	Lecture/(use of 'Story telling')/ and Discussi on on	MCQ	LAQ/SAQ	Organon -Concept of Mind as per Hahnem ann/

				t schools of psychol ogy				concept of Mind			Kent /BB/ Boger
Hom UG- OM- I.2.2	Informat ion organiza tion and synthesis	Knows	Relate concepts of Mind in psycholog y and homoeop athy	Discuss concept of Mind as in Organo n	Cognit	Integrat e Level III	Must know	Small group discussio n Charts / Models Audio- visual aids	Quiz True- false test items	LAQ/SAQ/ Viva	Horizont al Organon
	Analysis	Knows		Compar e and contrast concept of mind in Organo n with that in differen t schools	Cognit ive	Underst and Level II	Nice to know	Lecture	MCQ	SAQ	

		of				
		psychol				
		ogy				

Semester 1 –Topic- 3-Psychological organization of Mind and its interrelationship with Thought (Cognition), Feelings (Affect) and Behaviour (Conation)

Sr.No	Generic	Subject	Millers	Specific	Specific	Bloom	Guilbert'	Must	TL	Format	Summ	Integrati
3	competen cy	area	Know/ Know how/ Showhov / Does	competenc y	Learning Objectiv es / Outcom es	's domai n	s level	know / desira ble to know / nice to know	metho d / media	ive Assess ment	-ative Assess ment	on - Horizon tal / Vertical/ Spiral
Hom UG- OM- I.3.1	Informati on synthesis	Organizatio n of Mind and interrelatio nship of its constituent	Knows how	Identify the topography of the mind	Classify the divisions of the mind into consciou s, unconsci	Cognit ive	Underst and Level II	Must know	Caselet s and discuss ion	DOPS Full form to be written ?	LAQ / SAQ	

					ous and sub-consciou s element s							
Hom UG- OM- I.3.2	Informati on collection		Knows	Identify the constituent s of the conscious mind	Distiguis h the consciou s mental expressi ons as Emotion , Thought and Behavio ur	Cognit	Interpre t Level II	Must	Caselet s and Matchi ng exercis es	MCQ	LAQ, / SAQ/V iva	Integrati on with concept of Mental and Behavio ral Expressi ons or sympto ms from the Organo n
Hom UG- OM- I.3.3	Informati on Interpreta tion Self reflection	Interrelatio nship of Emotions/ Thinking/	Knows how	Recognize the interrelation ship of mental constituents and effects	Identify the relations hip of mental expressi ons in terms of	Affecti ve	Receive Level I	Must	Audio- visual media	Caselet s with check list	SAQ	Horizon tal integrati on Organo n

Behaviour	of Mind and	Emotion			
and Mind	Body	,			
and Body		Thinking			
		and			
		Behavio			
		ur on			
		Mind			
		and			
		Body			

HomU G-OM- I.3.4	Information Demonstrati on	Demonstrati on of abilities of observation	Show s How	Observet he mental expressio ns in terms of Emotion, Thinking and Behaviou r	Identify the evidences of psychological expression s of Emotion, Thinking and Behaviour	Affective	Receive Level I	Mus t kno w	Audio- visual means in Small groups	Film viewing	Viva	
	Analysis and intergation	Demonstrati on of abilities of integration	Kno ws how	Distinguis h the expressio ns into Emotion, Thinking and Behaviou r	Align the observations conducted above with the knowledge about emotions, thoughts and behaviour	Cognitive	Understa nd Level II	t kno w	Process the observatio ns	Check list on the film shown		
HomU G-OM- I.3.5	Analytical	Application of knowledge in practice	Show s how	Identify the mental expressio ns in Repertor y	Demonstra te the rubrics from the given case scenarios	Psychomot or	Imitate Level I	Mus t kno w	Case- based learning Teaching with Repertory	Assignme nts	SA Q	Hor learning with Reperto ry

Semester 1 Topic 4 Physiological basis of Emotions, Thought and Behaviour

Sr.No.	Generic compete ncy	Subject area	Millers Know/ Knowh ow/ Show how/ Does	Specific competenc y	Specific Learning Objective s / outcomes	Bloom 's domai n	Guilbert 's level	Must know / desira ble to know / nice to know	TL method / media	Forma tive Assess ment	Sum m - ativ e Asse ss men	Integratio n - Horizontal / Vertical / Spiral
Hom UG- OM- I.4.1	informati on Collectio n	Physiolo gical basis of the mind	Knows	Understa nding the parts of the brain important in understan ding mental functions	List the parts of the Brain relevant to understan ding the mental functionin g	Cognit ive	Recall Level I	Must know	Lecture with a demonstr ation with model of brain	MCQ	SAQ	Anatomy - Brain structures can be dealt simultane ously
Hom UG- OM- I.4.2	informati on collection		Knows		Explain the different parts of the brain	Cognit ive	Underst and and interpre t Level II	Must know	Demonstr ation of brain model	MCQ	SAQ	

			which are the seat of the emotions of aggressio n, love, anger and anxiety				with discussion			
Hom UG- OM- I.4.3		Knows	Explain the different parts of the Brain which are the seat of intellectu al functions of attention, memory and executive functions	Cognit	Underst and and interpre t Level II	Must know	Demonstr ation of brain model with a discussion	MCQ	SAQ	

Hom UG- OM- I.4.4		Knows		Explain the different parts of the Brain which are responsibl	Cognit ion	Underst and and interpre t Level II	Desira ble to know	Group discussion	МСО	SAQ	
				e for simple							
				behaviour							
Hom	Informati	Knows	Discuss the	Integrate	Cognit	Proble	Must	Lecture	MCQ	SAQ	Integratio
UG-	on	how	genesis of	the	ive	m .	know	with PPT			n with
OM-	Interpret		Emotions,	manner in		solving					Psycho-
1.4.5	ation and		Thinking,	which the		Level III					physiolog
	Synthesis		Behaviour	emotions,							У
				intellectu al and							
				behaviour							
				al							
				function							
				are							
				coordinat							
		İ		ed	I	I	l		l	1	

Semester 1: Topic 5: Understanding behaviour, its origins and its representation in repertory and Materia medica

Sr. No	Generic Competen cy	Subject area	Millers Know/ Know how/ Show how/ Does	Specific compete ncy	Specific Learning Objectives / Outcomes	Bloom 's domai n	Guilbert's level	Must know / desira ble to know / nice to know	TL method / media	Format ive Assess ment	Summ -ative Assess ment	Integration - Horizontal / Vertical / Spiral
	Informatio n	Behaviour and Functioning and the origins	Knows	Instincts and reflexes	Define instinct and reflex	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	Physiology
	Informatio n		Knows	and their - importan ce	Enumerate the instincts seen across the animal species	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Informatio n		Knows		Enumerate the reflexes	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	

			seen in the new born							
Informatio n Analysis	Knows		Discuss the role and limitations of these ensuring in our survival	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	
Informatio n	Knows		Define Conditione d and Unconditio ned reflex	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	
Informatio n	Know	Define Behavior and Functioni ng	Define Behaviour as externally observed expression s	Cognit ive	Recall Level I	Must know	Lecture and AV methods	MCQ	MCQ	Organon + Repertory - Concept of symptomato logy- Physical symptoms
Informatio n Analysis	Knows		Differentia te behaviour as being of conscious	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	

Self awareness		and unconscio us							
Informatio n collection	Know	Define functionin g as expression s of the system which needs special instrument s to measure	Cognit	Recall Level I	Must know	Lecture and Demonstra tion	MCQ	MCQ	
Informatio n Analysis	Know how	Elaborate on the difference between Behaviour and Functionin g	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	
Informatio n	Knows	Discuss the scientific methods	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	

System thinking				of studying behaviour						
Informatio n		Knows	Origins and function of Behaviou r	Draw a list of species specific behaviours in birds, fish and primates	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ
Informatio n Analysis		Knows		Discuss the function of these specific behaviours	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ Viva
Informatio n	Control of Behaviour	Knows	Factors influencin g behaviour	Discuss the factors which regulate any two of the species specific behaviours listed above	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ Viva
Informatio n		Knows		Differentia te innate and	Cognit ive	Underst and and	Must know	Lecture	LAQ	LAQ

Synthesis		learned behaviour		interpre t Level II					
		as originating from unconditio ned and conditione d reflexes							
Analytical	Knows	Discuss how emotions are the determina nts of behaviour and functionin g	Cognit ive	Underst and and interpre t Level I	Must know	Lecture	SAQ	SAQ Viva	
Analytical	Knows	Discuss how thoughts are is the determina nt of behaviour and	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ Viva	

				functionin g							
Informatio n Analysis	BehaviourBehavio urand Homoeopathy	Knows	Represen tation of Behaviou r in the repertory	Illustrate the place of behaviour in repertory	Cognit ive	Underst and and interpre t Level II	Must know	Demonstra tion	Checkli st	MCQ / Viva	Repertory
Informatio n Synthesis		Knows	Represen tation of behaviour in Materia Medica	Illustrate the representa tion of behaviour in Materia Medica	Cognit ive	Underst and and interpre t Level II	Must know	Demonstra tion	Checkli st	MCQ / Viva	Materia Medica

Semester 2 Topic 1-Understanding emotions and their representation in the repertory and Homoeopathic Materia Medica(HMM)

Sr.	Generic	Subject	Mill	Specific	Specific	Bloom	Guilbert's	Must	TL	Formativ	Summ	Integratio
No	Compete ncy	area	ers Kno w/ Kno w	competen cy	Learning Objective s / Outcomes	's domai n	level	know / desira ble to know / nice to know	method / media	e Assess ment	-ative Assess ment	n - Horizontal / Vertical / Spiral

		how / Sho w how / Doe s									
Informati on	Understan ding emotions, the types	Kno ws	Define emotions and differentia	Define emotions, mood and feelings	Cognit ive	Recall Level I	Must know	Lecture	MCQ	MCQ	
Analysis	and their origins	Kno ws how	te from feeling and mood	Differenti ate the above three from each other	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	Caselets	SAQ/V iva	
Observati on Empathy		Sho ws	Recognitio n of facial expression s	Recognize different emotions exhibited on the screens	Affecti ve	Receive Level I	Must know	Images of facial expression s	Spotters	MCQ	

System thinking	Kno w		Discuss the different ways that emotional expressio n is perceived by us	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	MCQ	MCQ	
Informati	Kno ws	Classificati on of emotions	Discuss the classificati on of emotions Primary and Secondar y; Positive and negative	Cognit ive	Underst and and interpre t Level II	Nice to know	Lecture	МСО	МСО	
Analysis	Kno ws		Discuss the implicatio ns and limitation of the above	Cognit ive	Underst and and interpre t Level II	Nice to know	Lecture	SAQ	SAQ/V iva	Integratio n with Kent's concept of hierarchy

			classificati on							of mental symptoms
Informati on collection	Kno ws	Understan d theories of emotions and their significanc e	Describe the prominent theories of emotions James Lange Cannon- Bard Schaster- Singer Cognitive Mediation al theory	Cognit	Underst and and interpre t Level II	Nice to know	Lecture with cassettes	SAQ	SAQ/V iva	Integratio n with signs and symptoms from HMM of few prominent remedies studied simultane ously
Informati on collection	Kno ws		The Bhava- Rasa theory of emotions	Cognit ive	Recall level-I	Nice to know	Lecture with multimedi a-e.g. video films or images demonstr ating the	SAQ	SAQ	Integratio n with the concept of channeliza tion and its importanc e in the healing

						theory of Bhav-Rasa			process or cure from the 1 st aphorism of Organono n
Informati on Analysis	Kno	Differenti ate the five theories from each other	Cognit	Underst and and interpre t Level II	Nice to know	Lecture	Essay writing/M odel preparati on on each theory (can be considere d as a project for practical)	LAQ	
Informati on Synthesis Problem solving	Kno ws	Evaluate the implicatio ns of each of the theories in understan	Cognit ive	Proble m solving level -III	Nice to know	Discussion with examples	LAQ	LAQ	

				ding emotions							
Informati on collection	Biological view of emotions	Kno ws	Biological basis of emotions	Enumerat e the constitue nts of the limbic system important in the understan ding of emotions	Cognit ive	Recall Level	Must know	Lecture with model	MCQ	MCQ/ Viva	+ Physiolog y
Informati on Analysis and Synthesis		Kno ws		Discuss the role of the different constitue nts of the limbic system in expressio n and regulation of emotions	Cognit	Underst and and interpre t Level II	Must know	Discussion with models	LAQ	LAQ	

Informati on Analysis	Kno ws		Discuss the effects of hormones in influencin g emotions	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	Physiolog y
Informati on Synthetic	Kno ws	Sex and emotions	Define sexual activity in terms of emotional arousal	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	
Informati on Synthesis	Kno ws		Describe the participati on of brain systems in sexual behaviour	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	
Informati on interpret ation	Kno ws		Discuss the effect of early influences on sexual behaviour	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	

Informati on Synthesis	Kno ws	Discuss the effects of socio- cultural surroundi ngs on sexual behaviour	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	
Informati on collection	Kno ws	Enumerat e the varieties of sexual orientatio n seen	Cognit ive	Recall Level -I	Must know	Lecture	MCQ	MCQ	
Informati on	Kno ws	Identify gender identity and sexual identity	Cognit ive	Recall Level -1	Must know	Lecture	MCQ	MCQ/ Viva	
Self awarenes s	Kno ws	Recognize the challenge s faced by differently sexually oriented persons in society	Affecti ve	Receive Level-II	Must know	Visual clips of cases Role play	SAQ	SAQ/V iva	

Informati on collection	Wholistic Holistic approach to Emotiona I health	Kno ws	Emotions and their effects on the self and others	List the effects of emotions on the human system in terms of cognitive, behaviour al and physical system	Cognit	Recall Level-I	Must know	Lecture	MCQ	MCQ/ Viva
Systems thinking		Kno ws		Discuss the pathways through which emotions affect cognition, behaviour and physical system	Cognit	Underst and and interpre t Level II	Must know	Lecture with demonstr ative examples	LAQ	LAQ
Informati on collection		Kno ws	Positive emotions and their	Define happiness , joy and peace	Cognit ive	Recall Level I	Must know	Lecture with demonstr	SAQ Essay	SAQ/ Viva

		effect or health					ative examples			
Informati on Analysis	Kno w		Describe the brain mechanis ms responsibl e for states of happiness , joy and peace	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ	Anatomy
Informati on Synthesis	Kno w		Discuss the effects of states of happiness , joy and peace on human systems	Cognit ive	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	Physiolog y
Holistic approach Self awarenes s	Kno ws		Explore the different mechanis ms for maintaini ng a state	Affecti ve	Receive Leve-I	Must know	Lecture with demonstr ative examples	LAQ	LAQ	Integratio n with concept of harmoniu ms way life or balance

			of joy and peace							life from Organon
Informati on collection	Kno ws	Influence of Cultural on expression s of emotions	effects of different	Cognit	Recall level-I	Nice to know	Lecture	MCQ Project on collection of informati on from different culture and their concept of emotions and its expressio ns	MCQ/ Viva	
Holsitic Holistic approach	Kno ws		Discuss the implicatio ns of cultures affecting emotional expressio n	Cognit ive	Underst and and interpre t Level II	Nice to know	Lecture/ Films	SAQ above exercise will be useful here as well	SAQ/V iva	

Informati	Emotions	Kno	Represent	Illustrate	Cognit	Underst	Must	Demonstr	DOPS	MCQ	Repertory
on	and	WS	ation of	the place	ive	and and	know	ation			
Analysis	Homoeop		Emotions	of		interpre					
Allalysis	athy		in the	emotions		t Level II					
			repertory	in							
				repertory							
Informati		Kno	Represent	Illustrate	Cognit	Underst	Must	Demonstr	DOPS	MCQ	Materia
on		WS	ation of	the	ive	and and	know	ation			Medica
Synthesis			emotions	represent		interpre					
5 yrreriesis			in Materia	ation of		t Level II					
			Medica	emotions							
				in Materia							
				Medica							

Semester 2 Topic 2-Understanding intellect and its representation in repertory and materia medica – Part-I Attention, concentration and memory

Sr. No	Generic Compete ncy	Subject area	Millers Know/ Knowho w/ Showho w/ Does	Specific competen cy	Specific Learning Objective s / Outcome s	Bloom's domain	Guilbert's level	Must know desirab e to know nice to know		Formati ve Assess ment	Summ -ative Assess ment	Integra tion - Horizo ntal / Vertical / Spiral
	Informati on collection	Introducti on to attention and concentra tion the	Knows	Definition of terms with psycho- physiologi cal	Define attention and concentra tion	Cognitiv e	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Informati on interpret ation	underlying psycho- physiologi cal mechanis ms, regulation and	Knows	mechanis ms	Enumerat e the brain regions which are involved in these functions	Cognitiv e	Recall Level I	Must know	Lecture with model	MCQ	MCQ/ Viva	Anato my

Informati on synthesis	applied aspects	Knows		Discuss the neural processes which are responsibl e for regulating attention and concentra tion	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	Physiol ogy
Informati on Interpret ation		Knows	Control over attention and concentrat ion	Discuss the factors which affect attention and concentra tion	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	MCQ	MCQ/ Viva	
Informati on Interpret ation and synthesis		Knows		Realize the above processes in our daily life	Affective	Receive Level-I	Must know	Demonstr ation	- ? survey on attentio n span with the	-	

									help of multime dia or any activity		
Informati on collection		Knows		Discuss the different physical and psycholog ical methods used for regulating attention and concentra tion	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	LAQ	LAQ	
Informati on Interpret ation	Applied aspects of attention	Knows	Application of attention and concentration	Discuss the effects of disturbed attention in childhood and adult life	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture Video	SAQ	SAQ/V iva	Spiral integra tion with anatom y and physiol ogy

Informati on Interpret ation		Knows	Represent ation of attention and concentrat ion in the repertory	Identify the rubrics representi ng attention and concentra tion in the repertory	Cognitiv e	Underst and and interpre t Level II	Must know	Demonstr ation	DOPS	МСО	use of all the 3 reperto ries
Informati on Interpret ation		Knows	Reflection of attention in Materia Medica	Identify the reflection of attention and concentra tion in remedies	Cognitiv e	Underst and and interpre t Level II	Must know	Demonstr ation	SAQ	SAQ/V iva	Source s of HMM
Informati on collection	Memory types, processes and	Knows	Types of Memory and processes	Enumerat e the types of memory	Cognitiv e	Recall Level I	Must know	Lecture	MCQ	MCQ	
Informati on Interpret ation	applied aspects	Knows		Discuss the models of memory	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	SAQ Project on models	SAQ/V iva	Integra tion with anatom y and

			Informati on- processin g And neural network					of Memory		physiol ogy
Informati on Analysis	Know		Discuss the function of the types of memory in our daily lives	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	LAQ Activity on memory games and its importa nce in day to day to life	LAQ	
Informati on collection	Know	Factors affecting memory and their regulation	Enumerat e the factors which affect different types of memories	Cognitiv e	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	

Informati on Interpret ation		Know		Discuss different ways of assessing different types of memory	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	SAQ Activity based on memory games (connect ion can be linked to concept of MSE/M MSE)	SAQ/V iva	
Informati on Collectio n and Interpret ation	Forgetting , its mechanis ms and implicatio ns	Know	Forgetting , the types and the implicatio ns	Discuss the reasons for forgetting	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture	SAQ	SAQ/V iva	
Informati on Synthesis		Know how		Discuss ways of enhancin g recall	Cognitiv e	Underst and and interpre t Level II	Must know	Lecture Demonstr ation with examples	SAQ Memory games with concept of	SAQ/ Viva	

Informati on collection	Knows	Describe the state of memory with senescenc e	Cognitiv e	Recall Level I	Must know	Lecture	mnemo nics SAQ	SAQ/V iva	
Informati on Analysis and Interpret ation	Knows	Discuss the implicatio ns of loss of memory with advancing age	Cognitiv	Underst and and interpre t Level II	Must	Lecture	survey on state of memory function with advanci ng age (a small article can be publishe d with the help of survey findings)	SAQ/V iva	Integra tion with anatom y and physiol ogy

or In	nformati on nterpret tion	Applied aspects of Memory	Knows	Memory changes	Describe ways in which memory can get	Cognitiv e	Underst and and interpre t Level II	Nice to know	Lecture	-	-	
OI A aı In	nformati nn analysis nd nterpret tion		Knows		Discuss ways of reconstru cting a lost memory	Cognitiv e	Underst and and interpre t Level II	Nice to know	Lecture	-	-	
ln	nformati n nterpret tion		Knows		Discuss the implicatio ns of the dangers of reconstru ction of memory in our everyday life	Cognitiv e	Underst and and interpre t Level II	Nice to know	Lecture	-	-	
In	nformati in	Homoeop athic	Knows	Represent ation of sharp and loss of	Identify the rubrics representi	psychom otor	Underst and and	Must know	Demonstr ation	DOPS	MCQ	

	aspects of		memory in	ng		interpre					
collection	memory		the	memory		t Level I					
1			repertory	issues in							
Interpret				the							
ation				repertory							
Informati		Knows	Reflection	Identify	Cognitiv	Underst	Must	Demonstr	SAQ	SAQ/V	
on			of memory	the	e	and and	know	ation		iva	
			issues in	reflection		interpre					
collection			Materia	of		t Level I					
and			Medica	memory							
Interpret				in							
ation				remedies							

Semester 2 Topic 3-Understanding intellect and its representation in repertory and materia medica —Part-II Perception and Intelligence

Sr.N	Generic	Subject	Mill	Specific	Specific	Bloom's	Guilber	Must	TL	Formativ	Summ	Integration -
Sr.N o	Generic Compet ency	Subject area	ers Kno w/ Kno w how	Specific compete ncy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilber t's level	Must know / desira ble to know / nice to know	TL method / media	Formativ e Assess ment	Summ -ative Assess ment	Integration - Horizontal / Vertical / Spiral
			/ Sho w					know				

			how / Doe s									
Hom UG- OM- 2.2.1	Informat ion collectio n	Discuss Perceptu al organizat ion	kno ws	Describe Perceptio n and differenti ate from sensation	Define Perception.	Cognitio n	Recall level I	Must know	Small group discussio n	MCQ	MCQ	Horizontal Anatomy and Physiology
	Informat ion organiza tion and Interpret ation			s and thinking	Relate perception to sensory processes and differentiat e from thinking	Cognitio n	Unders tand and interpr et Level II	Must know	Visual films	SAQ	SAQ	
Hom UG- OM- 2.2.2	Informat ion Synthesi s		kno w	Genesis of perceptio n and importan ce of ground	Describe the Psychophy siology of perception	Cognitio n	Unders tand and interpr et Level II	Must know	Small group discussio n	MCQ	MCQ	

Hom UG- OM- 2.2.3	Informat ion interpret ation	Kno ws how	Dynamics of perceptio n and perceptu al errors	Describe the role of attention and state of the mind, depth, constancy, movement in Perception	Cognitiv e	Unders tand and interpr et Level II	Must know	Small group activities	Observation Examples or Activity indicating the role of in attention in perception	MCQ/ Viva	
Hom UG- OM- 2.2.4	Informat ion synthesi s	Kno w		Explain the physiologic al and psychological basis for Perceptual errors.	Cognitiv e	Unders tand and interpr et Level II	Desir able to know	Films and images	Project	MCQ/ Viva	
Hom UG- OM- 2.2.5	Informat ion synthesi s	Kno w	Social perception and its impact on our lives	Discuss determinan ts of social perception	Cognitiv e	Unders tand and interpr et Level II	Must know	Class room lecture	HCQ + Survey on this topic demonstr ating the	LAQ/S AQ	

									impact of social factors		
	Self reflectio n	Kno w		Realize the effect of perception on interperson al and community relationships	Affectiv e	Receiv e Level I	Must know	Media and discussio n + Role Play followed by directed discussio n	SAQ	SAQ/ Viva	Integration with the concept of disposition —Mental specifically / individualiz ation
Hom UG- OM- 2.2.6	Holistic approac h	Kno ws	Gestalt perceptio n and its importan ce to Homoeop athy	Observe gestalt perception	psycho motor	Observ e/ imitate Level II	Must know	Small group activity + Role Play followed by directed	Presentat ion performa nce	MCQ	

								discussio n			
				Illustrate its importance to Homoeopa thy in case taking	Cognitiv e	Unders tand and interpr et Level II	Desir able to know	Visual films Demonst ration in OPD/vide os		LAQ	Horizontal/ Vertical with Organon
HOM UG OM 2.2.7	informat ion Synthesi s	Kno ws	Applied aspects of Perceptio n	Understand the perceptual difficulties of Dyslexia Know the phenomen a of hallucinatio n	Cognitiv e	Unders tand and interpr et Level II	Must know	Caselets and visual graphics		SAQ/ Viva	Vertical integration Psychiatry
HOM UG OM 2.2.8	Informat ion manage ment	Sho ws how	Perceptio n in Repertory and Materia Medica	Derives rubrics and remedies related to perceptual	Cognitiv e	Unders tand Level II	Must know	Demonst rate	DOPS	SAQ / Viva	Horizontal integration Repertory and HMM

				phenomen a							
Informat ion collectio n	Intelligen ce and its measure ment	Kno ws	Conceptu al models of Intelligen ce	Define Intelligence	Cognitiv e	Recall level I	Must know	Lecture	МСО	MCQ/ Viva	
Information Analysis and information Interpretation		Kno ws		Detail the different approaches to viewing Intelligence i. Multiple intellige nces (Gardner) ii. Triarchic theory (Sternbe rg) iii. Fluid and Crystalliz ed (Catell's)	Cognitiv	Unders tand and interpr et Level II	Nice to know	Lecture	SAQ	SAQ/ Viva	

			iv. PASS theory						
Informat ion collectio n	Kno ws	Measure ment of Intelligen ce	Define Intelligence Quotient (IQ)	Cognitiv e	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva
Informat ion Analysis and interpret ation	Kno ws		Discuss the contribution of heredity and environme nt to intelligence	Cognitiv e	Unders tand and interpr et Level II	Must know	Lecture	SAQ	SAQ/ Viva
Informai ton Analysis	Kno ws		Discuss the pros and cons of measurem ent of IQ	Cognitiv e	Unders tand and interpr et Level II	Must know	Lecture	SAQ	SAQ/ Viva
Informat ion	Kno ws		Enumerate the methods of assessing intelligence	Cognitiv e	Recall level I	Nice to Know	Lecture	MCQ	MCQ/ Viva

Informat ion collectio n	Intelligen ce as a force	Kno ws	Emotiona I intelligen ce and its uses	Define emotional intelligence	Cognitiv e	Recall level I	Must know	Lecture	MCQ	MCQ/ Viva	
Informat ion collectio n		Kno ws		Define the component s of Emotional intelligence	Cognitiv e	Recall level I	Must know	Lecture	MCQ	SAQ/ Viva	
System thinking and self awarene ss		Kno ws		Discuss the ways in which Emotional intelligence is useful to individuals and groups	Cognitiv e	Unders tand and interpr et Level II	Must know	Lecture and discussio n	LAQ Activity indicatin g the usefulnes s of Emotion al Intelligen ce in day to day activity / functioni ng	LAQ	
Informat ion		Kno ws		Define creativity	Cognitiv e	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	

collectio n			Creativity and its							
Informat ion Systems thinking		Kno ws	growth	Illustrate the process of creativity	Cognitiv e	Unders tand and interpr et Level II	Must know	Lecture	Project or activity on any theme indicatin g the creativity	
Systems thinking		Kno ws		Discuss the ways in which creativity can be fostered	Cognitiv e	Unders tand	Must know	Lecture	SAQ	SAQ/ Viva
Informat ion collectio n	Applied aspects of Intelligen ce	Kno ws	Extremes of intelligen ce	List the types of extreme intelligence on the Bell-shaped curve	Cognitiv e	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva
Informat ion Analysis		Kno ws		Discuss the special needs of the persons occupying	Cognitiv e	Unders tand and interpr	Nice to know	Lecture	SAQ	SAQ/ Viva

				the extremes of intelligence		et Level II					
Informat ion Analysis	Intelligen ce and Homoeo pathy	Kno ws	Represen tation of Intelligen ce in the repertory	Illustrate the place of Intelligence in repertory	Cognitiv e	Unders tand and interpr et Level II	Must know	Demonst ration	DOPS	MCQ	Repertory
Informat ion Synthesi s		Kno ws ? Sho ws	Represen tation of intelligen ce in Materia Medica	Illustrate the representat ion of intelligence in Materia Medica	Cognitiv e	Unders tand and interpr et Level II	Must know	Demonst ration	DOPS	SAQ/ Viva	Materia Medica

Semester 2 Topic 4-Motivation, its types and its relevance for Homoeopath

Sr.No	Generic Compet ency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirab le to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
Hom UG- OM- 2.10.	Informa tion collectio n	Motivati on, the types and its role in daily living	Knows	Describe motivatio n	Define motivation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ/SA Q	
Hom UG- OM- 2.10.	Informa tion collectio n		Knows	Understan d the nature and types of motivatio	Enumerate the types of motivation	Cognitive	Recall level I	Must know	Class room lecture	МСО	LAQ/SA Q	
Hom UG OM	Self reflectio n		Knows how	n	Recognize the types of motivation influencing our	Affective	Receive level I	Must know	Audio- visual Discussi on	SAQ	SAQ/Viv a	

2.10.3					thinking and emotions							
Hom UG- OM- 2.10. 4	Informa tion Interpre tation	Use of Maslow's model of motivati on in our personal	Knows	Models of Motivatio n	Describe the Maslow's self- actualizatio n model	Cognitive	Understan d and interpret Level II	Must know	Small group discussi on	Assign ment	LAQ	
HOM UG OM 2.10.5	Self reflectio n and awaren ess	and professio nal lives	Knows how		Recognize the importance of the model in knowing human beings	Affective	Receive level I	Must know	Group discussi on with caselets	Checkl ist	SAQ/Viv a	
UG HOM 2.10.6	Informa tion Synthes is	Utility of Motivati on for a Homoeo path	Shows how	Reflection of motivatio n in Repertory and HMM	Derives rubrics and remedy images related to motivation	Cognitive	Understan d and interpret Level II	Must know	Demons trate	Checkl ist	MCQ	

Semester 2 Topic 5-Learning, its types and its relevance in daily functioning of Humans

Sr.No 8	Generic Compet ency	Subject area	Miller s Know / Know how/	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirab le to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
			Show how/ Does									
Hom UG- OM- I.6.1	Informa tion collectio n	Learning and adaptatio n	Know s	Define learning and its role in bringing about adaptation to	Define learning and adaptation	Cognitiv e	Recall level I	Must know	Class room lecture	MCQ	LAQ / SAQ	
	Informa tion Synthes is			change	Derive the relationship between the two	Cognitiv e	Understan d and interpret Level II	Must know	Caselets	Casele ts	Problem	
Hom UG- OM- I.6.2	Informa tion collectio n	Learning forms and their	Know s	Forms of learning	Explain the three forms of learning viz. Classical conditioning,	Cognitiv e	Understan d and interpret Level II	Must know	Class room lecture	Checkl ist	LAQ/SA Q	

		implicatio n for us			Instrumental conditioning and observational learning							
Hom UG- OM- I.6.3	Holistic thinking		Does	Differentiate the forms or types of learning and their significance	Explain the significance of the above three forms in our daily lives	Cognitiv e	Understan d and interpret Level II	Must to know	Demons tration	Projec t	MCQ	
	Informa tion collectio n		Know	Determinants of learning and their significance	Enumerate the various factors which determine the quality of learning	Cognitiv e	Recall level I	Must know	Lecture	MCQ	MCQ	
	Proble m solving		Know how		Derive the ways in which these factors can be used for enhancing learning	Cognitiv e	Problem solving level II	Must know	Assignm ents	Casele ts	SAQ / Viva	
	Analytic al		Know s		Identify the factors which would inhibit learning and	Cognitiv e	Understan d and interpret Level II	Must know	Assignm ent	SAQ	SAQ/Viv a	

				which woul need to b attended to							
Informa tion collectio n	Assessmen t of learning	Know s	Know the methods o assessing learning	methods whereby	e Cognitiv e s	Recall level I	Must know	Lecture	MCQ	MCQ/Viv a	
Analytic al				Evaluate the respective value of the different methods to assess learning	e	Problem solving level III	Must know	Assignm ent	SAQ	SAQ/Viv a	
Informa tion Synthes is	Utility of Learning and adaptation for a Homoeopa th	s how	Reflection o learning and adaptation in Repertory and HMM	rubrics an remedy images	0	Understan d and interpret Level II	Must know	Demons trate	DOPS	МСО	

Semester 3 Topic 1-Evolution of Mind with Growth and Development: Normal developments since birth to maturity: physical and psychological

Sr.No	Generic Compet ency	Subject area	Millers Know/ Know how/Sho w how/Doe s	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know		Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
	Informa tion collectio n and analysis	Concept and process of Human	Knows	Discuss areas of human Growth and	Define and distinguish between Growth and Development	Cognitiv e	Interpret	Must know	Lecture	SAQ	SAQ/Viv a	
Hom UG- OM- I.4.1	Informa tion collectio n	Develop m	Knows	Developm ent	List the three domains of development Physical, Cognitive and psychosocial development	Cognitiv e	Remembe r- level I	Must know	Class room Lecture	МСО	LAQ / SAQ	
Hom UG-	Informa tion		Knows		Distinguish the	Cognitiv e	Understan d and	Must	Small group	Quiz	LAQ/SA Q	

OM- 1.4.2	Analysis Analytic al		how		characteristic s of physical, cognitive and psychosocial development		interpret Level II	know	discussi on Charts / Models Audio- visual aids	True- false test items		
	Informa tion analysis Analyitc al		Knows how	Discuss determina nts of developme nt	Distinguish between the contribution of nature and nurture in development	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	
	informa tion collectio n and Interpre tation		Knows		Define the concept of development al milestones in childhood	Cognitiv e	Recall	Must know	Lecture	МСО	МСО	
Hom UG- OM- I.4.3	Informa tion Organiz ation Analytic al	Develop mental stages of Psychose xual, cognitive and psychoso	Knows how	Discuss the theories of cognitive and psychosoc ial	Discuss the theory of psychosexua I developmen t as proposed by Freud	Cognitiv e	Understan d and interpret Level II	Must know	Small group demons tration, peer group activitie s.	MCQ	MCQ	Horizon tal integrat ion with Anato my, physiol ogy

Informa tion Analytic al	cial develop ment	Knows how	developm ent	Discuss theory cognitive developm t propo	nen osed	Cognitiv e	Understan d and interpret Level II	Must know	Lecture with example s	LAQ	LAQ	
Informa tion Analytic al		Knows how		theory psychoso developm		Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	
Informa tion collectio n and Interpre tation and Analysis	Human Develop ment across the Life span	Knows how	Discuss the developm ent of the human being across the lifespan	Discuss different stages physical, emotional cognitive developme of childhoo	ent	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	
Informa tion collectio n		Knows		Discuss parental styles appropriat help opti growth childhood		Cognitiv e	Understan d and interpret Level II	Must know	Lecture	Essay on most suitabl e parent	LAQ	

Self reflectio n					ing style	
Informa tion collectio n and Interpre tation Analysis	Knows	Discuss the different stages of physical, psychosocial and cognitive development of adolescence	gnitiv Understan d and interpret Level II	Must Lecture know	LAQ	LAQ
Informa tion Self reflectio n	Knows how / Show how	role of home, e	gnitiv Understan d and interpret Level II	Must Lecture know	LAQ	LAQ
Informa tion Analysis	Knows	Discuss the Cog different e stages of physical, psychosocial	gnitiv Understan d and interpret Level II	Must Lecture know	LAQ	LAQ

				and cognit developme of adulthoo	nt							
Informa tion Analysis		Knows how		Discuss different stages physical, psychosocia and cognit developme of old age a senescence	tive nt and	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	
Informa tion Self reflectio n and awaren ess	Significa nce of knowled ge of Growth and Develop ment for	Knows how	Discuss significanc e of growth and developm ent in homoeopa	Recognize to impact on knowledge of Growth and Developm t in case taking	e I	Affectiv e	Receive level I	Must know	Lecture	LAQ	LAQ	Hor. with Organo n
Informa tion Analysis	a homoeo path	Knows	- thy	Identify significand of knowledge of Grov and Developm	e wth	Psycho motor	Imitation level I	Must know	Lecture	LAQ	LAQ	Hor. with Reperto ry

			t in use of Repertory							
t c	Informa tion organiz ation Analysis	Knows	Locate the significance of knowledge of Growth and Developmen t in Homoeopat hic Materia Medica	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	LAQ	LAQ	Hor. with HMM

Semester 3 Topic 2- Development of Personality, types, Traits, Temperament

Sr.N o	Generic Compet ency	Subject area	Millers Know/ Know how/Sho w how/Doe s	Specific competen cy	Specific Learning Objectives / Outcomes		Bloom's domain	Guilbert's level	Must know / desirabl e to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
Hom UG- OM- I.9.1	Informati on collection	of Personali ty. Tempera ment	Knows	Discuss the concept of personalit y		he of	Cognitiv e	Recall level I	Must know	Lecture with discussio n	MCQ	SAQ/Viv a	Concep t to be discuss with Organo n
	Informa tion collection , informa tion interpre tation and	and trait	Knows	Discuss the concept of Tempera ment and its evolution	concept temperamer and i	he of nt its to	Cognitiv e	Understan d and interpret Level II	Must know	Lecture	SAQ	SAQ	

Hom UG- OM- I.9.4	Synthes is Information collection + Information Interpretation		Knows	Discuss the concept of traits and its utility	scientific concept	he of nd	Cognitiv e	Understan d and interpret Level II	Must know	Lecture with case let discussi on	MCQ	SAQ/Viv a	Concep t to be discuss with Organo n
Hom UG- OM- I.9.5	Information collection interpretation and Analysis Synthesis	Theories of Personali ty and develop mental process	Knows	Discuss the Theories of Personalit y	following	rist iic ous gis eir	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Lecture with case discussi on or suitable exampl e	MCQ Essay on each theory	SAQ/Viv a	

				s to a physician						
Hom UG- OM- I.9.6	Informa tion Holistic approac h	Knows how	Discuss the developm ent of Personalit y and	Illustrate the process of personality development	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Case scenari o discussi on	MCQ	SAQ
Hom UG- OM- I.9.7	Informa tion collectio n and Case Interpre tation of data	Knows	factors determini ng it	Enumerate the Factors determining the Personality	Cognitiv e	Recall level I	Desirabl e to know	Case scenari o discussi on	MCQ	SAQ/Viv a
Hom UG- OM- I.9.9	Informa tion Analysis Synthes is	Knows how	Assessme nt of personalit y	Describe the techniques of assessing Personality	Cognitiv e	Understan d and interpret Level II	Nice to know	Case scenari o discussi on	MCQ	SAQ/Viv a

Hor	n Informa	Personali	Knows	Implicatio	Discuss	the	Cognitiv		Must	Discussi	MCQ	LAQ	Hor
UG-	tion	ty and		ns of study	relevance	of	е	Understan	lenove	on with			with
ОМ	collectio	Homoeo		of	concept	of		d and	know	case			Organ
1.9.1	n	pathy		personalit	Personalit	y to		interpret		scenari			on
0				y to	a			Level II		0			
				homoeopa	homoeop	ath							
				th									
Hor	n Proble		Knows		Discuss	the	Cognitiv	Understan	Desirabl	Discussi	MCQ	LAQ	Hor
UG-	m				relevance	of	е	d and	e to	on with			with
ОМ	Solving				studying			interpret	know	scenari			MM
1.9.1					Personalit	У		Level II		0			
1					from	the							
					perspectiv	e of							
					Materia								
					Medica								

Semester 3 Topic 3-Bio-Psycho-Social development of Human Being

Sr.No	Generic Compet ency	Subject area	Millers Know/ Know how/Sho w how/Doe s	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL metho d / media	Forma tive Assess ment	Summ -ative Assess ment	Integrati on - Horizont al / Vertical / Spiral
Hom UG- OM- I.5.1	Informa tion	Concept of Bio- Psycho- Social model for	Knows	Describe concept of Bio- Psycho- Social developm	Define the Bio-Psycho- Social model	Cognitiv e	Recall level I	Must know	Lectur e	Ess	LAQ/ SAQ	Anatomy , Physiolo gy
	Informa tion Analysis Synthes is	holistic care	Knows	ent of Human Being	Illustrate how each of the constituent of the Biopsycho-social model gives a more comprehensive understandin		Understan d and interpret Level II	Must know	Lectur e	LAQ	LAQ	

	Holistic	Knows	Implicatio	g of a human being	Cognitiv	Undovetan	Must	Lactur	LAQ	LAQ	
	approac h System based thinking	Knows how	Implications of the Bio-psychosocial approach	Discuss the significance of the Bio-psycho-social approach to a human being	Cognitiv e	Understan d and interpret Level II	know	Lectur e	LAU	LAQ	
	Synthes is	Knows	Implicatio ns in homoeopa thic care	Discuss the similarity between homoeopathi c approach to a human being with Bio-psychosocial approach	Cognitiv e	Understan d and interpret Level II	Must know	Lectur e	LAQ	LAQ	Hor with Organon
Hom UG- OM- I.5.5	Informa tion Synthes is	Knows how	Discuss Socio cultural basis of Behavior	Defines the role of culture in shaping human behavior.		Recall level I	Must know	Small group discus sion	Chart prepar ation Assign ment	SAQ	

Semester 3 Topic 4 Concept of Stress-Conflict: their genesis, types and effects on the mind and body

Sr.No	Generic Compet ency	Subject area	Millers Know/ Know how/Sho w how/Doe s	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirabl e to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrati on - Horizont al / Vertical / Spiral
Hom UG- OM- I.10.	Informa tion collectio n	Stress, Conflicts and Coping Mechani sms	Knows	Discuss the Concept of Stress and types of stress	Define Stress	Cognitiv e	Remembe r and Recall Level I	Must know	Present ation with case let	MCQ	LAQ	Observat ion in any departm ental OPD/ IPD
Hom UG- OM- I.10. 2	Informa tion and analysis		Knows		Classify the types of stress	Cognitiv e	Understan d and interpret Level II	Must know	Present ation with case let	МСО	LAQ	
Hom UG- OM-	Informa tion		Knows how		Identify the sources of Stress	Cognitiv e	Understan d and	Must know	Present ation	MCQ	SAQ/Viv a	

l.10. 3							interpret Level II		with case let			
Hom UG- OM- I.10.	Organiz e the data	Knows how		Discuss effect Stresses Mind Body	the of on and	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Present ation with case let	MCQ	SAQ/Viv a	
Hom UG- OM- I.10.	Informa tion	Knows	Concept of Conflict and types	Define Conflict		Cognitiv e	Recall level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/ IPD
Hom UG- OM- I.10. 6	Informa tion collectio n	Knows		State stages Conflict	the of	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/ IPD
Hom UG- OM- I.10.7	Organiz e the data	Knows how		Enumerat the type Conflict		Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm

												ental OPD/ IPD
Hom UG- OM- I.10. 8	Analysis Synthes is	ł	Know	Describe the relationshi p between stress and conflict	Discuss the relationship between Stress and Conflict	Cognitiv e	Understan d and interpret Level II	Desirabl e to know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/ IPD
Hom UG- OM- I.10.	Informa tion	ł	Know	Discuss the concept of Coping Mechanis ms and their use	Define Coping mechanism	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/ IPD
Hom UG- OM- I.10. 10	Informa tion		Knows how		Enumerate the types of Coping mechanisms	Cognitiv e	Recall Level I	Must know	Present ation with case let	MCQ	SAQ/Viv a	Observat ion in any departm ental OPD/ IPD

Hom UG- OM- I.10. 1	Proble m solving		Knows how		Discuss the utility of Coping mechanism while dealing with Stress	е	Understan d and interpret Level II	Must know	Present ation with case let	MCQ	МСО	Observat ion in any departm ental OPD/ IPD
	Holistic approac h System based thinking		Knows how	Discuss successful resolution of conflict	Evaluate the role of learning and adaptation in ensuring resolution of stress	e	Understan d and interpret Level II	Must know	Lecture with case exampl e	LAQ	LAQ	
	Synthet ic	Applicati on of stress- conflict in Homoeo pathy	Shows How	Exploring effects of stress- conflict in Homoeop athy	Explore the reflection of conflict in Hom Materia Medica		Problem solving III	Must know	Lecture	LAQ	LAQ	

Semester 3 Topic- 5- Applied Psychology: Clinical, Education, Sports, Business and Industrial

Sr.No	Generic Compet ency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirab le to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
Hom UG- OM- I.11.1	Informa tion Collecti on	Applied Psycholo gy	Knows	Understan d the applicati on of Psycholo gy in the different fields of Clinical, Educatio n, Sports,	Define the following terms in Applied Psychology viz Clinical, Business, Education, Sports, Industrial	Cognitiv e	Recall Level I	Must know	Discussi on on the utility of the subject in multiple human resource s areas	MCQ	SAQ	
	Informa tion manage ment		Knows	Business, Industrial	Illustrate the utility of subject Psychology in various fields	Cognitiv e ? Psycho- motor	Understan d and interpret Level II	Desirab le to know	Library referenc es	SAQ	SAQ/Viv a	

Semester 3 Topic 6: Psychology and its importance in Homoeopathic practice for Holistic Management of the patient

	neric Subject area y	Millers Know/ Know how/ Show how/ Does	Specific competen cy	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirab le to know / nice to know	TL method / media	Forma tive Assess ment	Summ -ative Assess ment	Integrat ion - Horizon tal / Vertical / Spiral
S	tem Psycholo gy and Homoeo pathy fo Holistic manage ment	1	Summarizi ng the course of Psycholog y	Discuss the ways in which Psychology may contribute to the holistic manageme nt of the patient	Cognitive	Understan d and interpret Level II	Must know	Lecture and discussi on	LAQ	LAQ	

Teaching-Learning Methods

- a. Classroom teaching
 - i. Lecture
 - ii. Demonstration
 - iii. Group discussion
 - iv. Problem based learning
- b. Practical
 - i. Psychological theories Models / Experiments / Any activity
 - ii. Facial recognition spotting
- c. Individual learning
 - i. Assignment
 - ii. Short project -e.g. searching MM or Repertory for representation of emotions, thoughts and behaviour

V Practical – Lab work – Field – Clinical Hospital work

- a. Journal club: a team of students to present the understanding of current development in psychological aspects of every day events
- b. Field work Some survey for identification of psychological disturbance in Common Man
- c. Clinical Hospital Work- Small project on psychometric tests.

VI No of Teaching Hours: Theory

Sr. No	Topic	No of lectures	Non-lectures
1.	Introduction to the study of Mind in Homoeopathy	3	-
2.	Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements	2	1

3.	Physiological basis of behaviour - the place of conditioned and unconditioned reflex	3	1
4.	Understanding Behavior and Functioning and expressions in Repertory and Materia Medica	4	2
5.	Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica	5	3
6.	Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica	4	3
7.	Understanding Intellect: Perception and expressions in Repertory and Materia Medica	3	2
8.	Understanding Intellect: Thinking, intelligence and its measurement and expressions in Repertory and Materia Medica	4	2
9.	Motivation and their types with role in our lives	2	2
10.	Learning and its place in adaptation	4	2
11.	Growth and development of Mind and its expressions from Infancy to old age	4	2
12.	Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica	4	2
13.	Conflicts: their genesis and effects on the mind and body	3	1
14.	Applied Psychology: Clinical, Education, Sports, Business, Industrial	2	-
15.	Psychology and its importance in Homoeopathic practice	2	-

Total	50	22

8. Assessment

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment Practical	Grand Total
1	HomUG-OM-I	1	100	50	40	10	200

8B - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1 st term (1-6 Months)	2 nd Term (7-12 Months)	3 rd Term (13-18	Months)
1	First Professional BHMS	First PA + 1 ST TT	2 nd PA+2 ND TT	3 rd PA	UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

8 C - Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Dimensions
1	Practical/Clinical Performance

2	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3	Open Book Test (Problem Based)
4	Reflective writing
5	Class Presentations; Work Book Maintenance
6	Problem Based Assignment
8	Co-curricular Activities, (Social Work, Public Awareness, Surveillance/ Prophylaxis Activities, Sports or Other Activities which may be decided by the Department).
9	Small Project

8D - Scheme of Assessment (Formative)

Sr. No	Professional Course	1 st term (1-6 Mon	ths)	2 nd Term (7-12 Mo	3 rd Term (13-18 Months)	
1	First Professional	1 st PA	1 ST TT	2 nd PA	2 ND TT	3 rd PA
	BHMS	10 Marks Practical/Viva	50 Marks Practical/ Viva	10Marks Practical/Viva	50 Marks Practical/ Viva	10Marks Practical/Viva

For Internal assessment, Only Practical/Viva marks will be considered. Theory marks will not be counted)

8E - Method of Calculation of Internal Assessment Marks for Final University Examination:

PA ₁	PA ₂	PA ₃	Periodical	TT1	TT ₂	Terminal	Final
Practical/Viva	Practical/Viva	Practical/Viva	Assessment	Practical/Viva	Practical/Viva	Test	Internal
(10 Marks)	-	-	Average	(50 Marks)		Average	Assessment
	(10 Marks)	(10 Marks)	PA1+PA2+PA3/3		(50 Marks)	TT1+	Marks
						TT2/	
						100*10	
	В	С	D		F	G	D+G/2
Α				E			

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

8 F - Paper Layout

Summative assessment:

Theory- 100 marks

Section -I-50 marks-Organon

MCQ	5 marks	10min
SAQ	25 marks	50 min
LAQ	20 marks	30 min

Section –II-50 marks- Psychology

MCQ	5 marks	10min
SAQ	25 marks	50 min
LAQ	20 marks	30 min

8 G – I – Distribution of Theory Exam - Organon

Sr.	Paper			D		
No.				Type of 0	Questions	
				"Yes" ca	n be asked	d.
				"No" sh	ould not be	e asked
	A	В	С	MCQ	SAQ	LAQ
	List of Topics	Terms	Marks	(1mark)	(5 Marks)	(10 Marks)
1	Introductory Topics	I	Refer Next Table	Yes	Yes	No
2	Logic	I		No	Yes	No
3	§1-27&105-145 of Organon of medicine, §105 to 145	II & III		No	Yes	Yes
4	The Physician – Purpose of Existence, Qualities, Duties, Knowledge	III		Yes	Yes	Yes
5	Vital Force – Dynamisation – Homoeopathic Cure – Natures Law of Cure & Implications – drug proving	III		Yes	Yes	Yes

8 G – II – Theme Table - Organon

Theme*	Topic	Term	Marks	MCQ's	SAQ's	LAQ's
Α	Introductory Topics	I	10	Yes	Yes	No
В	Logic	I	05	No	Yes	No
С	§1-27&105-145 of Organon of medicine, §105 to 145	II & III	25	No	Yes	Yes
D	The Physician – Purpose of Existence, Qualities, Duties, Knowledge	III	10	Yes	Yes	Yes

Theme table: -Psychology

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
Α	Introduction to psychology	1	05	NO	Yes	No
В	Psychological organization of Mind –Structural and Functional	I	10	Yes	Yes	Yes
С	Understanding Emotion/thinking/ Behaviour	I	10	Yes	Yes	Yes
D	Motivation and their types with role in our lives	I	05	Yes	Yes	Yes
E	Growth and development	11	10	Yes	Yes	Yes
F	Personality development and stress management	III	05	NO	yes	no
G	Applied Psychology	III	05	No	Yes	no

8 H Question paper Blue print :

Sections I : Organon – 50 Marks

Α	В	Question Paper Format
Question Serial Number	Type of Question	(Refer table 4FII theme table for themes)
Q1	Multiple Choice Questions (MCQ)	Theme A
	5 Questions	Theme A
	1 mark each	Theme A
	All Compulsory	Theme A
	Must Know part – 3 MCQ	Theme A
	Desirable to know – 2 MCQ	
	Nice to know – NIL	
Q2	Short Answer Questions (SAQ)	Theme A
	5 Questions	Theme B
	5 Marks Each	Theme C
	All Compulsory	Theme C
	Must Know part – 5 SAQ	Theme C
	Desirable to Know – NIL	
	Nice To Know - NIL	
Q ₃	Long Answer Questions (LAQ)	Theme C
	2 Questions	Theme D
	10 Marks Each	
	All Compulsory	
	All questions on must know	
	Desirable to Know – NIL	
	Nice To Know - NIL	

Section-II- Psychology -50 marks

Question Serial	Type of Question	Question Paper Format
Number		(Refer table 4 F II Theme table for themes)
Q1	All compulsory	Theme B +C+E+F+G
	Multiple choice Questions (MCQ) 5 Questions -1 mark each	
	Must know – 3MCQ	
	Desirable to know-1 MCQ	
	Nice to know -1 MCQ	
Q2	Short answer Questions (SAQ) 5 Questions 5 Marks Each	Theme A+B+C+D+E+F+G
	All compulsory	
	Must know part: 3 SAQ	
	Desirable to know: 1 SAQ	
	Nice to know: 1 SAQ	
Q ₃	Long answer Questions (LAQ) 2 Questions 10 marks each	Theme B+C+ E+F+G
	All compulsory	
	Must know part: 2 LAQ	

8 I - Distribution of Practical Exam

Practical -100

Practical Organon: 50 marks

Practical	25 marks
Viva voce	20 marks
Internal assessment	5 marks

Practical Psychology: 50 marks

Practical	25 marks
Viva voce	20 marks
Internal assessment	5 marks

9. References

I. Text book/s

- 1. Hahnemann S. Organon of medicine. 6ed
- 2. Sarkar. B. K. Hahnemann's organon of medicine
- 3. Roberts H. A. The principles and Art of cure by homoeopathy
- 4. Kent J. T. Lecture's on homoeopathic philosophy
- 5. M. L. Dhawale. Principles & Practice of Homoeopathy

- 6. Hughes Richard The Principles and Practice Of Homoeopathy
- 7. Close Stuart: The genius of homoeopathy
- 8. Allen J Henry: The Chronic Miasm With Repertory
- 9. Banerjee P N.: Chronic diseases- Its cause and cure

II. Reference books

- 1. Arya M.P (2018): A study of Hahnemann's Organon of medicine
- 2. Singh Mahindra: Pioneers Of Homoeopathy
- 3. Vithoulkas George (2002): Science of Homoeopathy

References/ Resources: Standard textbook: for Psychology

- 1. Shelley E Tylor. 10th edition (2018) Health psychology
- 2. Shashi Jain 4th edition (2014) Introduction to psychology
- 3. Psychology textbook for class XI.7th edition National Council for Educational Research and training
- 4. Psychology textbook for class XII 7th edition National Council for Educational Research and training
- 5. Morgan Clifford Thomas 7th edition (2017) Introduction to Psychology
- 6. Alder (2009) Psychology and Sociology applied to medicine
- 7. Chavan (2013), Community Mental Health in India
- 8. Munn (2010) Norman Normal Psychology
- 9. Baron Misra (2016) Psychology
- 10. Susan (2011) Ayers Psychology for Medicine
- 11. Diana Papilia (2001) Developmental psychology
- 12. Atkinsons & Hilgard (2015) Introduction to Psychology

10. LIST OF CONTRIBUTORS:

ORGANON AND PHILOSOPHY

Dr Ajay Dahad

Principal, Professor/Head, Organon of Medicine & Homoeopathic Philosophy

Smt. K. B. Abad Homoeopathic Medical College, Chandwad-423101 Dist. Nashik (MS)

Dr Alpesh Arunbhai Shah

Principal, Professor of organon of medicine Pioneer homoeopathic medical college and hospital, Vadodara

Dr. Neeraj Gupta

Professor, Nehru Homoeopathic Medical College, Delhi

Dr. Mihir Parikh

Professor, Smt. Malini Kishore Sanghvi Homoeopathic Medical College, Karjan

Dr. Nimish Mehta

Reader, Smt. Chandaben Mohanbhai Patel Homeopathic Medical College, Mumbai

Dr. K. Shivprasad

Principal, Yenepoya homoeopathic medical college, Mangalore

FUNDAMENTALS OF PSYCHOLOGY

Dr Sunita Nikumbh,

Dr M L Dhawale Memorial Homoeopathic Institute Palghar

Dr Jayashree Janagam

Asst. Professor, Dept. of Psychiatry, National Homoeopathy Research Institute in Mental Health, Kottayam,

Dr. Mahendra Gaushal

Principal, Sonajirao Kshirsagar Homoeopathic Medical College, Beed

Dr. Girish Navada

Professor, Father Muller Homoeopathic Medical College, Mangalore



BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE

FACULTY Of HOMOEOPATHY B.H.M.S. Old Syllabus

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN PATHOLOGY

Preamble

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

This programme is meant to standardize Pathology teaching at post graduate level throughout the country so that it will benefit in achieving uniformity in teaching and resultantly creating suitable manpower with appropriate expertise. The post graduate student should be trained in handling and processing histopathology, clinical pathology, microbiology, biochemistry and transfusion medicine samples with a knowledge of general principles and methodology.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

SUBJECT SPECIFIC LEARNING OBJECTIVES

The learning objectives in the cognitive, psychomotor and affective domains are:

A. Cognitive Domain

- 1. Diagnose routine and complex clinical problems on the basis of histopathology (surgical pathology) and cytopathology specimens, blood and bone marrow examination and various tests of Laboratory Medicine (clinical pathology, clinical biochemistry) as well as Blood Banking (Transfusion Medicine).
- 2. Interpret and correlate clinical and laboratory data so that clinical manifestations of diseases can be explained.
- 3. Advise on the appropriate specimens and tests necessary to arrive at a diagnosis in a problematic case.
- 4. Correlate clinical and laboratory findings with pathology findings at autopsy, identify miscorrelations and the causes of death due to diseases (apart from purely metabolic causes).
- 5. Should be able to teach Pathology to undergraduates, postgraduates, nurses and paramedical staff including laboratory personnel.

- 6. Plan, execute, analyse and present research work.
- 7. Make and record observations systematically and maintain accurate records of tests and their results for reasonable periods of time. Identify problems in the laboratory, offer solutions thereof and maintain a high order of quality control.
- 8. Capable of safe and effective disposal of laboratory waste.
- 9. Able to supervise and work with subordinates and colleagues in a laboratory.

B. Affective Domain

- 1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
- 2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
- Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. Psychomotor Domain

- 1. Able to perform routine tests in a Pathology Laboratory including grossing of specimens, processing, cutting of paraffin and frozen sections, making smears, and staining.
- 2. Able to collect specimens by routinely performing non-invasive out-patient procedures such as venipuncture, finger-prick, fine needle aspiration of superficial lumps and bone-marrow aspirates, and provide appropriate help to colleagues performing an invasive procedure such as a biopsy or an imaging guided biopsy.
- 3. Perform an autopsy, dissect various organ complexes and display the gross findings.
- 4. Should be familiar with the function, handling and routine care of equipments in the laboratory.

SUBJECT SPEIFIC COMPETENCIES

A. Cognitive domain

A post graduate student upon successfully qualifying in the MD (Pathology) examination should have acquired the following broad theoretical competencies and should be:

- 1. Capable of offering a high quality diagnostic opinion in a given clinical situation with an appropriate and relevant sample of tissue, blood, body fluid, etc. for the purpose of diagnosis and overall wellbeing of the ill.
- 2. Able to teach and share his knowledge and competence with others. The student should be imparted training in teaching methods in the subject which may enable the student to take up teaching assignments in Medical Colleges/Institutes.
- Capable of pursuing clinical and laboratory based research. He/she should be introduced to basic research methodology so that he/she can conduct fundamental and applied research.

B. Affective domain

- 1. The student will show integrity, accountability, respect, compassion and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development.
- 2. The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
- 3. The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities.

C. Psychomotor domain

At the end of the course, the student should have acquired skills, as described below:

Surgical pathology

Skills

- Given the clinical and operative data, the student should be able to identify, and systematically and accurately describe the chief gross anatomic alterations in the surgically removed specimens and be able to correctly diagnose at least 80% of the lesions received on an average day from the surgical service of an average teaching hospital.
- A student should be able to demonstrate ability to perform a systematic gross examination of the tissues including the taking of appropriate tissue sections and in special cases as in intestinal mucosal biopsies, muscle biopsies and nerve biopsies, demonstrate the orientation of tissues in paraffin blocks.
- The student should be able to identify and systematically and accurately describe the chief histo-morphological alterations in the tissue received in the surgical pathology service. He/she should also correctly interpret and

correlate with the clinical data to diagnose at least 90% of the routine surgical material received on an average day.

- Be conversant with automatic tissue processing machine and the principles of its running.
- Process a tissue, make a paraffin block and cut sections of good quality on a rotary microtome.
- Stain paraffin sections with at least the following:
 - (i) Haematoxylin and eosin
 - (ii) Stains for collagen, elastic fibers and reticulin
 - (iii) Iron stain
 - (iv) PAS stain
 - (v) Acid fast stains
 - (vi) Any other stains needed for diagnosis.
- Demonstrate understanding of the principles of:
 - (i) Fixation of tissues
 - (ii) Processing of tissues for section cutting
 - (iii) Section cutting and maintenance of related equipment
 - (iv) Differential (special) stains and their utility
- Cut a frozen section using cryostat, stain and interpret the slide in correlation with the clinical data provided.
- Demonstrate the understanding of the utility of various immunohistochemical stains especially in the diagnosis of tumour subtypes.

Cytopathology

Skills

- Independently prepare and stain good quality smears for cytopathologic examination.
- Be conversant with the techniques for concentration of specimens: i.e.
 various filters, centrifuge and cytocentrifuge.
- Independently be able to perform fine needle aspiration of all lumps in patients; make good quality smears, and be able to decide on the types of staining in a given case.
- Given the relevant clinical data, he/she should be able to independently and correctly:
 - (i) Diagnose at least 75% of the cases received in a routine laboratory and categorize them into negative, inconclusive and positive.

- (ii) Demonstrate ability in the technique of screening and dotting the slides for suspicious cells.
- (iii) Indicate correctly the type of tumour, if present
- (iv) Identify with reasonable accuracy the presence of organisms, fungi and parasites

Haematology

Skills

- Correctly and independently perform the following special tests, in addition to doing the routine blood counts:
 - (i) Haemogram including reticulocyte and platelet counts.
 - (ii) Bone marrow staining including stain for iron
 - (iii) Blood smear staining
 - (iv) Cytochemical characterization of leukemia with special stains like Peroxidase, Leukocyte Alkaline Phosphatase (LAP), PAS, Sudan Black, etc.
 - (v) Hemolytic anemia profile including HPLC, Hb electrophoresis etc.
 - (vi) Coagulation profile including PT, APTT, FDP.
 - (vii) BM aspiration and BM biopsy
- Demonstrate familiarity with the principle and interpretation of results and the utility in diagnosis of the following:
 - (i) Platelet function tests including platelet aggregation and adhesion and PF3 release
 - (ii) Thrombophilia profile: Lupus anticoagulant (LAC),
 Anticardiolipin Antibody (ACA), Activated Protein C
 Resistance (APCR), Protein C (Pr C), Protein S (Pr S) and
 Antithrombin III (AT III)
 - (iii) Immunophenotyping of leukaemia
 - (iv) Cytogenetics
 - (v) Molecular diagnostics.
- Describe accurately the morphologic findings in the peripheral and bone marrow smears, identifying and quantitating the morphologic abnormalities in disease states and arriving at a correct diagnosis in at least 90% of the cases referred to the Haematology clinic, given the relevant clinical data.

Laboratory Medicine

Skills

- Plan a strategy of laboratory investigation of a given case, given the
 relevant clinical history and physical findings in a logical sequence, with a
 rational explanation of each step; be able to correctly interpret the
 laboratory data of such studies, and discuss their significance with a view
 to arrive at a diagnosis.
- Demonstrate familiarity with and successfully perform:
 - i) routine urinalysis including physical, chemical and microscopic, examination of the sediment.
 - ii) macroscopic and microscopic examination of faeces and identify the ova and cysts of common parasites.
 - iii) a complete examination: physical, chemical and cell content of Cerebrospinal Fluid (C.S.F), pleural and peritoneal fluid.
 - iv) semen analysis.
 - v) examination of peripheral blood for commonly occurring parasites.
- Independently and correctly perform at least the following quantitative estimations by manual techniques and/or automated techniques.
 - (i) Blood urea
 - (ii) Blood sugar
 - (iii) Serum proteins (total and fractional)
 - (iv) Serum bilirubin (total and fractional)
- Demonstrate familiarity with the following quantitative estimations of blood/ serum by Automated Techniques:
 Serum cholesterol, Uric acid, Serum Transaminases (ALT and AST/SGOT and SGPT), etc.
- Prepare standard solutions and reagents relevant to the above tests, including the preparation of normal solution, molar solution and buffers.
- Explain the principles of Instrumentation, use and application of the instruments commonly used in the labs eg. Photoelectric colorimeter, Spectrophotometer, pH meter, Centrifuge, Electrophoresis apparatus, ELISA Reader, flow cytometer, PCR, chemiluminiscence.

Transfusion Medicine

Skills

The student should be able to correctly and independently perform the following:

- Selection and bleeding of donors
- Preparation of blood components i.e. Cryoprecipitates, Platelet concentrate, Fresh Frozen Plasma, Single Donor Plasma, Red Blood Cell concentrates.

- ABO and Rh grouping.
- Demonstrate familiarity with Antenatal and Neonatal work up.
 - (i) Direct antiglobulin test
 - (ii) Antibody screening and titre
 - (iii) Selection of blood for exchange transfusion
- Demonstrate familiarity with principle and procedures involved in:
 - (i) Resolving ABO grouping problems.
 - (ii) Identification of RBC antibody.
 - (iii) Investigation of transfusion reaction.
 - (iv) Testing of blood for presence of:
 - (a) HBV (Hepatitis B Virus Markers).
 - (b) HCV (Hepatitis C Virus Markers)
 - (c) HIV (Human Immunodeficiency Virus Testing)
 - (d) VDRL
 - (e) Malaria

Immunohistochemistry

Skills (desirable)

 Be able to perform immuno-histochemical staining using paraffin section with at least one of the commonly used antibodies (Cytokeratin or LCA) using PAP method.

Syllabus

Course contents:

The study of Pathologic Anatomy includes all aspects of Pathology as encompassed in the branches of General and Systemic Pathology. Only the broad outlines are provided.

A) General Pathology:

Normal cell and tissue structure and function.

The changes in cellular structure and function in disease.

Causes of disease and its pathogenesis.

Reaction of cells, tissues, organ systems and the body as a whole to various sublethal and lethal injuries.

B) Systemic Pathology:

The study of normal structure and function of various organ systems and the aetiopathogenesis, gross and microscopic alterations of structure of these organ systems in disease and functional correlation with clinical features.

C) Haematology

The study of Haematology includes all aspects of the diseases of the blood and bone marrow. This would involve the study of the normal, and the causes of diseases and the changes thereof.

- 1. Laboratory Medicine (Clinical Biochemistry/Clinical Pathology including Parasitology).
- 2. Transfusion Medicine (Blood Banking).
- 3. The student is expected to acquire a general acquaintance of techniques and principles and to interpret data in the following fields.
 - a) Immunopathology
 - b) Electron microscopy
 - c) Histochemistry
 - d) Immunohistochemistry
 - e) Cytogenetics
 - f) Molecular Biology
 - g) Maintenance of records
 - h) Information retrieval, use of Computer and Internet in medicine.
 - i) Quality control, waste disposal

It is difficult to give a precise outline of the Course Contents for post graduate training. A post graduate is supposed to acquire not only the professional competence of a well-trained specialist but also academic maturity, a capacity to reason and critically analyse scientific data as well as to keep himself abreast of the latest developments in the field of Pathology and related sciences. A brief outline of what is expected to be learnt during the MD Course is given under each head.

Surgical Pathology

Knowledge

- The student should be able to demonstrate an understanding of the histogenetic and patho-physiologic processes associated with various lesions.
- Should be able to identify problems in the laboratory and offer viable solutions.

Autopsy Pathology

Knowledge

- Should be aware of the technique of autopsy.
- Should have sufficient understanding of various disease processes so that a meaningful clinico-pathological correlation can be made.
- Demonstrate ability to perform a complete autopsy independently with some physical assistance, correctly following the prescribed instructions. Correctly

identify all major lesions which have caused, or contributed to the patient's death, on macroscopic examination alone and on microscopy in at least 90% of the autopsies in an average teaching hospital.

- In places where non-medico-legal autopsies are not available each student should be made to observe at least five medico-legal autopsies.
- Write correctly and systematically Provisional and Final Anatomic Diagnosis reports.

Cytopathology

Knowledge

- Should possess the background necessary for the evaluation and reporting of cytopathology specimens.
- Demonstrate familiarity with the following, keeping in mind the indication for the test.
 - (i) Choice of site from which smears may be taken
 - (ii) Type of samples
 - (iii) Method of obtaining various specimens (urine sample, gastric smear, colonic lavage etc.)
 - (iv) Be conversant with the principles and preparation of solutions of stains

Haematology

Knowledge

- Should demonstrate the capability of utilising the principles of the practice of Haematology for the planning of tests, interpretation and diagnosis of diseases of the blood and bone marrow.
- Should be conversant with various equipments used in the Haematology laboratory.
- Should have knowledge of automation and quality assurance in Haematology.
- Correctly plan a strategy of investigating at least 90% of the cases referred for special investigations in the Hematology Clinic and give ample justification for each step in consideration of the relevant clinical data provided.

Laboratory Medicine

Knowledge

- Possess knowledge of the normal range of values of the chemical content of body fluids, significance of the altered values and its interpretation.
- Possess knowledge of the principles of following specialized organ function tests and the relative utility and limitations of each and significance of the altered values.
 - (i) Renal function tests

- (ii) Liver function tests
- (iii) Pancreatic function tests
- (iv) Endocrine function tests
- (v) Tests for malabsorption
- Know the principles, advantages and disadvantages, scope and limitation of automation in the laboratory.
- Know the principles and methodology of quality control in the laboratory.

Transfusion Medicine (Blood Banking)

Knowledge

The student should possess knowledge of the following aspects of Transfusion Medicine.

- Basic immunology
- ABO and Rh groups
- Clinical significance of other blood groups
- Transfusion therapy including the use of whole blood and RBC concentrates
- Blood component therapy
- Rationale of pre-transfusion testing.
- Infections transmitted in blood.
- Adverse reactions to transfusion of blood and components
- Quality control in blood bank

Basic Sciences (in relation to Pathology)

a) Immunopathology

Knowledge

- Demonstrate familiarity with the current concepts of structure and function of the immune system, its aberrations and mechanisms thereof.
- Demonstrate familiarity with the scope, principles, limitations and interpretations of the results of the following procedures employed in clinical and experimental studies relating to immunology.
 - (a) ELISA techniques
 - (b) Radioimmunoassay
 - (c) HLA typing
- Interpret simple immunological tests used in diagnosis of diseases and in research procedures.
 - (i) Immunoelectrophoresis
 - (ii) Immunofluorescence techniques especially on kidney and skin biopsies
 - (iii) Anti-nuclear antibody (ANA)
 - (iv) Anti-neutrophil cytoplasmic antibody (ANCA)

b) Electron Microscopy

Knowledge

- Demonstrate familiarity with the principles and techniques of electron microscopy and the working of an electron microscope (including Transmission and Scanning Electron microscope: TEM and SEM)
- Recognise the appearance of the normal subcellular organelles and their common abnormalities (when provided with appropriate photographs).

c) Enzyme Histochemistry

Knowledge

• Should be familiar with the principles, use and interpretation of common enzyme histochemical procedures (Alkaline Phosphatase, Acid Phosphatase, Glucose-6-Phosphate Dehydrogenase, Chloroacetate Esterase).

d) Immunohistochemistry

Knowledge

- Demonstrate familiarity with the principles and exact procedures of various immunohistochemical stains using both PAP (Peroxidase-antiperoxidase) and AP-AAP (Alk. Phosphatase-anti-Alk. Phosphatase) ABC (Avidin-Biotin Conjugate) systems; employing monoclonal and polyclonal antibodies.
- Be aware of the limitations of immuno-histochemistry.

e) Molecular Biology

Knowledge

- Should understand the principles of molecular biology especially related to the understanding of disease processes and its use in various diagnostic tests.
- Should be conversant with the principle and steps and interpretation of Polymerase Chain Reaction (PCR), Western Blot, Southern Blot, Northern Blot and Hybridisation) procedures.

f) Cytogenetics

Knowledge

 Demonstrate familiarity with methods of Karyotyping and Fluorescent in-situ Hybridisation (FISH).

g) Tissue Culture

Knowledge

• Demonstrate familiarity with methods of tissue culture.

h) Principles of Medical Statistics

Knowledge

Demonstrate familiarity with importance of statistical methods in assessing data from patient material and experimental studies.

TEACHING AND LEARNING METHODS

Post Graduate Training

Teaching methodology

Based on the available facilities, the Department can prepare a list of post graduate experiments pertaining to basic and applied Pathology. Active learning should form the mainstay of post graduate training; there should be lectures for post graduates (at least 20 per year), along with seminars, symposia, group-discussions and Journal clubs. The post graduate students should regularly do the ward rounds of various clinical departments and learn cases of interest for discussion with the clinical faculty. Each college should have a Medical Education Unit to generate teaching resource material for undergraduates and evolving of problem solving modules. Department should encourage e-learning activities.

Rotation:

Postings to laboratories/assignments

The three-year training programme for the MD degree may be arranged in the form of postings to different assignments/laboratories for specified periods as outlined below. The period of such assignments/postings is recommended for 35 months. Posting schedules may be modified depending on needs, feasibility and exigencies. For facilities not available in the parent institution as well as for additional knowledge and skill, extramural postings may be undertaken.

Section	n/Subject	Duration in months
(i)	Surgical Pathology and Autopsy and Pathology Techniques	12
(ii)	Haematology and Laboratory Medicine	10
(iii)	Cytopathology	08
(iv)	Transfusion Medicine/Blood Bank	02
(v)	Museum techniques and record management	01
(vi)	Basic Sciencesincluding Immunopathology,	
	Electron microscopy, Molecular Biology,	
	Research Techniques and cytogenetics etc	02
	Total	35

The training programme should be designed to enable the student to acquire a capacity to learn and investigate, to synthesize and integrate a set of facts and develop a faculty to reason. The curricular programmes and scheduling of postings must provide the student with opportunities to achieve the above broad objectives. Much of the learning is to be accomplished by the student himself. Interactive discussions are to be preferred over didactic sessions. The student must blend as an integral part of the activities of an academic department that usually revolves around three equally important basic functions of teaching, research and service. As mentioned earlier, the emphasis recommended under a PG training programme is of learning while serving/working.

The following is a rough guideline to various teaching/learning activities that may be employed.

- Collection of specimens including Fine Needle Aspiration of lumps.
- Grossing of specimens.
- Performing autopsies.
- Discussion during routine activities such as during signing out of cases.
- Presentation and work-up of cases including the identification of special stains and ancillary procedures needed.
- Clinico-pathological conferences.
- Intradepartmental and interdepartmental conferences related to case discussions.
- Conferences, Seminars, Continuing Medical Education (CME) Programmes.
- Journal Club.
- Research Presentation and review of research work.
- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
- Participation in workshops, conferences and presentation of papers etc.
- Laboratory work.
- Use and maintenance of equipment.
- Maintenance of records. Log books should be maintained to record the work done
 which shall be checked and assessed periodically by the faculty members
 imparting the training.
- Postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- Department should encourage e-learning activities.

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of skills laboratories in medical colleges is mandatory.

ASSESSMENT

FORMATIVE ASSESSMENT, ie., during the training

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and practical/clinical examination.

Quarterly assessment during the MD training should be based on:

- 1. Journal based / recent advances learning
- 2. Patient based /Laboratory or Skill based learning
- 3. Self directed learning and teaching
- 4. Departmental and interdepartmental learning activity
- 5. External and Outreach Activities / CMEs

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I)

SUMMATIVE ASSESSMENT, ie., assessment at the end of training

The summative examination would be carried out as per the Rules given in **POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.**

Post Graduate Examination

The Post Graduate examination shall be in three parts:-

1. Thesis:

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognised Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the post graduate student to the techniques of research, critical analysis,

acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. **Theory**:

The examinations shall be organised on the basis of 'Grading'or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers:

Paper I: General Pathology, Pathophysiology, Immunopathology and

Cytopathology

Paper II: Systemic Pathology

Paper III: Haematology, Transfusion Medicine (Blood Banking) and

Laboratory Medicine

Paper IV: Recent advances and applied aspects

3. Practicals/Clinical and Oral/viva voce Examination:

The practical/clinical examination should consist of the following and should be spread over two days.

I. Clinical Pathology:

- Discussion of a clinical case history.
- Plan relevant investigations of the above case and interpret the biochemistry findings.
- Two investigations should be performed including at least one biochemistry exercise/clinical pathology exercise like CSF, pleural tap etc. analysis and complete urinalysis.

II. Haematology:

- Discuss haematology cases given the relevant history. Plan relevant investigations
- Perform complete hemogram and at least two tests preferably including one coagulation exercise
- Identify electrophoresis strips, osmotic fragility charts etc. Interpretation of data from autoanalysers, HPLC and flow cytometry.

Examine, report and discuss around ten cases given the history and relevant blood smears and/or bone marrow aspirate smears and bone marrow biopsy interpretation.

III. Transfusion Medicine:

- Perform blood grouping
- Perform the necessary exercise like cross matching.
- Coomb's test, gel cards interpretation.

IV. Histopathology:

- Examine, report and discuss 12-15 cases histopathology and 5-8 cytopathology cases, given the relevant history and slides.
- Perform a Haematoxylin and Eosin stain and any special stain on a paraffin section. Should be conversant with histopathology techniques including cryostat.

V. Autopsy:

• Given a case history and relevant organs (with or without slides), give a list of anatomical diagnosis in a autopsy case.

VI. Gross Pathology

• Describe findings of gross specimens, give diagnosis and identify the sections to be processed. The post graduate student should perform grossing in front of the examiners for evaluation.

VII. Basic Sciences:

- 10-15 spots based on basic sciences be included
- Identify electron micrographs
- Identify gels, results of PCR, immunological tests including interpretation of Immunofluroscence pictures.
- Identify histochemical and immuno-histochemistry stains
- Teaching exercise 10 min

All practical exercises are to be evaluated jointly by all the examiners.

An oral question-answer session should be conducted at the end of each exercise.

- (a) Viva on dissertation and research methodology
- (b) General Viva-Voce

Recommended Reading:

Books (latest edition)

- 1. Rosai and Ackerman's Surgical Pathology
- 2. Atlas and Text of Haematology by Tejinder Singh
- 3. Orell's Atlas of Aspiration Cytology
- 4. Lever's Dermatopathology
- 5. Novak's Gynecologic and Obstetric Pathology with Clinical and Endocrine Relations by Edmund R. Novak
- 6. Bone Pathology by H. Jaffe
- 7. MacSween's Pathology of the liver
- 8. Iochim's Lymph Node Pathology
- 9. Text Book on Breast Pathology by Tavasoli
- 10. Text Book on Thyroid Pathology by Geetha Jayaram
- 11. Theory and Practice of Histological Techniques by Bancroft
- 12. Gray's Diagnostic Cytopathology
- 13. Sternberg's Diagnostic Surgical Pathology
- 14. Dacie's Practical Haematology
- 15. Wintrobe's Haematology
- 16. Heptinstall's Pathology of the Kidney
- 17. Enzinger's Soft Tissue Tumours

Journals

03-05 international Journals and 02 national (all indexed) journals

- 1. Acta Cytologica
- 2. Journal of Pathology
- 3. Histopathology
- 4. British Journal of Haematology
- 5. Blood
- 6. Journal of Clinical Pathology
- 7. Diagnostic Cytopathology
- 8. Human Pathology
- 9. New England Journal of Medicine
- 10. Indian Journal of Pathology and M
- 11. Lancet
- 12. American Journal of Surgical Pathology



Annexure 1

Postgraduate Students Appraisal Form Pre / Para / Clinical Disciplines

	i i c / i di d / olii licai Discipili ics
Name of the Department/Un	nit :
Name of the PG Student	:

Period of Training : FROM.....TO.....TO....

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1.	Journal based / recent advances learning				
2.	Patient based /Laboratory or Skill based learning				
3.	Self directed learning and teaching				
4.	Departmental and interdepartmental learning activity		no	4	
5.	External and Outreach Activities / CMEs	9 64			
6.	Thesis / Research work			4	
7.	Log Book Maintenance			-	1

Publications	Yes/ No	
Remarks*		

SIGNATURE of ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD

^{*}REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.