



**BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY), PUNE**

**FACULTY OF AYURVED
MD - Swastha Vritta & Yoga
New Syllabus**



BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY) PUNE, INDIA.

FACULTY OF AYURVED

Pune- Satara Road, Pune-411043.

Accredited with 'A+' Grade (2017) by NAAC.

'A' Grade University status by MHRD, Govt. of India

Accredited (2004) & Reaccredited (2011) with 'A' Grade by NAAC.

Post- Graduate (M.D./M.S./Diploma in Ayurved)

Syllabus/ Curriculum

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Preface

Ayurveda is accepted worldwide as one of the oldest traditional systems of medicine. The ancient insight in this traditional system of medicine is still not profoundly discovered. Ayurveda signifies as "the life-science " where ayur means "life" and veda means "science" in Sanskrit. Ayurveda is the upaveda i.e. "auxiliary knowledge of Atharvaveda in Vedic tradition with its prime origin from Atharva-Veda and a supplement of the Rig-Veda. Lord Dhanvantari is worshipped as the God of Ayurveda. The goal of this traditional medicine system is to prevent illness, disease cure and preserve life. Being originated in India Ayurveda extends its wings in various parts of the world. In ancient days Ayurveda was taught in Gurukula system, which is now evolved in to post graduate courses from Institutions.

The Indian Medical Council was set up in 1971 by the Indian government to establish maintenance of standards for undergraduate and postgraduate education. It establishes suitable qualifications in Indian medicine and recognizes various forms of traditional practice including Ayurveda.

Ayurvedic practitioners also work in rural areas, providing health care to the million people in India alone. They therefore represent a major force for primary health care, and their training and placement are important to the government of India. Being a scientific medicine, Ayurveda has both preventive and curative aspects. The preventive component emphasizes the need for a strict code of personal and social hygiene, the details of which depend upon individual, climatic, and environmental needs.

The Bachelor of Ayurvedic Medicine and Surgery, MD/MS in various discipline of

Ayurveda started with the intention to encourage integrated teaching and de-emphasize compartmentalization of disciplines so as to achieve horizontal and vertical integration in different phases which helps to support National Health Services.

Looking into the health services provided to the public, understanding the need of practitioners of Ayurvedic system of medicine, as per the guidelines of apex body National Council of Indian system of Medicine (formerly CCIM) and suggestions provided by the faculty of various Specialties, stake holders and strategy of University this governance is framed

based on following aims and objectives -

Aims and objectives-

The aims of the post-graduate degree courses shall be to provide orientation of specialties and super-specialties of Ayurveda, and to produce experts and specialists who can be competent and efficient teachers, physicians, surgeons, gynaecologists and obstetricians (Stri Roga and Prasuti Tantragraha), pharmaceutical experts, researchers and profound scholars in various fields of specialization of Ayurveda.

Faculty of Ayurved, Bharati Vidyapeeth (Deemed to be University), Pune

Vision-

To be a world class university for social transformation through dynamic education

Mission-

- To ensure the good health and longevity of mankind.
- To carve a niche for our college in the world of Ayurved education
- To provide
 - Borderless access to Ayurved education
 - Quality Ayurved education
- To promote
 - Quality research in diverse areas of health care system.
 - Extensive use of ICT for teaching, learning and governance.
 - To develop national and international networks with industry and other academic and research institutions.

Program Outcomes For Post Graduate Courses in Ayurved-

- PG degree holder should be expert and specialist of his/ her branch who can be competent and efficient teacher, physician, surgeon, gynaecologist and obstetrician (Stri Roga and Prasuti Tantragya), pharmaceutical expert, researcher and profound scholar in various fields of specialization of Ayurved.
- Should be having knowledge of Concept of Good clinical practices in Ayurved and modern medicine

Course specific outcomes

M. S – Ayurved Dhanvantari in

1. PRASUTI TANTRA & STREEROGA [OBSTETRICS AND GYNECOLOGY]

- To be able to manage normal and complicated Pre-natal, Intra partum and Post natal cases by integrative approach
- To be able to manage all types of gynecological disorders at every epoch of womanhood.
- To be able to perform all kinds of Ayurvedic procedures and surgical procedures related to Stree roga and Prasutitantra
- To have knowledge of medico legal aspects of obstetrics and gynecology.

M. S – Ayurved Dhanvantari in

2. SHALAKYA TANTRA [NETRA, SHIRO, NASA, KARNA, KANTHA, MUKHA]

- To be able to manage all cases of E.N.T. and ophthalmology by integrative approach.
- To be able to perform all kinds of Ayurvedic procedures and surgical procedures related to Shalakyatantra
- To have knowledge of medico legal aspects of Shalakyatantra

M. S – Ayurved Dhanvantari in

3. SHALYA TANTRA [GENERAL SURGERY]

- To be able to manage all surgical cases by integrative approach
- To be able to perform all kinds of Ayurvedic procedures and general surgical procedures
- To have adequate knowledge of Anushashtra – Ksharkarma and prayoga, Agnikarma [thermo therapy], Raktamokshan [bloodletting] or Asthisandhi evam marma vigyan [orthopedic] or Sangyahan [Anesthesiology] or Mootraroga [Urology]
- To have knowledge of medico legal aspects of Shalyatantra

M.D.- Ayurved Vachaspati in

1. AYURVED SAMHITA & SIDDHANT

- to have profound knowledge of Charak Samhita, Sushrut Samhita & AshtangHridayam, Ayurvediya and Darshanika Siddhanta with commentaries
- to be able to interpret philosophical principles incorporated in Charak Samhita, Sushrut Samhita, Ashtanga Hridaya, Ashtang Samgraha.
- To able to understand Practical applicability of principles of samhita and a competent Ayurved physician
- Competency in fundamental research

M.D.- Ayurved Vachaspati in

2. RACHANA SHAARIRA

- Should have thorough knowledge and competency in Ayurved Sharira and Modern anatomy
- Having extensive knowledge and skill of dissecting human dead bodies and its demonstration.

M.D.- Ayurved Vachaspati in

3. KRIYA SHARIR

- Having profound knowledge of Ayurved Kriya Sharir: - - and Contribution of different Ayurveda Samhita in Kriya Sharir
- Ability to determine and demonstrate the Sharir – Manans Prakriti
- Should have knowledge of Modern Physiology and its applied aspects

M.D.- Ayurved Vachaspati in

4. DRAVYAGUNA VIGYAN

- Have a clear understanding of medicinal plants in context to Ayurved and modern Pharmacology and Pharmaceutics
- Have an accurate knowledge of identification, Authentication and standardization of raw and wet plant drugs.
- Ability of cultivation and plantation of medicinal plants
- Knowledge about Pharmacovigilance
- Ability to conduct the pre clinical and clinical trials of medicinal plants

M.D.- Ayurved Vachaspati in

5. RASASHASTRA EVAM BHAISHJYA KALPNA

- Have an accurate knowledge of identification, Authentication and standardization of minerals and metals along with plant drugs
- Possess detailed knowledge of manufacturing practices of various dosage forms of

Ayurved formulations as per GMP

- Ability to establish, run and manage pharmacy as per GMP and FDA guidelines
- Having knowledge of Drug and cosmetics related acts
- Ability to conduct the pre clinical and clinical trials on minerals and metals

M.D.- Ayurved Vachaspati in

6. AGADA TANTRA EVUM VIDHIVAIDYAKA

- To be able to understand and interpret Ayurvedic and Contemporary Toxicology
- Having knowledge of Pharmacodynamics of different formulations used in Agadatantra and Clinical & Experimental toxicology
- Ability of Ayurvedic & Contemporary Management Of Poisoning
- Should have profound knowledge of Forensic Medicine and Medical Jurisprudence
- Ability to diagnose and manage substance abuse [De- addiction]
- Have knowledge of Pharmacovigilance, community health problems due to poisons & pollution, Drug interactions & incompatibility etc.

M.D.- Ayurved Vachaspati in

7. SWASTHAVRITTA

- Having knowledge of Concept of holistic health and Principles of dietetics according to Ayurveda
- Understanding the Concept of community health, prevention, Stages of intervention according to Ayurved Modern medicine
- Should have knowledge of Ayurved and Modern Concept of Epidemiology [Janapadodhwamsa]
- Possess knowledge of Therapeutic effect of Yogic practices and ability to demonstrate various yogasanas in various diseases
- Understanding the role of Ayurved for Immunization, Occupational Health, Geriatrics, Life Style disorders (Non Communicable diseases)

M.D.- Ayurved Vachaspati in

8. ROGA NIDANA

- To understand the Concept and applied aspects of fundamental principles of Rognidan
- To have profound Knowledge of classical Samprapti of all diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadhyata and Chikitsa Sutra.
- Ability of Ayurvedic interpretation of commonly occurring diseases in contemporary medicine, all relevant findings of modern clinical examinations and various Laboratory and other Diagnostic reports

- Ability of establishment and management of standard clinical laboratory set up
- Have knowledge about Upasargajanya Vyadhi (Communicable diseases)

M.D.- Ayurved Vachaspati in

9. Panchakarma

- To have thorough knowledge of Kayachikitsa, basic principles of Shodhana (BioPurification methods) and Raktamokshana, Physiotherapy & Disease-wise Panchakarma
- To be able to perform poorva, Pradhan & Pashchat karma of Panchakarma procedures [five Purification therapies] of Ayurveda and manage its complications [Updrava].
- To be able to prepare all the necessary bhaishjya kalpana for various panchakarma procedures

M.D.- Ayurved Vachaspati in

10. Kayachikitsa

- To have thorough knowledge of Fundamentals of Kayachikitsa
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- To be able to perform Rogi-Roga Pariksha in Ayurved and Modern perspectives with the help of modern diagnostic parameters.
- To be able to perform samanya and vishesh roga chikitsa including application of advances in Rasayana and Vajikarana therapies and emerging trends in Panchakarma in various disease management
- To have knowledge of Critical care medicine, Management of medical emergencies, ICU services, Field medical services
- To be able to participate in National Health Programmes and recognize prospective role of Ayurveda services and therapeutics in them.

M.D.- Ayurved Vachaspati in

11. KAUMARBHRITYA-BALA ROGA

- Ability to interpret Ayurvedic genetics with Pathogenesis of Modern genetics and management of genetic disorders
- To have thorough knowledge of Neonatal Care and management of all types of neonatal diseases
- To diagnose and manage the Paediatric Disorders
- Ability to develop and manage paediatric ward with Fundamentals of Hospital management

Eligibility

Passing marks for eligibility in admission to ASU&H- PG courses should be as per the ASU&H- PG regulations and should be followed strictly., -

- A person possessing the degree of Ayurvedacharya (Bachelor of Ayurveda Medicine and Surgery) or provisional degree certificate recognized as per the provisions of IMCC 1970/NCISM 2020 act and possess permanent or provisional registration certificate issued by the CCIM/NCISM/state board and must have completed a satisfactorily one year compulsory rotating internship as per the NCISM notification.
- In order to be eligible for admission to post graduate courses it shall be necessary for a candidate to obtain minimum of marks at 50th percentile in the All India AYUSH Post Graduate Entrance Test (AIAPGET) .
- Candidates belonging to the scheduled castes, Scheduled Tribes and other Backward Classes the minimum marks shall be at 40th percentile.

Medium of instruction

The medium of instruction for the programme shall be Sanskrit or Hindi or English with use of Ayurvedic technical terms.

Duration of the Course Study

Total Duration of Course – 3 Years from the Commencement of classes. The maximum duration for completion of the course shall not exceed beyond the period of six years from the date of admission to the course.

Curriculum - As approved by Bharati Vidyapeeth [Deemed to be University], Pune is in line with the directives of the Central Council for Indian Medicine.

Attendance and Progress

The students shall have to attend a minimum of seventy-five per cent. of total lectures, practical's and clinical tutorials or classes to become eligible for appearing in the examination. A Web based centralized biometric attendance system shall be required for the attendance of post-graduate students and manual attendance at department level in which student is pursuing the post-graduate course.

The student shall have to attend the hospital and perform other duties as may be assigned to him during study. The student of clinical subject shall have to do resident duties in their respective departments and student of non-clinical subject shall have duties in their respective departments like Pharmacy or Herbal Garden or Laboratory during study. The student shall attend special lectures, demonstrations, seminars, study tours and such other activities as may be arranged by the teaching departments.

Subjects taught, Number of lectures/ practical and demonstrations for various subjects [MD/MS]

❖ **Specialties in which post-graduate degree is allowed are as under: -**

Sr. No.	Name of speciality	Nearest terminology of modern subject	Department in which postgraduate degree can be conducted
Pre-clinical speciality			
1	Ayurveda Samhita evam Siddhant	Ayurveda Samhita and basic principles of Ayurveda	Samhita and basic principles of Ayurveda
2	Rachana Sharira	Anatomy	Rachana Sharira
3	Kriya Sharira	Physiology	Kriya Sharira
Para-clinical speciality			
4	Dravyaguna Vigyana	Materia Medica and Pharmacology	Dravyaguna
5	Rasa Shastra evam Bhaishajya Kalpana	Ayurveda Pharmaceuticals	Rasa Shastra evam Bhaishajya Kalpana
6	Roga Nidana evam Vikriti Vigyana	Diagnostic Procedure and Pathology	Roga Nidana evam Vikriti Vigyana
Clinical speciality			
7	Prasuti evam Stri Roga	Obstetrics and Gynecology	Prasuti evam Stri Roga
8	Kaumarabhritya –Bala Roga	Pediatrics	Kaumarabhritya– Bala Roga
9	Swasthavritta	Preventive Social Medicine	Swasthavritta and Yoga
10	Kayachikitsa	Medicine	Kayachikitsa
11	Shalya	Surgery	Shalya Tantra
12	Shalakya	Diseases of Eye, Ear, Nose, Throat Head, Neck, Oral and Dentistry	Shalakya Tantra
13	Panchakarma	Panchakarma	Panchakarma
14	Agada Tantra	Toxicology and Forensic Medicine	Agada Tantra.

❖ **Nomenclature of post-graduate degree. -**

The nomenclature of post-graduate degree in respective specialties shall be as under: -

Sl.No.	Nomenclature of specialty or degree	Abbreviation
Pre-clinical specialty		
1	Ayurveda Vachaspati – Ayurveda Samhita Evum Siddhant	M.D. (Ayurveda)- Compendium and Basic Principles
2	Ayurveda Vachaspati – Rachana Sharira	M.D. (Ayurveda) - Anatomy
3	Ayurveda Vachaspati – Kriya Sharira	M.D. (Ayurveda) - Physiology
Para-clinical specialty		
4	Ayurveda Vachaspati – Dravyaguna Vigyana	M.D. (Ayurveda) - Materia Medica and Pharmacology
5	Ayurveda Vachaspati – Rasa Shastra evam Bhaishajya Kalpana	M.D. (Ayurveda) - Pharmaceuticals
6	Ayurveda Vachaspati – Roga Nidana evam Vikriti Vigyana	M.D. (Ayurveda)- Diagnostic procedure and Pathology
Clinical specialty		
7	Ayurveda Dhanvantari – Prasuti evam Stri Roga	M.S. (Ayurveda)- Obstetrics and Gynecology
8	Ayurveda Vachaspati – Kaumarabhritya –Bala Roga	M.D. (Ayurveda)- Pediatrics
9	Ayurveda Vachaspati – Swasthavritta	M.D. (Ayurveda)- Social and Preventive Medicine
10	Ayurveda Vachaspati – Kayachikitsa	M.D. (Ayurveda)- Medicine
11	Ayurveda Dhanvantari – Shalya	M.S. (Ayurveda)- Surgery
12	Ayurveda Dhanvantari – Shalakyia	M.S. (Ayurveda)- Diseases of Eye, Ear, Nose, Throat Head, Neck, Oral and Dentistry
13	Ayurveda Vachaspati – Panchakarma	M.D. (Ayurveda)- Panchakarma
14	Ayurveda Vachaspati – Agada Tantra	M.D. (Ayurveda)- Toxicology and Forensic Medicine

Synopsis and Dissertation

Central Scientific Advisory Post Graduate Committee appointed by Central Council of Indian Medicine shall suggest the areas of Research and topics and the same shall be followed by University Committee while approving the Dissertation title.

The title of the dissertation along with the synopsis, with approval of the Ethics Committee constituted by the institute shall be submitted to the University within a period of six months from the date of admission to the post-graduate course.

If the student fails to submit the title of dissertation and synopsis within specified period, his terms for final post-graduate course shall be extended for six months or more in accordance with the time of submission of the synopsis to the University.

- **Synopsis**

The synopsis of the proposed scheme of work shall indicate the expertise and action plan of work of the student relating to the proposed theme of work, the name of the department and the name and designation of the guide or supervisor and co-guide (if any).

The University shall approve the synopsis not later than three months after submission of the synopsis.

A Board of Research Studies shall be constituted by the University to approve the title.

The University shall display the approved synopsis of dissertation on their website.

- **Dissertation**

Once the title for dissertation is approved by the Board of Research Studies of the University, the student shall not be allowed to change the title of the proposed theme of work without permission of the University.

No student shall be allowed to submit the dissertation before six months of completion of course and the student shall continue his regular study in the institution after submission of dissertation to complete three years.

The dissertation shall consist of not less than forty thousand words.

The dissertation shall contain, at the end, a summary of not more than one thousand and five hundred words and the conclusion not exceeding one thousand words.

Five copies of the bound dissertation along with a certificate from the supervisor or guide shall reach the office of the Registrar of the University four months before the final examination.

The student shall be permitted to appear in the final examination of post-graduate degree course only after approval of the dissertation by the examiners.

Scheme of Examination

The post-graduate degree course shall have two university examinations in the following manner, namely: -

1. The preliminary examination -
2. The final examination –

1.The preliminary examination – Conducted at the end of one academic year after admission.

The subjects/ Number of Papers for preliminary examination namely: -

Paper I- Research Methodology and Bio or Medical Statistics;

Paper II- Applied aspects regarding concerned subjects.

Rules-

The student shall have to undergo training in the department concerned and shall maintain month-wise record of the work done during the last two years of study in the specialty opted by him as under:-

- (a) Study of literature related to specialty,
- (b) Regular clinical training in the hospital for student of clinical subject,
- (c) Practical training of research work carried out in the department, for student of pre-clinical and paraclinical subject,
- (d) Participation in various seminars, symposia and discussions; and (e) progress of the work done on the topic of dissertation.

The assessment of the work done by the students of first year post-graduate course during the first year will be done before the preliminary examination.

Examination shall ordinarily be held in the month of June or July and November or December every year. For being declared successful in the examination, student shall have to pass all the subjects separately in preliminary examination. The student shall be required to obtain a minimum of fifty per cent and marks in practical and theory subjects separately to be announced as a pass. If a student fails in the preliminary examination, he shall have to pass before appearing in the final examination.

2. The final examination -Conducted on completion of three academic years after the admission to postgraduate course.

The final examination shall include dissertation, written papers and clinical or practical and oral examination.

Number of Papers -There shall be four theory papers in each specialty and one practical or clinical and viva-voce examination in the concerned specialty or group of subspecialties selected by the student for special study.

The student shall publish or get accepted minimum one research paper on his research work in one journal and one paper presentation in regional level seminar.

The preliminary examination and final examination shall be held in written, practical, or clinical and oral examination. If the student fails in theory or practical in the final examination, he can appear in the subsequent examination without requiring submitting a fresh dissertation. The subsequent examination for failed candidates shall be conducted at every six-month interval; and the post-graduate degree shall be conferred after the dissertation is accepted and the student passes the final examination.

M.D./M.S.-AYURVEDA

PRELIMINARY PAPER-I
RESEARCH METHODOLOGY AND MEDICAL STATISTICS

PART-A
RESEARCH METHODOLOGY

1 Introduction to Research

- A. Definition of the term research
- B. Definition of the term anusandhan
- C. Need of research in the field of Ayurveda

2 General guidelines and steps in the research process

- A. Selection of the research problem
- B. Literature review: different methods (including computer database) with their advantages and limitations
- C. Defining research problem and formulation of hypothesis
- D. Defining general and specific objectives
- E. Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative
- F. Sample design
- G. Collection of the data
- H. Analysis of data.
- I. Generalization and interpretation, evaluation and assessment of hypothesis.
- J. Ethical aspects related to human and animal experimentation.
- K. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Procedure to obtain clearance from respective committees, including filling up of the consent forms and information sheets and publication ethics.

3 Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model.

4. Scientific writing and publication skills.

- a. Familiarization with publication guidelines- Journal specific and CONSORT guidelines.
- b. Different types of referencing and bibliography.
- c. Thesis/Dissertation: contents and structure
- d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)

- 5 **Classical Methods of Research. Tadvidya sambhasha, vadmarga and tantrayukti** Concept of Pratyakshadi Pramana Pariksha, their types and application for Research in Ayurveda. Dravya-, Guna-, Karma-Parikshana Paddhati
Aushadhi-yog Parikshana Paddhati

Swastha, Atura Pariksha Paddhati
Dashvidha Parikshya Bhava
Tadvidya sambhasha, vadmarga and tantrayukti

6 Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.

7. Different fields of Research in Ayurveda

- a. Fundamental research on concepts of Ayurveda
- b. Panchamahabhuta and tridosha.
- c. Concepts of rasa, guna, virya, vipak, prabhav and karma
- d. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshta.

8. Literary Research-

Introduction to manuscriptology: Definition and scope. Collection, conservation, cataloguing. Data mining techniques, searching methods for new literature; search of new concepts in the available literature. Methods for searching internal and external evidences about authors, concepts and development of particular body of knowledge.

9. Drug Research (Laboratory-based)- Basic knowledge of the following:
Drug sources: plant, animal and mineral. Methods of drug identification.

Quality control and standardization aspects: Basic knowledge of Pharmacopoeial standards and parameters as set by Ayurvedic Pharmacopoeia of India.

Information on WHO guidelines for standardization of herbal preparations. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).

10. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.

11. Introduction to latest Trends in Drug Discovery and Drug Development

- Brief information on the traditional drug discovery process
- Brief information on the latest trends in the Drug Discovery process through employment of rational approach techniques; anti-sense approach, use of micro and macro-arrays, cell culture based assays, use of concepts of systems biology and network physiology
- Brief introduction to the process of Drug development

12. Clinical research:

Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda

Basic knowledge of the following:-

Observational and Interventional studies

Descriptive & Analytical studies

Longitudinal & Cross sectional studies

Prospective & Retrospectives studies

Cohort studies

Randomized Controlled Trials (RCT) & their types

Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.

Errors and bias in research.

New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP)
Phases of Clinical studies: 0,1,2,3, and 4.

Survey studies -

Methodology, types, utility and analysis of Qualitative Research methods.
Concepts of in-depth interview and Focus Group Discussion.

13. Pharmacovigilance for ASU drugs. Need, scope and aims & objectives. National Pharmacovigilance Programme for ASU drugs.

14. Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Database- Pub med, Medlar and Scopus. Accession of databases.

15. Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

PART-B

40 marks

MEDICAL STATISTICS

Teaching hours: 80

- 1 **Definition of Statistics :** Concepts, relevance and general applications of Biostatistics in Ayurveda
Collection, classification, presentation, analysis and interpretation of data (Definition, utility and methods)
- 2 **Scales of Measurements** - nominal, ordinal, interval and ratio scales.
Types of variables – Continuous, discrete, dependent and independent variables.
Type of series – Simple, Continuous and Discrete
- 3 **Measures of Central tendency** – Mean, Median and Mode.
- 4 **Variability:** Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation
- 5 **Probability:** Definitions, types and laws of probability,
- 6 **Normal distribution:** Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.
- 7 **Fundamentals of testing of hypotheses:**
Null and alternate hypotheses, type I and type 2 errors.
Tests of significance: Parametric and Non-Parametric tests, level of significance and power of the test, 'P' value and its interpretation, statistical significance and clinical significance
- 8 **Univariate analysis of categorical data:**
Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals
- 9 **Parametric tests:**
'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance

10 Non parametric methods:

Chi-square test, Fisher's exact test, McNemar's test, Wilcoxon test, Mann-Whitney U test, Kruskal – Wallis with relevant post hoc tests (Dunn)

11 Correlation and regression analysis:

Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation.
Regression- simple and multiple.

12 Sampling and Sample size computation for Ayurvedic research:

Population and sample. Advantages of sampling, Random (Probability) and non random (Non-probability) sampling. Merits of random sampling. Random sampling methods- simple random, stratified, systematic, cluster and multiphase sampling. Concept, logic and requirement of sample size computation, computation of sample size for comparing two means, two proportions, estimating mean and proportions.

13 Vital statistics and Demography:

computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics

14 Familiarization with the use of Statistical software like SPSS/Graph Pad

PRACTICAL

100 marks

I. RESEARCH METHODOLOGY

hours 120

Teaching

PRACTICAL NAME

1 Pharmaceutical Chemistry

Familiarization and demonstration of common lab instruments for carrying out analysis as per API

2 Awareness of Chromatographic Techniques

Demonstration or Video clips of following:

- Thin-layer chromatography (TLC).
- Column chromatography (CC).
- Flash chromatography (FC)
- High-performance thin-layer chromatography (HPTLC)
- High Performance (Pressure) Liquid Chromatography (HPLC)
- Gas Chromatography (GC, GLC)

4 Pharmacognosy

Familiarization and Demonstration of different techniques related to:-Drug administration techniques-oral and parenteral.

Blood collection by orbital plexuses puncturing.

Techniques of anesthesia and euthanasia.

Information about different types of laboratory animals used in experimental research
Drug identification as per API including organoleptic evaluation

5 Pharmacology and toxicology

Familiarization and demonstration of techniques related to pharmacology and toxicology

6 Biochemistry (Clinical)

Familiarization and demonstration of techniques related to basic instruments used in a clinical biochemistry laboratory – semi and fully automated clinical analyzers, electrolyte analyzer, ELISA-techniques, nephelometry.

Demonstration of blood sugar estimation, lipid profiles, kidney function test, liver function test.HbA1, cystatin and microalbumin estimation by nephelometry or other suitable techniques.
Interpretation of the results obtained in the light of the data on normal values.

7 Clinical Pathology

Familiarization and demonstration of techniques related to basic and advanced instruments used in a basic clinical pathology lab. Auto cell counter, urine analyzer, ESR, microscopic examination of urine.

8 Imaging Sciences

Familiarization and demonstration of techniques related to the imaging techniques. Video film demonstration of CT-Scan, MRI-scan and PET-scan.

9 Clinical protocol development

II. MEDICAL STATISTICS

Practical hours:20

Statistical exercise of examples from Topic number 4, 5, 8-12, 14, 15. Records to be prepared.

Distribution of marks (practical):

1. Instrumental spotting test– 20 marks
2. Clinical protocol writing exercise on a given problem– 20 marks
3. Records:Research methodology -10 Mark
4. Medical statistics -10 marks
5. Viva- Voce -40 Marks

REFERENCE BOOKS:-

Pharmacognosy:

1. Aushotosh Kar “Pharmacognosy & Pharmacobiotechnology” New Age International Publisher. Latest Edition. New Delhi.
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5. Deb, A.C., Fundamentals of Biochemistry, Books and Allied (P) Ltd, 2002.
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12. Text book of Radiology and Imaging, Vol-1, David Sultan, 7th Edition. 2003.

Research methodology:

1. Alley, Michael. The craft of scientific writing. Englewood Cliffs. N.N. Prentice 1987.
2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
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11. Petter Laake, Haakon Breien Benestad and Bjørn Reino Olsen. (2007). *Research Methodology in the Medical and Biological sciences*. Academic Press is an imprint of Elsevier, 84 Theobald's Road, London WC1X 8RR, UK. ISBN: 978-0-12-373874-5
12. Relevant portions of Ayurvedic Samhitas and other texts

Drug research and development:

1. RICK NG, (2009). *DRUGS- from discovery to approval*. John Wiley & Sons, Inc., Hoboken, New Jersey
2. Research guidelines for evaluating the safety and efficacy of herbal medicines. (1993). . WHO- (Regional Office for the Western Pacific – Manila) ISBN 92 9061 110 3 (NLM Classification: WB 925).
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13. Jaju B.P.: Pharmacological Practical Exercise Book, *Jaypee Brothers, New Delhi*.
14. Kulkarni S.K.: Hand Book of Experimental Pharmacology, *Vallabh Prakashan, New Delhi*
15. Ravindran R.: X-Pharm (Software), Indian Journal of Pharmacology, *JIPMER, Pondicherry*.

Biotechnology and Bio-informatics:

1. Angela M. Meireles A (2009). Extracting Bioactive compounds for food products. Theory and applications. CRC- Press Taylor and Francis Group.
2. Bergeron BP 2002 Bioinformatics Computing 1st Edition, Prentice Hall
3. Chikhale, N.J. and Virendra Gomase, Bioinformatics- Theory and Practice, Publisher: Himalaya Publication House, India; 1 edition (July, 2007) ISBN-13: 978-81-8318-831-9
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5. Satyanarayana, U.: Biotechnology, Books and Allied (P) Ltd, Kolkata, 2005
6. Setubal J. C and J. Meidanis, Introduction to Computational Molecular Biology, PWS Publishing Company, 1997.
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10. www.consort-statement.org
11. www.strobe-statement.org
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Clinical Evaluation:

1. CDSCO, Good Clinical Practices For Clinical Research in India, Schedule Y (Amended Version – 2005), <http://cdsco.nic.in/html/GCPI.php>
2. Ethical Guidelines for Biomedical Research on Human subjects. (2000). Indian Council of Medical Research- New Delhi.
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9. William C. Scheffer Introduction to Clinical Researchs

Medical Statistics:

1. Armitage, P. and Berry, G. (1994) *Statistical Methods in Medical Research* (3rd ed). Blackwell Science.
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4. Bradford Hill – *Basic Medical Statistics*
5. Cambell, M.J. and Machin, D. (1993) *Medical Statistics: A Common Sense Approach* (2nd ed). Chester: Wiley.
6. Dwivedi S. N., Sundaram K. R and V. Sreenivas (2009). *Medical Statistics - Principles & Methods*- BI Publications Pvt. Ltd., New Delhi –1.
7. Gupta S.P. - *Fundamentals of statistics*, Sultan Chand. Delhi.
8. Indrayan. (2008). *Basic Methods of Medical Research*. AITBS Publishers- India
9. Mahajan B K, *Methods in Bio statistics for medical students*, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers
10. Mehdi, B and Prakash A. (2010). *Biostatistics in Pharmacology. Practical Manual in experimental and clinical pharmacology*. 1st Edition. New-Delhi: Jaypee brothers Medical Publishers
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12. Rick J Turner and Todd A Durham (2008). *Introduction to Statistics in Pharmaceutical Clinicaltrails*. Published by the Pharmaceutical Press- An imprint of RPS Publishing,1 Lambeth High Street, London SE1 7JN, UK
13. Symalan, K. (2006). *Statistics in Medicine (First Edition)* Trivandrum: Global Education Bureau.
14. Sundar Rao, Jesudian Richard - *An Introduction to Biostatistics*.
15. Suhas Kumar Shetty- *Medical statistics made easy*

PRELIMINARY
PAPER-II

M.D. (AYU) SWASTHAVRITA (PREVENTIVE, SOCIAL MEDICINE & YOGA)

TEACHING HOURS 100 HOURS.

PRACTICAL 100 HOURS.

THEORY- 100 MARKS

PRACTICAL AND VIVA-VOCE - 100 MARKS

PART A (50 MARKS)

1. Contribution of Swasthavritta in Community Medicine (Public Health).
2. Comparison of Concept of Swastha according to various Ayurvedic Samhitas.
3. Applied aspect of Swasthya, based on various parameters described in Samhitas.
4. Details of definition and dimensions of health and parameters for its evaluation as per World Health Organization.
5. Relevance of Dinacharya, Ratricharya and Ritucharya in health promotion and prevention of diseases in modern day scenario and different occupations. (Importance of Niyat Kala Vihara-Dincharya,

Ratricharya and Ritucharya in prevention of diseases.)

6. Applied aspect of Adharaniya and Dharaniya Vega in health promotion and prevention of diseases with examples. (Importance of Aniyat Kala-Vegdharana, Vega Udirana, Shodhana, Brumhana, Bhutadyasparshana.)
7. Details of Ahara and Poshana as per Samhitas and its role in changing diet patterns of present era.
8. Nidra as per Ayurvedic classics. Effects of changing patterns of sleep on health.
9. Concept of Brahmacharya , Abrahmacharya and its relevance in present era.
10. Concept of Bala and Ojas in relation with Vyadhikshamatva .
11. Importance and relevance of Ritu Shodhana.
12. Role of Rasayana in promotion of health and prevention of diseases. Scope of Rasayana in Geriatrics and Reproductive & Child Health.
13. The concept of Ashtanga Yoga and its relation to health.
14. References about Yoga in Ayurvedic classics.
15. References about Ayurveda in Yoga classics.
16. The phenomenon of disease manifestation based on Adhi and Vyadhi as per Yoga Vashishtha and its relevance with Therapeutic Yoga.
17. Applied aspect of Pancha Mahabhutas in Nature Cure.

Part B (50 MARKS)

1. Janapadodhdhwamsa and measures of its prevention.
2. Principles of Epidemiology and its application.
3. Concept of disease control and stages of intervention.
4. Role of Swasthavritta and Yoga in prevention of communicable diseases.
5. Role of Swasthavritta and Yoga in prevention of non-communicable diseases.
6. Levels of disease prevention.
7. Kriya Kala and its importance in disease prevention.
8. Basic principles of Sankramaka Vikara - causes, modes of disease transmission, epidemiological triad.
9. Principles of Health Education and its role in community health maintenance and promotion.
10. Environmental health - concept of water, soil and air purification as per Ayurveda and Modern Science.
11. Newer threats to Environment – including plastic, e-waste, radiation and global warming.
12. Importance and relevance of Meteorology in Swasthavritta.
13. Role of Swasthavritta in Maternal and Child Health care.
14. Role of Swasthavritta and Yoga in Sports' Medicine.
15. National Population Policy, Importance of Family Planning Methods in National development. Ayurvedic methods of birth control (Yoga Ratnakara).
16. National Health Policy as per Alma Ata declaration.

PRACTICAL

1. Departmental duties
 - a. Duty in OPD and IPD with regard to Ayurveda Dinacharya, Ritucharya, Pathyapathya, Yoga and Nisargopachara.
 - b. Museum development- wall magazine / charts

c. Regular attendance in Yoga training in the Swasthya Rakshana and Yoga OPD.

2. Practice the following daily regimens

a. Pratimarsha Nasya

b. Anjana

c. Kavala and Gandusha

d. Abhyanga

e. Udvartana

f. Prayogika Dhoomapana

g. Matra Basti

3. Preparation of different Krittanna Kalpanas

a. Laja Manda

b. Mudga, Kulatha, Chanaka Yusha

c. Shali and Nartaki Peya

d. Shali, Dashamoola Yavagu

e. Shali Vilepi

f. Krishara

g. Nimbu Panaka

h. Payasa

i. Godhuma/Yava/Nartaki Roti

4. Health Awareness lectures to the community (mimimum 5)

5. Assessment of Swasthya (Mimimum 5 cases)

6. Participation in observance of National & International days related to health.

7. Practice of the following Asanas:

Yogic Shukshma and Sthula Vyayama. Standing Postures- Ardhakatichakrasana, Padahastasana, Ardhashchakrasana, Trikonasana Sitting Postures- Swastikasana, Siddhasana, Padmasana, Vajrasana, Bhadrasana, Gomukhasana, Shashankasana / Shashakasana, Ushtrasana, Paschimottanasana, Suptavajrasana, Ardhamatsyendrasana Supine Postures- Shavasana, Pavanmuktasana, Sarvangasana, Matsyasana, Halsana, Chakrasana, Prone Postures- Makarasana, Shalabhasana, Bhujangasana, Dhanurasana.

8. Practice of Pranayama.

9. Uccharit Pranava Pranayama (Om Chanting with Pranayama).

Distribution of marks (Practical)

1. Records - 10 Marks

2. Preparation of Krittanna Kalpanas - 20 Marks

3. Dinacharya procedure - 10 Marks

4. Spotting (10) Aahar dravyas, - 20 Marks

Family Planning Devices, Vaccine/Serum and Models /Specimens, Naturopathic and yogic Specimens.

5. Yogasana and Pranayam - 10 Marks

6. Viva-voce - 30 Marks

Reference Books:

BVDU Faculty of Ayurved_PG_Swasthvrutta

- 1) Relevant portions of Charak, Sushruta, Vagbhata (Ashtang Hrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidana & Yogaratnakara, Bhela Samhita with the respective commentaries
- 2) SwasthavrittaSamuchaya –VaidyaPtRajesvarDuttaShastri
- 3) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
- 4) SwasthvruttaVigyan - Dr.Ramharsha Singh.
- 5) Swasthvrittam - Dr.BramhanandTripathi
- 6) AyurvediyaSwasthvrittam - Vd.Jalukar
- 7) SwasthaVigyan - Dr.MukundswaroopVerma
- 8) Swasthavritta - Dr.Shivkumar Gaud
- 9) Swasthavritta- Part-I & II- Vd. Mhaiskar, Vd.Vatve
- 10) Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- 11) Preventive and Social Medicine - J.K.Park
- 12) Preventive and Social Medicine – Mahajan
- 13) Preventive and Social Medicine – B.N.Ghosh
- 14) Community Medicine - Baride and Kulkarni
- 15) Preventive and Social Medicine – Gupta 16) Patanjali Yoga Sutra – Maharshi Patanjali, Karambelkar
- 17) HathayogPradipika – SwatmaramYogendra 18) GherandSamhita- Gherand Muni
- 19) Shiva samhita – Kaivalyadhama
- 20) Yoga and Ayurveda - Dr.Rajkumar Jain
- 21) YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
- 22) YogikChikitsa - ShriKedarnath Gupta
- 23) SachitraYogasanDarshika - Dr.IndramohanJha
- 24) Yoga and Yogikchikitsa - Ramharsha Singh
- 25) The Foundation of Contempary Yoga - R.H.Singh
- 26) Yogadeepika - Shri. B.K.S. Iyengar
- 27) YogasidhantaevumSadhna - H.S.Datar
- 28) PrakritikaChikitsa -Kedarnath Gupta
- 29) PrakrutikChikitsaVigyan - Verma
- 30) PrakrutikChikitsaVidhi - Sharan Prasad
- 31) Light on Yoga, Light on Pranayama- Shri. B.K.S. Iyengar
- 32) Light on Patanjala yogasutra - Shri. B.K.S. Iyengar
- 33) Janasankhyashikshasidhanta evamUpadeysa - S.C.Seel
- 34) Health and Familywelfare - T.L.Devraj
- 35) Bio-Statistics - B.K. Mahajan
- 36) Swasthavritta - Vd.Sakad
- 37) Reddy's Comprehensive Guide to Swasthavritta –Dr.P.Sudhakar Reddy
- 38) Swasthavritta – Vd Yeshwant Patil and Vd. Vhawal
- 39) Swasthavritta – Vd. Patrikar Vijay
- 40) Dr.Me Kay Khau? _Dr.M.S.Kulkarni
- 40) Swasthavrittavidnyan - Dr.MangalaGowri
- 41)Positive Health - Dr.L.P.Gupta
- 42)Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta 43)Text book of Swasthavritta - Dr.Ranade,

Dr.Bobade, Dr.Deshpande

44) Food and nutrition – Swaminathan

45) Yoga and Nisargopachar- Vd. Prama Joshi

46) Essence of Yoga - Dr.MangalaGowri

47) The essentials of Nature Cure - Dr.MangalaGowri

48) Yogasudha – Dr. Kashinath

**POST GRADUATE FINAL YEAR
M.D. (AYU) SWASTHAVRITA**

*** TEACHING HOURS FOR THEORY SHALL BE 100 HOURS PER PAPER.**

**** TEACHING HOURS FOR PRACTICAL SHALL BE 200 HOURS.**

PAPER I

MARKS 100

**VAIYAKTIKA SWASTHAVRITAM SADVRITAM CHA(PERSONAL
AND MORAL HYGIENE)**

1. Role of Swasthavritta in socio cultural, developmental and environmental aspects of health.
2. Study of indicators of health—mortality indicators, morbidity indicators, disability rates and nutritional status indicators.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Practical application of Dinacharya in today's era and probable physiological effect of these procedures.
5. Ratricharya – Bhavamishra and other classics.
6. Study of Day and night pattern in various countries and its relevances to the status of health.
7. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, Bhela Samhita and Bhavamishra.
8. Preventive & Promotive aspects of Ritucharya and its need and importance in present Era, Importance of Ritusandhi and Yamadamshttra.
9. Ritu Shodhana technique with reference to various Ritus, its method and mode of action in disease prevention.
10. Relevance of Vegadharana and Udirana in disease manifestation and Management.
11. Ahara – Classical food items described in Charaka, Sushruta, Vagbhata, Yogaratnakara and Sharngadhara.
12. Aharavargas and their comparison with today's food items.
13. Dietetics intervention in malnutrition, under nutrition and over nutrition as per Ayurveda and modern science.
14. Rules of Dietetics according to Charaka, Sushruta and Vagbhata.
15. Pros and Cons of vegetarian and non vegetarian foods.
16. Viruddhahara – Classical and modern day examples and its impact on health.
17. Knowledge about Assessment of nutritional status of individual and community.
18. Pathya Apathya in various diseases as per Ayurvedic classics viz. Jwara, Pandu, Raktapitta,

Gulma, Prameha, Hridroga, Shosha, Unmada, Apasmara, Kamala, Udara, Shwasa, Kasa, Hikka, Agnimandya, Ajirna, Atisara, Grahani, Amlapitta, Pravahika, Arsha, Kushtha, Mutrakrichchra, Ashmari, Vidradhi, Shotha, Visarpa, Vatavyadhi, Vatarakta, Shiro-Karna-Nasa- Mukha- Netra Roga.

19. Ayurvediya Ahara, Aushadha Kalpana in relation with nutraceuticals and nutrigenomics (Prakruti Anurup Ahara).
20. Food adulteration, methods for detecting, controlling food adulteration and its legislative control.
21. Role of Nidra, Brahmacharya, Abrahmacharya in maintenance of health and causation of diseases and their management.
22. Sadvrutta – Description of Charaka, Sushruta and Vagbhata. Clinical importance of Achar Rasayana, Nitya Rasayana and Sadvrutta in prevention of diseases & promotion of health
23. Rasayana -- its utility in health and disease condition.
24. Scope of Vajikarana in health. – Pathya Apathya Kalpana and Vihara for Vajikarana.
25. Role of Ayurveda in mental health.

26. Vyadhikshamatva – Ayurvedic, Modern concepts and its practical implementation.
27. Concept of genomics in relation with status of health.

PAPER II

100 MARKS

SAMAJIKA SWASTHAVRITTAM(COMMUNITY HEALTH)

1. Ayurvedic aspect of social health.
2. Vyadhi Sankarya as a causative factor of a Vyadhi. Web of causation of diseases, multifactorial causation.
3. Natural history of diseases. ICD- International Classification of Diseases.
4. Ecology and community health. Impact of bio-geo-chemical cycle (impact of changing global nitrogen cycle on human health)
5. Environment and community health (Bhumi, Jala, Vayu their Shuddhikarana and Prakasha, Shabda, Vikirana)
6. Disinfection practices for the community – Ayurvedic and Modern .
7. Immunization programmes. Possible contribution of Ayurveda. E.g. Suvarnaprashana, Karnapalibhedana etc.
8. Housing Standards. Description of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
9. Disposal of Wastes- refuse, sewage. Methods of excreta disposal in sewerred andunsewered areas. Disposal of dead body.
10. Management of biomedical waste. Biomedical waste act- 1998, 2016.
11. Occupational Health. Role of Ayurveda in Occupational health, in ESI and other Government sectors.
12. Medical Entomology– Arthropods of medical importance and their control measures.
13. Medical parasitology and control in relation to communicable diseases.
14. School Health Services and possible contribution of Ayurveda.
15. Demography and Family Planning. Recent developments in family planning measuresand contribution of Ayurveda.
16. Family Welfare Programme and the role of Ayurveda in it.
17. Old age problems in community. Role of Swasthavrutta in Geriatric care.
18. Role of Ayurveda in palliative, rehabilitative and convalescence care.
19. Life Style disorders and Non Communicable diseases in community and the role of Ayurveda in them.

20. Medical Sociology.- adolescent health, social and behavioral problems, its policy for prevention and control, public relation, doctor patient relationship and hospital sociology.

PAPER III

100 MARKS

**SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYA PRASHASANAM
(EPIDEMIOLOGY AND HEALTH ADMINISTRATION)**

1. Modern Concept of Epidemiology
2. Critical evaluation of Janapadodhdhwamsa.
3. Clinical epidemiology of different communicable diseases, re- emerging and newer diseases and the role of Ayurveda in them.
4. Investigations for communicable diseases
5. Sexually Transmitted Diseases and their control
6. Ayurvedic view of Samkramaka Rogas.
7. Investigation and control of an Epidemic and probable role of Ayurveda in it.
8. Host Defenses.
9. Notifiable diseases and procedure for notification and other formalities.
10. Ayurvedic concept of health maintenance for travelers.
11. Nosocomial infection, iatrogenic diseases, opportunistic infection, isolation ward and its Ayurvedic perspective.
12. AYUSH- aims, objectives, structure, function and health policies.
13. National Health Programmes and possible contribution of Ayurveda in them.
14. Health administration in India.
15. National Health Mission, National AYUSH Mission, administration, functions and programmes. Swachha Bharat Abhiyana.
16. National and International Health Agencies and their activities.
17. Disaster management
18. Statistics related with Infectious diseases at International, National and State levels.
19. Vital Statistics.

PAPER IV

100 MARKS

**YOGA EVAM NISARGOPACHARA(YOGA AND NATURE
CURE)**

1. History and evolution of Yoga
2. Nirukti and definitions of yoga
3. Rajayoga – (Ashtanga yoga) philosophy of Patanjali according to Yogasutras.
4. Hathayoga - according to Hatha Pradipika, Gheranda Samhita and Shiva Samhita.
5. Karmayoga – Philosophy according to Bhagavad Gita
6. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
7. Concept of Sthula, Sukshma and Karana Shariras
8. Concept of Panchakoshas
9. Concept of Shat Chakras, Nadis and Kundalini. Signs of Nadishuddhi.
10. Physiological effect of Yoga on Body and mind – ancient and modern concepts.
11. Suryanamaskara and its effect on health.
12. Shat Kriyas and its physiological their therapeutic effects.
13. Therapeutic effect of Yogic practice in the following diseases - Diabetes, Hypertension, Cardiovascular disorders, Obesity, Asthma, Irritable Bowel Syndrome, Eczema, Psoriasis, Stress Disorders, Eye disorders, Headache, Juvenile Delinquency, Mental Retardation, Depression, Neurosis, Sexual Dysfunction, Gynecological, Uterine Disorders, Cancer,

Addiction.

14. Utility of Yoga in Rehabilitation and the usage of props..
15. Yoga in Ayurveda –Concept of Moksha, Tools for Moksha, Naishthiki chikitsa, TattvaSmriti, Satyabudhhi, YoginamBalamAishwaram, Mukta Atmalaxana (Charaka Samhita Sharirasthana chapter 1 & 5)
16. History of Nisargopachara.
17. Basic Principles of Indian School of Nature Cure – Panchabhuta Upasana and its therapeutic effects and utility.
18. Basic Principles of Western School of Nature Cure.
19. Different types of Mud therapy, Hydro therapy, Helio therapy and Chromo therapy Massage and excise therapy, fasting and relaxation therapy and their therapeutic effectsand utility.

SCHEME OF PRACTICALSDURATION: - 02 YEARS

1. Health promotive and protective practices of Dinacharya procedures viz. Dantadhavana, Anjana, Nasya, Kavala, Gandusha, Dhumapana, Abhyanga, Udvartana

2) Practical Demonstration of Yoga

a) Sukshma and Sthula Vyayama

b) Suryanamaskara

c) Aasanas :

Sitting Position

1. Padmasana
2. Swastikasana
3. Siddhasana
4. Bhadrasana
5. Gomukhasana
6. Vajrasana
7. Suptavajrasana
8. Simhasana
9. Paschimottanasana
10. Ardhamasytendrasana
11. Ushtrasana

Supine position:

1. Shavasana
2. Uttananpadasana
3. Sarvangasana
4. Halasana
5. Karnapidanasana
6. Naukasana
7. Matsyasana
8. Setubandhasana
9. Prone position:
10. Makarasana
11. Niralmbasana
12. Shalabhasana
13. Bhujangasana
14. Dhanurasana
15. Mayurasana

Standing position:

1. Tadasana
2. Utkatasana
3. Vrikshasana
4. Ardhakaticharasana
5. Trikonasana
6. natarajasana

d) Mudra

- 1) Viparita karani
- 2) Yoga Mudra
- 3) Shanmukhi Mudra
- 4) Brahma Mudra
- 5) Ashwini mudra

e) Bandha

- 1) Jalandhara, Uddiyana, Mula Bandha

f) Shuddhikriya – Jala Neti, Sutra Neti, Jala Dhauti, Trataka, Shankhprakashalana, Kapalbhathi- Vyutkrama and Shitkrama Kapalbhathi, Nauli.

g) Pranayama

Nadishudhhi- Anulom Vilom Pranayama,

h) Kumbhaka Bhedas

- 1) Suryabhedana
- 2) Ujjayi,
- 3) Bhastrika,
- 4) Bhramari
- 5) Sheetali
- 6) Sitkari

i) Dhyana

Practical Demonstration of Naturopathy procedures

- a. Mruttika Snana (Mud Bath)
- b. Mruttika Patti (Mud Pack)
- c. Pada and Hasta Snana (Foot and Arm bath)
- d. Bashpasnana (Steam bath)
- e. Avagahana (Immersion bath)
- f. Prishthasnana (Spinal bath)
- g. Katisnana (Hip bath)
- h. Alternate hot and cold bath
- i. Water packs
- j. Deferent massage techniques
- k. Sun Bath techniques
- l. Relaxation techniques – QRT (Quic Relaxation Technique), IRT (Instant Relaxation Technique), DRT (Deep Relaxation Technique).

3) Long case sheets for Pathya, Apathya, Yoga and Nisargopachara advice to

- a) Non communicable diseases 10

(Proforma attached as Annexure ‘A’/ ‘E’)

- b) Communicable diseases 10

(Proforma attached as Annexure ‘B’)

- c) Garbhini Paricharya 10

(Proforma attached as Annexure ‘C’ d) Mal

Nutrition treatment cases 10 (Proforma attached as Annexure ‘D’)

Departmental Practicals

- 1) Danta dhavana
- 2) Anjana
- 3) Nasya
- 4) Gandusha
- 5) Kavala
- 6) Dhoompana – Dhumavarti Nirmana

6) Educational Visits-

The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by Guide and HOD)

- 1) Water Purification Centre
- 2) Milk Dairy
- 3) Industry
- 4) Leprosy Centre
- 5) T.B. Centre
- 6) Yoga Centre
- 7) Naturopathy Centre
- 8) Primary Health Center
- 9) Disposal of Waste Unit

- 10) Sewage Disposal Unit
- 11) Psychiatric Hospital
- 12) Isolation Hospital
- 13) A.R.T. Centre
- 14) Food and Drug Administration Centre
- 15) District /Civil Hospital

7) Field Work

- a) Community Health Survey (Minimum 10 forms) –
(Proforma attached as Annexure ‘F’)
- b) School Health Check-up (Minimum 10 forms)

8. Departmental duties : Regular Attendance as-

1. Duty in OPD and IPD
 2. Museum Development
 3. Yoga training for Self, Swastha and patients.
 4. Departmental Seminars
 5. Research Journal /Article Reviews(Minimum 2)
 6. Submit minimum 2 papers in any publications.
 7. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
 8. Health Awareness talk for public.
 9. Daily diary- Log book
-

Annexure ‘A’

PROFORMA

(Non - Communicable Disease case)A]

General Information :

1. Name of the Patient: _____
2. Age : _____ yrs. 3. Sex : Male/Female 4. Religion : _____
5. Date of Admission : _____
6. Address : _____
7. Occupation : _____ 8. Education : _____
9. Per Capita income : _____ Rupees.
10. Socio economic class (Modified _____)

B] Present illness:

Chief complaints (chronological order) : _____

C] History of past illness :

1. Similar complaints in past : _____
2. Any other significant history : _____

D] History of illness in Family :

1. Type : _____ 2. Composition : _____
3. Similar illness in family : Yes /No If yes, give details : _____

E] Life Style and personal history :

1. Occupation : Manual Work /Table Work/ Field Work/ Administration /Any other (Specify)
2. Muscular exertion (occupational / domestic etc.) Minimum / Moderate /Heavy
3. Exercise: Nil / Walking / Running / Jogging/ Cycling / Swimming / Weight Lifting/ Anyother specify _____
4. Mental Stress &Strain : Occupational/ domestic/ any other specify _____
5. Hobby , Recreation : _____
6. Diet :
 - a. Veg / Non Veg / Mixed

b. Total calorie intake _____calorie /day

adequate / inadequate/ excess

c. Fat :

adequate / inadequate/ excess

Vegetable / Animal fats

Predominantly saturated / unsaturated

d. Spice & Hot foods (Specify)

e. Regularity in taking meals

f. Type of diet : balanced / Non balanced (Give reason)

7. Sleep and rest : adequate / inadequate

8. Habits & addictions

Smoking : Yes / No /Past Smoker

If yes : Type /duration /quantity/ frequency. _____

Alcohol : Yes / No /Past Alcoholic

If yes : Type /duration /quantity/ frequency. _____

Any Other : Specify, give details. _____

F] General Examinations : _____

G] Systemic Examination : _____

RS/ CVS/CNS/PA : _____

H] Diagnosis :

i. Provisional : _____

ii. Differential : _____

I] Investigations :

Investigation done : _____

Any further investigations required : _____

J] Final Diagnosis : _____

K] Management : _____

Drug therapy (give details) : _____

Diet modification : _____

Health Education / Life Style modification : _____

Follow up : _____

L] Prevention & Control Measures

Primary Prevention : _____

Secondary Prevention : _____

Tertiary Prevention : _____

Sign.of Student

Sign. of Guide

Date :-

Annexure 'B'

PROFORMA

(Communicable Disease case)A]

General Information :

1. Name of the Patient : _____
2. Age : _____ yrs. 3. Sex : Male / Female
4. Date of Examination : _____
5. Address : : _____
6. Locality : Urban – Slum / Non-Slum /Rural/Other (Specify) _____
- 7 Duration of Stay in the Locality ; _____(years/months)
8. Hospital Registration No. : _____ 9. Date of Admission : _____
10. Religion / Caste : _____ 11. Education : _____
12. Occupation : _____ 13. Type of Family : _____
14. Total No. of Family Members : _____ 15. Total Family income: _____
16. Per Capita income per month : _____ Rs.
17. Socio-economic Status (As per _____ classification) : _____

B] Chief Complaints (In Chronological order)

1. _____
2. _____
3. _____
4. _____

C] H/O Present illness : _____

D] H/O Past illness : _____

i. Similar complaints in past : _____

ii. Any other significant history : _____

E] History of illness in the family : _____

F] Personal History

a. Dietary : _____

b. Immunization : _____

c. Habits : _____

G] Environmental history (Pertinent to the route of transmission)

- i] Water Supply ii] Excreta Disposal iii] Drainage iv] Cattle
v] Pet animals, Poultry vi] Housing condition vii] Over Crowdingviii]
insect nuisance ix] Courtyard of house etc.

H] Epidemiological information (Backward tracing of index case.)

i. Any similar case in the family / neighborhood / School / Place of recreation / any other

Specify. _____

ii. History of attending to similar case – if yes, when ? _____

iii. History of visiting any unaccustomed place if yes, When ? _____

iv. Total contacts _____ v. High risk contacts. _____

I] Provisional Diagnosis (with justification in brief) _____

J] Differential Diagnosis : _____

1. _____
2. _____
3. _____
4. _____
5. _____

K] Investigation Done :

a. If yes, reports & your comments. _____

b. Other investigations required (with reason) if any. _____

L] Final Diagnosis : _____

M] Management of Patients :

1 Chemotherapy / Other drugs (Specify with name, dose schedule, route of administration, duration of treatments and precautions if any) _____

2. Diet modification _____

3. Personal Hygiene _____

4. Health Education _____

5. Any other (Specify) _____

6. Follow up : _____

N] Preventive & Control Measures at

a. Family Level

i. Chemoprophylaxis _____

ii. Immunization (Active / Passive) _____

iii. Personal Hygiene (specify) _____

iv. Chemical disinfections of (Specify) _____

concentration, quantity, technique, contact period, way of disposal of disinfected material

v. Follow up _____

vi. Care of Contacts _____

b. Community Level

i. General Intervention measures _____

ii. Specific measures against the illness _____

iii. Any other (Specify) _____

c. National Level _____

National Health Programme for control / Eradication of the disease or related health programmes.

Sign.of Student

Sign. of Guide

Date :-

Annexure 'C'

PROFORMA

(Ante-natal case)

A] General Information :

- 1) Date of Examination : _____
- 2) Name : _____
- 3) Age : _____ yrs.
- 4) ANC Registered : Yes/No If yes, place/date/month of registration _____
- 5) Education of pt _____ Occupation of pt _____
- 6) Education of Husband _____ Occupation of Husband _____
- 7) No of family members _____ Total family income _____ Rs/month
- 8) Socio-economic class _____ (as per Modified _____ classification)
- 9) Address : _____

B] Complaints – if any: _____

C] Menstrual History : Menarche, cycles-day/month, regularity, flow etc.

L. M. P. _____ E.D.D. _____

D] Obstetric History :

Gestational

- Age (wks)
- Type of
- Delivery
- Hosp./ Home
- Conducted
- By
- Baby alive/stillborn/ abortion
- Live birth interval
- Use of contraceptives(specify)1.
- 2.

E] Family History :

F] Past History : Hypertension/ Diabetes/ S.T.D./T.B./Leprosy etc.

G] Personal History : Bowel/Bladder/Sleep/Appetite/Habits/Addictions etc.

Immunization status : Tetanus toxoid / Any other (specify)

a) For current pregnancy

b) For previous pregnancy

Nutritional status (based on Calorie Intake, other nutrients, anthropometry etc.)

H] General Examination :

- Height _____ Cms./ Wt. _____ kgs, / TPR / B.P _____ mm of Hg
- Pallor/Icterus/ Cyanosis/Oedema/ Lyphadenopathy. any other (specify)
- Cleanliness of : Skin /Nails/Hair/Clothes/Eyes/Ears/Nose/Oral Cavity / breasts & Nipples etc.

I] P/A Examination:

- Ht. of uterus/presentation and lie of foetus /Head-floating or engaged/foetal movements/FHS/ Any other (specify) _____

J] Systemic Examination:

RS/ CVS/CNS _____

- K] Investigations:** - Urine: Albumin/sugar/microscopic/culture.
- Hb % Blood grouping & cross matching/VDRL/HIV/Blood Sugar
- Any other (specify) _____

L] Clinical impression :

- Whether high risk ? If yes, mention the risk factors. _____

M] Advice to the Patient and Management :

- Immunization/Diet/Supplementary nutrition/personal hygiene/preparation for motherhood/ drugs given (if any) / Warning signals/follow up visits
- Whether the patient/ family members are availing services from Anganwadi / Other Community Health Centre /Private Health Agency? If yes – Give details.
- Give details of referral in high risk cases. _____

N] Follow up :

Findings & Remarks (including advice) _____

During subsequent visits (mention the date of visits) _____

O) Comments :

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Date :-

Annexure 'D'

PROFORMA

MALNUTRITION CASE (UNDER FIVE YEARS AGE)

A] General Information :

- i..Date of Examination : _____
- ii.. Name of the informer & his/her relationship with the child (case)
 - 1. Name of the child : _____
 - 2. Date of birth : _____ 3.Age : _____ 4.Sex : Male/Female
 - 5. Caste /Religion : _____
 - 6. Address : _____
 - 7. Whether the child is attending Balwadi/Nursery etc. : _____
 - 8. Father _____ Mother _____
 - I. Name : _____
 - II. Age : _____
 - III. Education : _____
 - IV. Occupation : _____
 - V. Income : _____
 - 9. I Total number of family members and family composition _____
 - II. Total family income _____ Rupees per month
 - III. Per Capita Income _____ Rupees per month
 - IV. Socio economic Status _____ as per _____ classification

B] Complaints (if any) : _____

C] History of Present illness : _____

D] History of Past illness (if any) : _____

E] Family history : _____

F] Birth history of the case : _____

- i. Place of delivery : Home/ Hospital /Other (Specify) _____
- ii. Delivery conducted by : Untrained or trained Dai / Nurse / Doctor etc. _____
- iii. Type of delivery : FTND/ Pre mature/SFD/Assisted delivery etc. _____
- iv. Congenital anomaly : if any give details. _____

G] Anthropometry

- i. Weight : _____ Kgs. ii. Height _____ Cms.
- iii. Chest Circumference _____ Cms. Iv. Head Circumference _____ Cms
- iv. Mid arm Circumference _____ Cms.

H] Immunization History

- i. B.C.G./ OPV/ DPT/Measles/Any other give details _____
- ii. Immunization card available : Yes / No.

I] Dietary History

- i. Breast feeding : Yes/ No
 - a. If yes : Only breast feed or weaning started
 - b. If weaned : Age at weaning, type of weaning foods etc.
 - c. If not breast feed : At what age breast feeding stopped? (give reason if any)
- ii. a. Total calorie intake _____ Calorie /day
- b. Total Protein intake _____ gram/day
- iii. Calorie / Protein deficient if any : Yes/No.
- If yes mention percent of deficient _____
- iv. Any other nutritional deficiency (Specify) _____

J] General Examination :

- 1) Built, nourishment & general appearance
- 2) TPR 3) Pallor 4) Icterus 5) Cyanosis 6) Lymphadenopathy
- 7) Oedema 8) Dehydration 9) Eyes 10) Ears
- 11) Face, Nose, Lips & Tongue 12) Teeth gums oral cavity 13) Skin, nails hair
- 14) Rachitic changes. 15) Any other (specify)

K] Systemic Examination :RS/CVS/PA/CNS/Gonads

L] Milestones of growth & development

Physical / Psychological/ Motor / intellectual / behavioral/ Social
Milestones : Normal/ Augmented / Delayed

M] Provisional diagnosis / Differential Diagnosis :

N] Investigations :

O] Diagnosis : _____

P] Management, Advise and Comments : _____

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of Guide

Sign.

Date :-

Annexure 'E'

PROFORMA

PathyaApathya, RituShodhan, Yoga &Nisargopachar Advice to Patients of Attached Hospital.

A) General Information :-

- 1) Sr. No. : _____
- 2) Name of the Patient : _____
- 3) Address : _____
- 4) OPD No. : _____ IPD NO. _____
- 5) Diagnosis : _____
- 6) Date of Advice : _____

B) Advice given

a) Pathya - Apathya

- i. Ahar : _____
- ii. Vihar : _____

b) RituShodhanUpakrama :

c) Yogopachar: _____

d) Nisargopachar: _____

C) Date of follow up : _____

D) Remarks: _____

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Date :-

ANNEXURE 'F'

HEALTH SURVEY

Name and address of the family head-

Telephone no.

Family profile

Family Structure

Age(in completed years)	Male	Female	Total
<1 yr(infants)			
1-5yrs			
6-15yrs			
16-64yrs			
>65 yrs			

Family Composition

Family type: Nuclear/Joint/Three generation

Total members:

Sr.no	Name	Age in years	Sex	Marital status	Education	Occupation	Income	Medico social status

Immunization status (if relevant)

Per capita monthly income=Total family income/no. of members

Socioeconomic Class

Medico Social Status

Infant	Leprosy	Disability
Children under 5yrs	HIV/STD	Mental retardation
Pregnancy	Cancer	Psychiatric problem
Lactation	Diabetes	Alcohol addition
Old age	BP/Cardiac problem	Social evils

Living Conditions (Housing)

Sr.No.	Housing standards	Score :1 for satisfactory criteria 0 for poor criteria
1.	Construction :Locality, Safety ,Protection	
2	Space :Spatial sufficiency to prevent overcrowding	
3.	Light and Ventilation	
4.	Water :Adequacy ,accessibility and safe storage of water	
5.	Sanitation : Washing, bathing, toilet facilities, sanitary disposal of kitchen waste ,garbage and excreta	
6.	Kitchen :Facilities for hygienic cooking and storage of food,smoke outlet	
7.	Environment Disturbances : Noise, air pollution ,weather Inclemency toxic fumes, dust ,odour ,moisture, open drainetc. Vector like fly ,mosquito ,rodent and other nuisance	
8.	Animals : Pet, cattle, poultry keeping	
9.	Cleanliness of persons and premises	
10.	Connectivity :Road ,transportation ,communication, schools, hospital cultural ,social, recreational ,fire, police ,etc	

Assessment of living condition: Score: 6-10 Satisfactory, 0-5 Poor

Vital Events in the Family in last 1 year

Birth:

Adoption:

Marriage/Divorce:

Death with cause:

Social status of the Family

Education:

Occupation:

Living condition:

Social relationship:

Socioeconomic status:

Health Status of the Family - Good/Average/Poor

Which pathy family members prefer for treatment- Allopathy/Ayurvedic/Homeopathy

Epidemiological History for Communicable Diseases

- 1 .Name of disease:
- 2 .Any similar case in the family: Yes/No
3. Any similar case in neighborhood: Yes/No
4. Any contact with similar case: Yes/No

Family (Hereditary) History For Non-communicable DiseasesNon-communicable disease: Present/Absent

If yes, specify:

SIGN OF STUDENT

SIGN OF GUIDE

Format of Practical / Oral Examination

Sr. No.	Heading of Practicals	Marks
1	Daily work book-Log book	10
2	Case Record Sheets	20
3	One Long Case (Pathya-Apathya advice)	20
4	One Short Case (Yoga and naturopathy advice)	10
5	Yoga Demonstration	20
6	Microteaching/Topic presentation	10
7	Thesis Presentation	50
8	Viva Voce	60
	Total	200

Reference Books

- 1) Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratanakara, Bhela Samhita with the respective commentaries
- 2) SwasthavrittaSamuchaya –VaidyaPtRajesvarDuttaShastri
- 3) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
- 4) SwasthavrittaVigyan - Dr.Ramharsha Singh.
- 5) Swasthvrittam - Dr.BramhanandTripathi
- 6) AyurvediyaSwasthvrittam - Vd.Jalukar
- 7) SwasthaVigyan - Dr.MukundswaroopVerma
- 8) Swasthavritta - Dr.Shivkumar Gaud
- 9) Swasthavritta- Part-I & II- Vd. Mhaiskar, Vd.Vatve
- 10) Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- 11) Preventive and Social Medicine - J.K.Park
- 12) Preventive and Social Medicine – Mahajan
- 13) Preventive and Social Medicine – B.N.Ghosh

14) Community Medicine - Baride and Kulkarni

- 15) Preventive and Social Medicine – Gupta
- 16) Patanjali Yoga Sutra – Maharshi Patanjali, Karambelkar
- 17) HathaPradipika – SwatmaramYogendra
- 18) GherandSamhita- Gherand Muni
- 19) Shiva samhita – Kaivalyadhama
- 20) Yoga and Ayurveda - Dr.Rajkumar Jain
- 21) YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
- 22) YogikChikitsa - ShriKedarnath Gupta
- 23) SachitraYogasanDarshika - Dr.IndramohanJha
- 24) Yoga and Yogikchikitsa - Ramharsha Singh
- 25) The Foundation of Contemporary Yoga - R.H.Singh
- 26) Yogadeepika - Shri. B.K.S. Iyengar
- 27) YogasidhantaevumSadhna - H.S.Datar
- 28) PrakritikaChikitsa -Kedarnath Gupta
- 29) PrakrutikChikitsaVigyan - Verma
- 30) PrakrutikChikitsaVidhi - Sharan Prasad
- 31) Light on Yoga, Light on Pranayama- Shri. B.K.S. Iyengar
- 32) Light on Patanjala yogasutra - Shri. B.K.S. Iyengar
- 33) Janasankhyashikshasidhanta evamUpadeysa - S.C.Seel
- 34) Health and Familywelfare - T.L.Devraj
- 35) Bio-Statistics - B.K. Mahajan
- 36) Swasthavritta - Vd.Sakad
- 37) Reddy's Comprehensive Guide to Swasthavritta –Dr.P.Sudhakar Reddy
- 38) Swasthavritta – Vd Yeshwant Patil and Vd. Vhawal
- 39) Swasthavritta – Vd. Patrikar Vijay
- 40) Swasthavrittavidnyan -
Dr.MangalaGowri41)Positive Health
- Dr.L.P.Gupta
- 42) Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
- 43) Text book of Swasthavritta - Dr.Ranade, Dr.Bobade, Dr.Deshpande
- 44) Food and nutrition – Swaminathan
- 45) Yoga and Nisargopachar- Vd. Prama Joshi
- 46) Yogic sukshmavyayam –Swami Dheerendra Brahmachari
- 47) Integrated approach of Yoga therapy for Positive Health-Dr R Nagarathna
and DrH.R.Nagendra
- 48) Yogavasistha

Bharati Vidyapeeth
Deemed to be University, Pune
Faculty of Ayurved
Programme- MD Ayurved in Swasthvrutta

Addition in the syllabus of Swasthvrutta

- Naturopathy Basic principles of Naturopathy. Concept of Panchabhutopasana. Therapeutic effects of Mud therapy. Therapeutic effects of Sun bath. Fasting therapy - its types and benefits. Hydrotherapy - types of water used based on the temperature and therapeutic effects of Hydrotherapy. Therapeutic effects of Massage
- Emerging and re-emerging diseases. Explain Role of Ayurveda in Epidemics like COVID-19, Zika Virus , H1N1,H3N2,etc,. 5.Sexually transmitted diseases (STDs) with prevention and control - HIV/ AIDS, Syphilis and Gonorrhoea. Role of Ayurveda in the prevention and control with recent research updates of Lifestyle diseases such as DM, Obesity, Coronary artery disease (CAD) and Cancer. Epidemic Diseases (Amendment) Ordinance Act,2020 .,
- Occupational Health Definition of occupational health and Ergonomics. Acts,. Role of Ayurveda in various Occupational health problems
- Health problems of school children.



**BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY), PUNE**

**FACULTY OF AYURVED
MD - Swastha Vritta & Yoga
Old Syllabus**



BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY) PUNE, INDIA.

FACULTY OF AYURVED

Pune- Satara Road, Pune-411043.

SWASTHAVRITTA

Accredited with 'A+' Grade (2017) by NAAC.

'A' Grade University status by MHRD, Govt. of India

Accredited (2004) & Reaccredited (2011) with 'A' Grade by NAAC.

Post- Graduate (M.D./M.S./Diploma in Ayurved)

Syllabus/ Curriculum

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Preface

Ayurveda is accepted worldwide as one of the oldest traditional systems of medicine. The ancient insight in this traditional system of medicine is still not profoundly discovered. Ayurveda signifies as "the life-science " where ayur means "life" and veda means "science" in Sanskrit. Ayurveda is the upaveda i.e. "auxiliary knowledge of Atharvaveda in Vedic tradition with its prime origin from Atharva-Veda and a supplement of the Rig-Veda. Lord Dhanvantari is worshipped as the God of Ayurveda. The goal of this traditional medicine system is to prevent illness, disease cure and preserve life. Being originated in India Ayurveda extends its wings in various parts of the world. In ancient days Ayurveda was taught in Gurukula system, which is now evolved in to post graduate courses from Institutions.

The Indian Medical Council was set up in 1971 by the Indian government to establish maintenance of standards for undergraduate and postgraduate education. It establishes suitable qualifications in Indian medicine and recognizes various forms of traditional practice including Ayurveda.

Ayurvedic practitioners also work in rural areas, providing health care to the million people in India alone. They therefore represent a major force for primary health care, and their training and placement are important to the government of India. Being a scientific medicine, Ayurveda has both preventive and curative aspects. The preventive component emphasizes the need for a strict code of personal and social hygiene, the details of which depend upon individual, climatic, and environmental needs.

The Bachelor of Ayurvedic Medicine and Surgery, MD/MS in various discipline of

Ayurveda started with the intention to encourage integrated teaching and de-emphasize compartmentalization of disciplines so as to achieve horizontal and vertical integration in different phases which helps to support National Health Services.

Looking into the health services provided to the public, understanding the need of practitioners of Ayurvedic system of medicine, as per the guidelines of apex body National Council of Indian system of Medicine (formerly CCIM) and suggestions provided by the faculty of various Specialties, stake holders and strategy of University this governance is framed

based on following aims and objectives -

Aims and objectives-

The aims of the post-graduate degree courses shall be to provide orientation of specialties and super-specialties of Ayurveda, and to produce experts and specialists who can be competent and efficient teachers, physicians, surgeons, gynaecologists and obstetricians (Stri Roga and Prasuti Tantragya), pharmaceutical experts, researchers and profound scholars in various fields of specialization of Ayurveda.

Faculty of Ayurved, Bharati Vidyapeeth (Deemed to be University), Pune

Vision-

To be a world class university for social transformation through dynamic education

Mission-

- To ensure the good health and longevity of mankind.
- To carve a niche for our college in the world of Ayurved education
- To provide
 - Borderless access to Ayurved education
 - Quality Ayurved education
- To promote
 - Quality research in diverse areas of health care system.
 - Extensive use of ICT for teaching, learning and governance.
 - To develop national and international networks with industry and other academic and research institutions.

Program Outcomes For Post Graduate Courses in Ayurved-

- PG degree holder should be expert and specialist of his/ her branch who can be competent and efficient teacher, physician, surgeon, gynaecologist and obstetrician (Stri Roga and Prasuti Tantragya), pharmaceutical expert, researcher and profound scholar in various fields of specialization of Ayurved.
- Should be having knowledge of Concept of Good clinical practices in Ayurved and modern medicine

Course specific outcomes

M. S – Ayurved Dhanvantari in

1. PRASUTI TANTRA & STREEROGA [OBSTETRICS AND GYNECOLOGY]

- To be able to manage normal and complicated Pre-natal, Intra partum and Post natal cases by integrative approach
- To be able to manage all types of gynecological disorders at every epoch of womanhood.
- To be able to perform all kinds of Ayurvedic procedures and surgical procedures related to Stree roga and Prasutitantra
- To have knowledge of medico legal aspects of obstetrics and gynecology.

M. S – Ayurved Dhanvantari in

2. SHALAKYA TANTRA [NETRA, SHIRO, NASA, KARNA, KANTHA, MUKHA]

- To be able to manage all cases of E.N.T. and ophthalmology by integrative approach.
- To be able to perform all kinds of Ayurvedic procedures and surgical procedures related to Shalakyatantra
- To have knowledge of medico legal aspects of Shalakyatantra

M. S – Ayurved Dhanvantari in

3. SHALYA TANTRA [GENERAL SURGERY]

- To be able to manage all surgical cases by integrative approach
- To be able to perform all kinds of Ayurvedic procedures and general surgical procedures
- To have adequate knowledge of Anushashtra – Ksharkarma and prayoga, Agnikarma [thermo therapy], Raktamokshan [bloodletting] or Asthisandhi evam marma vigyan [orthopedic] or Sangyahan [Anesthesiology] or Mootraroga [Urology]
- To have knowledge of medico legal aspects of Shalyatantra

M.D.- Ayurved Vachaspati in

1. AYURVED SAMHITA & SIDDHANT

- to have profound knowledge of Charak Samhita, Sushrut Samhita & AshtangHridayam, Ayurvediya and Darshanika Siddhanta with commentaries
- to be able to interpret philosophical principles incorporated in Charak Samhita, Sushrut Samhita, Ashtanga Hridaya, Ashtang Samgraha.
- To able to understand Practical applicability of principles of samhita and a competent Ayurved physician
- Competency in fundamental research

M.D.- Ayurved Vachaspati in

2. RACHANA SHAARIRA

- Should have thorough knowledge and competency in Ayurved Sharira and Modern anatomy
- Having extensive knowledge and skill of dissecting human dead bodies and its demonstration.

M.D.- Ayurved Vachaspati in

3. KRIYA SHARIR

- Having profound knowledge of Ayurved Kriya Sharir: - - and Contribution of different Ayurveda Samhita in Kriya Sharir
- Ability to determine and demonstrate the Sharir – Manans Prakriti
- Should have knowledge of Modern Physiology and its applied aspects

M.D.- Ayurved Vachaspati in

4. DRAVYAGUNA VIGYAN

- Have a clear understanding of medicinal plants in context to Ayurved and modern Pharmacology and Pharmaceutics
- Have an accurate knowledge of identification, Authentication and standardization of raw and wet plant drugs.
- Ability of cultivation and plantation of medicinal plants
- Knowledge about Pharmacovigilance
- Ability to conduct the pre clinical and clinical trials of medicinal plants

M.D.- Ayurved Vachaspati in

5. RASASHASTRA EVAM BHAISHJYA KALPNA

- Have an accurate knowledge of identification, Authentication and standardization of minerals and metals along with plant drugs
- Possess detailed knowledge of manufacturing practices of various dosage forms of

Ayurved formulations as per GMP

- Ability to establish, run and manage pharmacy as per GMP and FDA guidelines
- Having knowledge of Drug and cosmetics related acts
- Ability to conduct the pre clinical and clinical trials on minerals and metals

M.D.- Ayurved Vachaspati in

6. AGADA TANTRA EVUM VIDHIVAIDYAKA

- To be able to understand and interpret Ayurvedic and Contemporary Toxicology
- Having knowledge of Pharmacodynamics of different formulations used in Agadatantra and Clinical & Experimental toxicology
- Ability of Ayurvedic & Contemporary Management Of Poisoning
- Should have profound knowledge of Forensic Medicine and Medical Jurisprudence
- Ability to diagnose and manage substance abuse [De- addiction]
- Have knowledge of Pharmacovigilance, community health problems due to poisons & pollution, Drug interactions & incompatibility etc.

M.D.- Ayurved Vachaspati in

7. SWASTHAVRITTA

- Having knowledge of Concept of holistic health and Principles of dietetics according to Ayurveda
- Understanding the Concept of community health, prevention, Stages of intervention according to Ayurved Modern medicine
- Should have knowledge of Ayurved and Modern Concept of Epidemiology [Janapadodhwamsa]
- Possess knowledge of Therapeutic effect of Yogic practices and ability to demonstrate various yogasanas in various diseases
- Understanding the role of Ayurved for Immunization, Occupational Health, Geriatrics, Life Style disorders (Non Communicable diseases)

M.D.- Ayurved Vachaspati in

8. ROGA NIDANA

- To understand the Concept and applied aspects of fundamental principles of Rognidan
- To have profound Knowledge of classical Samprapti of all diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadhyata and Chikitsa Sutra.
- Ability of Ayurvedic interpretation of commonly occurring diseases in contemporary medicine, all relevant findings of modern clinical examinations and various Laboratory and other Diagnostic reports

- Ability of establishment and management of standard clinical laboratory set up
- Have knowledge about Upasargajanya Vyadhi (Communicable diseases)

M.D.- Ayurved Vachaspati in

9. Panchakarma

- To have thorough knowledge of Kayachikitsa, basic principles of Shodhana (BioPurification methods) and Raktamokshana, Physiotherapy & Disease-wise Panchakarma
- To be able to perform poorva, Pradhan & Pashchat karma of Panchakarma procedures [five Purification therapies] of Ayurveda and manage its complications [Updrava].
- To be able to prepare all the necessary bhaishjya kalpana for various panchakarma procedures

M.D.- Ayurved Vachaspati in

10. Kayachikitsa

- To have thorough knowledge of Fundamentals of Kayachikitsa
BVDUCOA_ Programme outcomes Page 7
- To be able to perform Rogi-Roga Pariksha in Ayurved and Modern perspectives with the help of modern diagnostic parameters.
- To be able to perform samanya and vishesh roga chikitsa including application of advances in Rasayana and Vajikarana therapies and emerging trends in Panchakarma in various disease management
- To have knowledge of Critical care medicine, Management of medical emergencies, ICU services, Field medical services
- To be able to participate in National Health Programmes and recognize prospective role of Ayurveda services and therapeutics in them.

M.D.- Ayurved Vachaspati in

11. KAUMARBHRITYA-BALA ROGA

- Ability to interpret Ayurvedic genetics with Pathogenesis of Modern genetics and management of genetic disorders
- To have thorough knowledge of Neonatal Care and management of all types of neonatal diseases
- To diagnose and manage the Paediatric Disorders
- Ability to develop and manage paediatric ward with Fundamentals of Hospital management

Eligibility

Passing marks for eligibility in admission to ASU&H- PG courses should be as per the ASU&H- PG regulations and should be followed strictly., -

- A person possessing the degree of Ayurvedacharya (Bachelor of Ayurveda Medicine and Surgery) or provisional degree certificate recognized as per the provisions of IMCC 1970/NCISM 2020 act and possess permanent or provisional registration certificate issued by the CCIM/NCISM/state board and must have completed a satisfactorily one year compulsory rotating internship as per the NCISM notification.
- In order to be eligible for admission to post graduate courses it shall be necessary for a candidate to obtain minimum of marks at 50th percentile in the All India AYUSH Post Graduate Entrance Test (AIAPGET) .
- Candidates belonging to the scheduled castes, Scheduled Tribes and other Backward Classes the minimum marks shall be at 40th percentile.

Medium of instruction

The medium of instruction for the programme shall be Sanskrit or Hindi or English with use of Ayurvedic technical terms.

Duration of the Course Study

Total Duration of Course – 3 Years from the Commencement of classes. The maximum duration for completion of the course shall not exceed beyond the period of six years from the date of admission to the course.

Curriculum - As approved by Bharati Vidyapeeth [Deemed to be University], Pune is in line with the directives of the Central Council for Indian Medicine.

Attendance and Progress

The students shall have to attend a minimum of seventy-five per cent. of total lectures, practical's and clinical tutorials or classes to become eligible for appearing in the examination. A Web based centralized biometric attendance system shall be required for the attendance of post-graduate students and manual attendance at department level in which student is pursuing the post-graduate course.

The student shall have to attend the hospital and perform other duties as may be assigned to him during study. The student of clinical subject shall have to do resident duties in their respective departments and student of non-clinical subject shall have duties in their respective departments like Pharmacy or Herbal Garden or Laboratory during study. The student shall attend special lectures, demonstrations, seminars, study tours and such other activities as may be arranged by the teaching departments.

Subjects taught, Number of lectures/ practical and demonstrations for various subjects [MD/MS]

❖ **Specialties in which post-graduate degree is allowed are as under: -**

Sr. No.	Name of speciality	Nearest terminology of modern subject	Department in which postgraduate degree can be conducted
Pre-clinical speciality			
1	Ayurveda Samhita evam Siddhant	Ayurveda Samhita and basic principles of Ayurveda	Samhita and basic principles of Ayurveda
2	Rachana Sharira	Anatomy	Rachana Sharira
3	Kriya Sharira	Physiology	Kriya Sharira
Para-clinical speciality			
4	Dravyaguna Vigyana	Materia Medica and Pharmacology	Dravyaguna
5	Rasa Shastra evam Bhaishajya Kalpana	Ayurveda Pharmaceuticals	Rasa Shastra evam Bhaishajya Kalpana
6	Roga Nidana evam Vikriti Vigyana	Diagnostic Procedure and Pathology	Roga Nidana evam Vikriti Vigyana
Clinical speciality			
7	Prasuti evam Stri Roga	Obstetrics and Gynecology	Prasuti evam Stri Roga
8	Kaumarabhritya –Bala Roga	Pediatrics	Kaumarabhritya– Bala Roga
9	Swasthavritta	Preventive Social Medicine	Swasthavritta and Yoga
10	Kayachikitsa	Medicine	Kayachikitsa
11	Shalya	Surgery	Shalya Tantra
12	Shalaky	Diseases of Eye, Ear, Nose, Throat Head, Neck, Oral and Dentistry	Shalaky Tantra
13	Panchakarma	Panchakarma	Panchakarma
14	Agada Tantra	Toxicology and Forensic Medicine	Agada Tantra.

❖ **Nomenclature of post-graduate degree. -**

The nomenclature of post-graduate degree in respective specialties shall be as under: -

Sl.No.	Nomenclature of specialty or degree	Abbreviation
Pre-clinical specialty		
1	Ayurveda Vachaspati – Ayurveda Samhita Evum Siddhant	M.D. (Ayurveda)- Compendium and Basic Principles
2	Ayurveda Vachaspati – Rachana Sharira	M.D. (Ayurveda) - Anatomy
3	Ayurveda Vachaspati – Kriya Sharira	M.D. (Ayurveda) - Physiology
Para-clinical specialty		
4	Ayurveda Vachaspati – Dravyaguna Vigyana	M.D. (Ayurveda) - Materia Medica and Pharmacology
5	Ayurveda Vachaspati – Rasa Shastra evam Bhaishajya Kalpana	M.D. (Ayurveda) - Pharmaceuticals
6	Ayurveda Vachaspati – Roga Nidana evam Vikriti Vigyana	M.D. (Ayurveda)- Diagnostic procedure and Pathology
Clinical specialty		
7	Ayurveda Dhanvantari – Prasuti evam Stri Roga	M.S. (Ayurveda)- Obstetrics and Gynecology
8	Ayurveda Vachaspati – Kaumarabhritya –Bala Roga	M.D. (Ayurveda)- Pediatrics
9	Ayurveda Vachaspati – Swasthavritta	M.D. (Ayurveda)- Social and Preventive Medicine
10	Ayurveda Vachaspati – Kayachikitsa	M.D. (Ayurveda)- Medicine
11	Ayurveda Dhanvantari – Shalya	M.S. (Ayurveda)- Surgery
12	Ayurveda Dhanvantari – Shalakyia	M.S. (Ayurveda)- Diseases of Eye, Ear, Nose, Throat Head, Neck, Oral and Dentistry
13	Ayurveda Vachaspati – Panchakarma	M.D. (Ayurveda)- Panchakarma
14	Ayurveda Vachaspati – Agada Tantra	M.D. (Ayurveda)- Toxicology and Forensic Medicine

Synopsis and Dissertation

Central Scientific Advisory Post Graduate Committee appointed by Central Council of Indian Medicine shall suggest the areas of Research and topics and the same shall be followed by University Committee while approving the Dissertation title.

The title of the dissertation along with the synopsis, with approval of the Ethics Committee constituted by the institute shall be submitted to the University within a period of six months from the date of admission to the post-graduate course.

If the student fails to submit the title of dissertation and synopsis within specified period, his terms for final post-graduate course shall be extended for six months or more in accordance with the time of submission of the synopsis to the University.

- **Synopsis**

The synopsis of the proposed scheme of work shall indicate the expertise and action plan of work of the student relating to the proposed theme of work, the name of the department and the name and designation of the guide or supervisor and co-guide (if any).

The University shall approve the synopsis not later than three months after submission of the synopsis.

A Board of Research Studies shall be constituted by the University to approve the title.

The University shall display the approved synopsis of dissertation on their website.

- **Dissertation**

Once the title for dissertation is approved by the Board of Research Studies of the University, the student shall not be allowed to change the title of the proposed theme of work without permission of the University.

No student shall be allowed to submit the dissertation before six months of completion of course and the student shall continue his regular study in the institution after submission of dissertation to complete three years.

The dissertation shall consist of not less than forty thousand words.

The dissertation shall contain, at the end, a summary of not more than one thousand and five hundred words and the conclusion not exceeding one thousand words.

Five copies of the bound dissertation along with a certificate from the supervisor or guide shall reach the office of the Registrar of the University four months before the final examination.

The student shall be permitted to appear in the final examination of post-graduate degree course only after approval of the dissertation by the examiners.

Scheme of Examination

The post-graduate degree course shall have two university examinations in the following manner, namely: -

1. The preliminary examination -
2. The final examination –

1.The preliminary examination – Conducted at the end of one academic year after admission.

The subjects/ Number of Papers for preliminary examination namely: -

Paper I- Research Methodology and Bio or Medical Statistics;

Paper II- Applied aspects regarding concerned subjects.

Rules-

The student shall have to undergo training in the department concerned and shall maintain month-wise record of the work done during the last two years of study in the specialty opted by him as under:-

- (a) Study of literature related to specialty,
- (b) Regular clinical training in the hospital for student of clinical subject,
- (c) Practical training of research work carried out in the department, for student of pre-clinical and paraclinical subject,
- (d) Participation in various seminars, symposia and discussions; and (e) progress of the work done on the topic of dissertation.

The assessment of the work done by the students of first year post-graduate course during the first year will be done before the preliminary examination.

Examination shall ordinarily be held in the month of June or July and November or December every year. For being declared successful in the examination, student shall have to pass all the subjects separately in preliminary examination. The student shall be required to obtain a minimum of fifty per cent and marks in practical and theory subjects separately to be announced as a pass. If a student fails in the preliminary examination, he shall have to pass before appearing in the final examination.

2. The final examination -Conducted on completion of three academic years after the admission to postgraduate course.

The final examination shall include dissertation, written papers and clinical or practical and oral examination.

Number of Papers -There shall be four theory papers in each specialty and one practical or clinical and viva-voce examination in the concerned specialty or group of subspecialties selected by the student for special study.

The student shall publish or get accepted minimum one research paper on his research work in one journal and one paper presentation in regional level seminar.

The preliminary examination and final examination shall be held in written, practical, or clinical and oral examination. If the student fails in theory or practical in the final examination, he can appear in the subsequent examination without requiring submitting a fresh dissertation. The subsequent examination for failed candidates shall be conducted at every six-month interval; and the post-graduate degree shall be conferred after the dissertation is accepted and the student passes the final examination.

M.D./M.S.-AYURVEDA

PRELIMINARY PAPER-I
RESEARCH METHODOLOGY AND MEDICAL STATISTICS

PART-A
RESEARCH METHODOLOGY

1 Introduction to Research

- A. Definition of the term research
- B. Definition of the term anusandhan
- C. Need of research in the field of Ayurveda

2 General guidelines and steps in the research process

- A. Selection of the research problem
- B. Literature review: different methods (including computer database) with their advantages and limitations
- C. Defining research problem and formulation of hypothesis
- D. Defining general and specific objectives
- E. Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative
- F. Sample design
- G. Collection of the data
- H. Analysis of data.
- I. Generalization and interpretation, evaluation and assessment of hypothesis.
- J. Ethical aspects related to human and animal experimentation.
- K. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Procedure to obtain clearance from respective committees, including filling up of the consent forms and information sheets and publication ethics.

3 Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model.

4. Scientific writing and publication skills.

- a. Familiarization with publication guidelines- Journal specific and CONSORT guidelines.
- b. Different types of referencing and bibliography.
- c. Thesis/Dissertation: contents and structure
- d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)

- 5 **Classical Methods of Research. Tadvidya sambhasha, vadmarga and tantrayukti** Concept of Pratyakshadi Pramana Pariksha, their types and application for Research in Ayurveda. Dravya-, Guna-, Karma-Parikshana Paddhati
Aushadhi-yog Parikshana Paddhati

Swastha, Atura Pariksha Paddhati
Dashvidha Parikshya Bhava
Tadvidya sambhasha, vadmarga and tantrayukti

6 Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.

7. Different fields of Research in Ayurveda

- a. Fundamental research on concepts of Ayurveda
- b. Panchamahabhuta and tridosha.
- c. Concepts of rasa, guna, virya, vipak, prabhav and karma
- d. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshta.

8. Literary Research-

Introduction to manuscriptology: Definition and scope. Collection, conservation, cataloguing. Data mining techniques, searching methods for new literature; search of new concepts in the available literature. Methods for searching internal and external evidences about authors, concepts and development of particular body of knowledge.

9. Drug Research (Laboratory-based)- Basic knowledge of the following:
Drug sources: plant, animal and mineral. Methods of drug identification.

Quality control and standardization aspects: Basic knowledge of Pharmacopoeial standards and parameters as set by Ayurvedic Pharmacopoeia of India.

Information on WHO guidelines for standardization of herbal preparations. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).

10. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.

11. Introduction to latest Trends in Drug Discovery and Drug Development

- Brief information on the traditional drug discovery process
- Brief information on the latest trends in the Drug Discovery process through employment of rational approach techniques; anti-sense approach, use of micro and macro-arrays, cell culture based assays, use of concepts of systems biology and network physiology
- Brief introduction to the process of Drug development

12. Clinical research:

Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda

Basic knowledge of the following:-

Observational and Interventional studies

Descriptive & Analytical studies

Longitudinal & Cross sectional studies

Prospective & Retrospectives studies

Cohort studies

Randomized Controlled Trials (RCT) & their types

Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.

Errors and bias in research.

New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP)
Phases of Clinical studies: 0,1,2,3, and 4.

Survey studies -

Methodology, types, utility and analysis of Qualitative Research methods.
Concepts of in-depth interview and Focus Group Discussion.

13. Pharmacovigilance for ASU drugs. Need, scope and aims & objectives. National Pharmacovigilance Programme for ASU drugs.

14. Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Database- Pub med, Medlar and Scopus. Accession of databases.

15. Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

PART-B

40 marks

MEDICAL STATISTICS

Teaching hours: 80

- 1 **Definition of Statistics :** Concepts, relevance and general applications of Biostatistics in Ayurveda
Collection, classification, presentation, analysis and interpretation of data (Definition, utility and methods)
- 2 **Scales of Measurements** - nominal, ordinal, interval and ratio scales.
Types of variables – Continuous, discrete, dependent and independent variables.
Type of series – Simple, Continuous and Discrete
- 3 **Measures of Central tendency** – Mean, Median and Mode.
- 4 **Variability:** Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation
- 5 **Probability:** Definitions, types and laws of probability,
- 6 **Normal distribution:** Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.
- 7 **Fundamentals of testing of hypotheses:**
Null and alternate hypotheses, type I and type 2 errors.
Tests of significance: Parametric and Non-Parametric tests, level of significance and power of the test, 'P' value and its interpretation, statistical significance and clinical significance
- 8 **Univariate analysis of categorical data:**
Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals
- 9 **Parametric tests:**
'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance

10 Non parametric methods:

Chi-square test, Fisher's exact test, McNemar's test, Wilcoxon test, Mann-Whitney U test, Kruskal – Wallis with relevant post hoc tests (Dunn)

11 Correlation and regression analysis:

Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation.

Regression- simple and multiple.

12 Sampling and Sample size computation for Ayurvedic research:

Population and sample. Advantages of sampling, Random (Probability) and non random (Non-probability) sampling. Merits of random sampling. Random sampling methods- simple random, stratified, systematic, cluster and multiphase sampling. Concept, logic and requirement of sample size computation, computation of sample size for comparing two means, two proportions, estimating mean and proportions.

13 Vital statistics and Demography:

computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics

14 Familiarization with the use of Statistical software like SPSS/Graph Pad

PRACTICAL

100 marks

I. RESEARCH METHODOLOGY

hours 120

Teaching

PRACTICAL NAME

1 Pharmaceutical Chemistry

Familiarization and demonstration of common lab instruments for carrying out analysis as per API

2 Awareness of Chromatographic Techniques

Demonstration or Video clips of following:

- Thin-layer chromatography (TLC).
- Column chromatography (CC).
- Flash chromatography (FC)
- High-performance thin-layer chromatography (HPTLC)
- High Performance (Pressure) Liquid Chromatography (HPLC)
- Gas Chromatography (GC, GLC)

4 Pharmacognosy

Familiarization and Demonstration of different techniques related to:-Drug administration techniques-oral and parenteral.

Blood collection by orbital plexuses puncturing.

Techniques of anesthesia and euthanasia.

Information about different types of laboratory animals used in experimental research Drug identification as per API including organoleptic evaluation

5 Pharmacology and toxicology

Familiarization and demonstration of techniques related to pharmacology and toxicology

6 Biochemistry (Clinical)

Familiarization and demonstration of techniques related to basic instruments used in a clinical biochemistry laboratory – semi and fully automated clinical analyzers, electrolyte analyzer, ELISA-techniques, nephelometry.

Demonstration of blood sugar estimation, lipid profiles, kidney function test, liver function test.HbA1, cystatin and microalbumin estimation by nephelometry or other suitable techniques.
Interpretation of the results obtained in the light of the data on normal values.

7 Clinical Pathology

Familiarization and demonstration of techniques related to basic and advanced instruments used in a basic clinical pathology lab. Auto cell counter, urine analyzer, ESR, microscopic examination of urine.

8 Imaging Sciences

Familiarization and demonstration of techniques related to the imaging techniques. Video film demonstration of CT-Scan, MRI-scan and PET-scan.

9 Clinical protocol development

II. MEDICAL STATISTICS

Practical hours:20

Statistical exercise of examples from Topic number 4, 5, 8-12, 14, 15. Records to be prepared.

Distribution of marks (practical):

1. Instrumental spotting test– 20 marks
2. Clinical protocol writing exercise on a given problem– 20 marks
3. Records:Research methodology -10 Mark
4. Medical statistics -10 marks
5. Viva- Voce -40 Marks

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Pharmacognosy:

1. Aushotosh Kar “Pharmacognosy & Pharmacobiotechnology” New Age International Publisher. Latest Edition. New Delhi.
2. Drug Survey by Mayaram Uniyal
3. Fahn A (1981). Plant Anatomy 3rd Edition Pergamon Press, Oxford
4. Kokate, CK., Purohit, AP, Gokhale, SB (2010). Pharmacognosy. Nirali Prakashan. Pune.
5. Kokate, CK., Khandelwal and Gokhale, SB (1996). Practical Pharmacognosy. Nirali Prakashan. Pune.
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7. Tyler V C., Brady, L R., and Robers J E., Pharmacognosy, Lea and Febiger, Philadelphia.
8. Tyler VE Jr and Schwarting AE., Experimental Pharmacognosy, Burgess Pub. Co, Minneapolis, Minnesota.
9. Wallis- TE (2011)- reprint. Practical Pharmacognosy (Fourth Edition) Pharma Med Press,Hyderabad.
10. Wallis T E, Analytical Microscopy, J & A Churchill limited, London.
11. Wallis T E., Text Book of Pharmacognosy, J & A Churchill Limited, London.

12. WHO guidelines on good agricultural and collection practices- (GACP) for medicinal plants (2003). World Health Organization- Geneva.
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Pharmaceutical chemistry, quality control and drug standardization:

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5. Deb, A.C., Fundamentals of Biochemistry, Books and Allied (P) Ltd, 2002.
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2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
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Drug research and development:

1. RICK NG, (2009). *DRUGS- from discovery to approval*. John Wiley & Sons, Inc., Hoboken, New Jersey
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Biotechnology and Bio-informatics:

1. Angela M. Meireles A (2009). Extracting Bioactive compounds for food products. Theory and applications. CRC- Press Taylor and Francis Group.
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3. Chikhale, N.J. and Virendra Gomase, Bioinformatics- Theory and Practice, Publisher: Himalaya Publication House, India; 1 edition (July, 2007) ISBN-13: 978-81-8318-831-9
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5. Satyanarayana, U.: Biotechnology, Books and Allied (P) Ltd, Kolkata, 2005
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10. www.consort-statement.org
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Clinical Evaluation:

1. CDSCO, Good Clinical Practices For Clinical Research in India, Schedule Y (Amended Version – 2005), <http://cdsco.nic.in/html/GCPI.php>
2. Ethical Guidelines for Biomedical Research on Human subjects. (2000). Indian Council of Medical Research- New Delhi.
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9. William C. Scheffer Introduction to Clinical Researchs

Medical Statistics:

1. Armitage, P. and Berry, G. (1994) *Statistical Methods in Medical Research* (3rd ed). Blackwell Science.
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8. Indrayan. (2008). *Basic Methods of Medical Research*. AITBS Publishers- India
9. Mahajan B K, *Methods in Bio statistics for medical students*, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers
10. Mehdi, B and Prakash A. (2010). *Biostatistics in Pharmacology. Practical Manual in experimental and clinical pharmacology*. 1st Edition. New-Delhi: Jaypee brothers Medical Publishers
11. Rao, NSN and Murthy, NS. (2008) 2nd Edition. *Applied statistics in health sciences*. JaypeeBrothers Medical Publishers (P) Ltd. Bengaluru, New Delhi.
12. Rick J Turner and Todd A Durham (2008). *Introduction to Statistics in Pharmaceutical Clinicaltrails*. Published by the Pharmaceutical Press- An imprint of RPS Publishing,1 Lambeth High Street, London SE1 7JN, UK
13. Symalan, K. (2006). *Statistics in Medicine (First Edition)* Trivandrum: Global Education Bureau.
14. Sundar Rao, Jesudian Richard - *An Introduction to Biostatistics*.
15. Suhas Kumar Shetty- *Medical statistics made easy*

PRELIMINARY
PAPER-II

M.D. (AYU) SWASTHAVRITA (PREVENTIVE, SOCIAL MEDICINE & YOGA)

TEACHING HOURS 100 HOURS.

PRACTICAL 100 HOURS.

THEORY- 100 MARKS

PRACTICAL AND VIVA-VOCE - 100 MARKS

PART A (50 MARKS)

1. Contribution of Swasthavrita in Community Medicine (Public Health).
2. Comparison of Concept of Swastha according to various Ayurvedic Samhitas.
3. Applied aspect of Swasthya, based on various parameters described in Samhitas.
4. Details of definition and dimensions of health and parameters for its evaluation as per World Health Organization.
5. Relevance of Dinacharya, Ratricharya and Ritucharya in health promotion and prevention of diseases in modern day scenario and different occupations. (Importance of Niyat Kala Vihara-Dincharya,

Ratricharya and Ritucharya in prevention of diseases.)

6. Applied aspect of Adharaniya and Dharaniya Vega in health promotion and prevention of diseases with examples. (Importance of Aniyat Kala-Vegdharana, Vega Udirana, Shodhana, Brumhana, Bhutadyasparshana.)
7. Details of Ahara and Poshana as per Samhitas and its role in changing diet patterns of present era.
8. Nidra as per Ayurvedic classics. Effects of changing patterns of sleep on health.
9. Concept of Brahmacharya , Abrahmacharya and its relevance in present era.
10. Concept of Bala and Ojas in relation with Vyadhikshamatva .
11. Importance and relevance of Ritu Shodhana.
12. Role of Rasayana in promotion of health and prevention of diseases. Scope of Rasayana in Geriatrics and Reproductive & Child Health.
13. The concept of Ashtanga Yoga and its relation to health.
14. References about Yoga in Ayurvedic classics.
15. References about Ayurveda in Yoga classics.
16. The phenomenon of disease manifestation based on Adhi and Vyadhi as per Yoga Vashishtha and its relevance with Therapeutic Yoga.
17. Applied aspect of Pancha Mahabhutas in Nature Cure.

Part B (50 MARKS)

1. Janapadodhdhwamsa and measures of its prevention.
2. Principles of Epidemiology and its application.
3. Concept of disease control and stages of intervention.
4. Role of Swasthavritta and Yoga in prevention of communicable diseases.
5. Role of Swasthavritta and Yoga in prevention of non-communicable diseases.
6. Levels of disease prevention.
7. Kriya Kala and its importance in disease prevention.
8. Basic principles of Sankramaka Vikara - causes, modes of disease transmission, epidemiological triad.
9. Principles of Health Education and its role in community health maintenance and promotion.
10. Environmental health - concept of water, soil and air purification as per Ayurveda and Modern Science.
11. Newer threats to Environment – including plastic, e-waste, radiation and global warming.
12. Importance and relevance of Meteorology in Swasthavritta.
13. Role of Swasthavritta in Maternal and Child Health care.
14. Role of Swasthavritta and Yoga in Sports' Medicine.
15. National Population Policy, Importance of Family Planning Methods in National development. Ayurvedic methods of birth control (Yoga Ratnakara).
16. National Health Policy as per Alma Ata declaration.

PRACTICAL

1. Departmental duties
 - a. Duty in OPD and IPD with regard to Ayurveda Dinacharya, Ritucharya, Pathyapathya, Yoga and Nisargopachara.
 - b. Museum development- wall magazine / charts

c. Regular attendance in Yoga training in the Swasthya Rakshana and Yoga OPD.

2. Practice the following daily regimens

a. Pratimarsha Nasya

b. Anjana

c. Kavala and Gandusha

d. Abhyanga

e. Udvartana

f. Prayogika Dhoomapana

g. Matra Basti

3. Preparation of different Krittanna Kalpanas

a. Laja Manda

b. Mudga, Kulatha, Chanaka Yusha

c. Shali and Nartaki Peya

d. Shali, Dashamoola Yavagu

e. Shali Vilepi

f. Krishara

g. Nimbu Panaka

h. Payasa

i. Godhuma/Yava/Nartaki Roti

4. Health Awareness lectures to the community (mimimum 5)

5. Assessment of Swasthya (Mimimum 5 cases)

6. Participation in observance of National & International days related to health.

7. Practice of the following Asanas:

Yogic Shukshma and Sthula Vyayama. Standing Postures- Ardhakatichakrasana, Padahastasana, Ardhashchakrasana, Trikonasana Sitting Postures- Swastikasana, Siddhasana, Padmasana, Vajrasana, Bhadrasana, Gomukhasana, Shashankasana / Shashakasana, Ushtrasana, Paschimottanasana, Suptavajrasana, Ardhamatsyendrasana Supine Postures- Shavasana, Pavanmuktasana, Sarvangasana, Matsyasana, Halsana, Chakrasana, Prone Postures- Makarasana, Shalabhasana, Bhujangasana, Dhanurasana.

8. Practice of Pranayama.

9. Uccharit Pranava Pranayama (Om Chanting with Pranayama).

Distribution of marks (Practical)

1. Records - 10 Marks

2. Preparation of Krittanna Kalpanas - 20 Marks

3. Dinacharya procedure - 10 Marks

4. Spotting (10) Aahar dravyas, - 20 Marks

Family Planning Devices, Vaccine/Serum and Models /Specimens, Naturopathic and yogic Specimens.

5. Yogasana and Pranayam - 10 Marks

6. Viva-voce - 30 Marks

Reference Books:

BVDU Faculty of Ayurved_PG_Swasthvrutta

- 1) Relevant portions of Charak, Sushruta, Vagbhata (Ashtang Hrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidana &Yogaratanakara, Bhela Samhita with the respective commentaries
- 2) SwasthavruttaSamuchaya –VaidyaPtRajesvarDuttaShastri
- 3) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
- 4) SwasthvruttaVigyan - Dr.Ramharsha Singh.
- 5) Swasthvrittam - Dr.BramhanandTripathi
- 6) AyurvediyaSwasthvrittam - Vd.Jalukar
- 7) SwasthaVigyan - Dr.MukundswaroopVerma
- 8) Swasthavrutta - Dr.Shivkumar Gaud
- 9) Swasthavrutta- Part-I & II- Vd. Mhaiskar, Vd.Vatve
- 10) Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- 11) Preventive and Social Medicine - J.K.Park
- 12) Preventive and Social Medicine – Mahajan
- 13) Preventive and Social Medicine – B.N.Ghosh
- 14) Community Medicine - Baride and Kulkarni
- 15) Preventive and Social Medicine – Gupta 16) Patanjali Yoga Sutra – Maharshi Patanjali, Karambelkar
- 17) HathayogPradipika – SwatmaramYogendra 18) GherandSamhita- Gherand Muni
- 19) Shiva samhita – Kaivalyadhama
- 20) Yoga and Ayurveda - Dr.Rajkumar Jain
- 21) YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
- 22) YogikChikitsa - ShriKedarnath Gupta
- 23) SachitraYogasanDarshika - Dr.IndramohanJha
- 24) Yoga and Yogikchikitsa - Ramharsha Singh
- 25) The Foundation of Contempary Yoga - R.H.Singh
- 26) Yogadeepika - Shri. B.K.S. Iyengar
- 27) YogasidhantaevumSadhna - H.S.Datar
- 28) PrakritikaChikitsa -Kedarnath Gupta
- 29) PrakrutikChikitsaVigyan - Verma
- 30) PrakrutikChikitsaVidhi - Sharan Prasad
- 31) Light on Yoga, Light on Pranayama- Shri. B.K.S. Iyengar
- 32) Light on Patanjala yogasutra - Shri. B.K.S. Iyengar
- 33) Janasankhyashikshasidhanta evamUpadeysa - S.C.Seel
- 34) Health and Familywelfare - T.L.Devraj
- 35) Bio-Statistics - B.K. Mahajan
- 36) Swasthavrutta - Vd.Sakad
- 37) Reddy's Comprehensive Guide to Swasthavrutta –Dr.P.Sudhakar Reddy
- 38) Swasthavrutta – Vd Yeshwant Patil and Vd. Vhawal
- 39) Swasthavrutta – Vd. Patrikar Vijay
- 40) Dr.Me Kay Khau? _Dr.M.S.Kulkarni
- 40) Swasthavruttavidnyan - Dr.MangalaGowri
- 41)Positive Health - Dr.L.P.Gupta
- 42)Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta 43)Text book of Swasthavrutta - Dr.Ranade,

Dr.Bobade, Dr.Deshpande

44) Food and nutrition – Swaminathan

45) Yoga and Nisargopachar- Vd. Prama Joshi

46) Essence of Yoga - Dr.MangalaGowri

47) The essentials of Nature Cure - Dr.MangalaGowri

48) Yogasudha – Dr. Kashinath

**POST GRADUATE FINAL YEAR
M.D. (AYU) SWASTHAVRITA**

*** TEACHING HOURS FOR THEORY SHALL BE 100 HOURS PER PAPER.**

**** TEACHING HOURS FOR PRACTICAL SHALL BE 200 HOURS.**

PAPER I

MARKS 100

**VAIYAKTIKA SWASTHAVRITTAM SADVRITTAM CHA(PERSONAL
AND MORAL HYGIENE)**

1. Role of Swasthavritta in socio cultural, developmental and environmental aspects of health.
2. Study of indicators of health—mortality indicators, morbidity indicators, disability rates and nutritional status indicators.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Practical application of Dinacharya in today’s era and probable physiological effect of these procedures.
5. Ratricharya – Bhavamishra and other classics.
6. Study of Day and night pattern in various countries and its relevances to the status of health.
7. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, Bhela Samhita and Bhavamishra.
8. Preventive & Promotive aspects of Ritucharya and its need and importance in presentEra, Importance of Ritusandhi and Yamadamshttra.
9. Ritu Shodhana technique with reference to various Ritus, its method and mode of actionin disease prevention.
10. Relevance of Vegadharana and Udirana in disease manifestation and Management.
11. Ahara – Classical food items described in Charaka, Sushruta, Vagbhata, Yogaratnakaraand Sharngadhara.
12. Aharavargas and their comparison with todays’ food items.
13. Dietetics intervention in malnutrition, under nutrition and over nutrition as per Ayurvedaand modern science.
14. Rules of Dietetics according to Charaka, Sushruta and Vagbhata.
15. Pros and Cons of vegetarian and non vegetarian foods.
16. Viruddhahara – Classical and modern day examples and its impact on health.
17. Knowledge about Assessment of nutritional status of individual and community.
18. Pathya Apathya in various diseases as per Ayurvedic classics viz. Jwara, Pandu, Raktapitta,

Gulma, Prameha, Hridroga, Shosha, Unmada, Apasmara, Kamala, Udara, Shwasa, Kasa, Hikka, Agnimandya, Ajirna, Atisara, Grahani, Amlapitta, Pravahika, Arsha, Kushtha, Mutrakrichchra, Ashmari, Vidradhi, Shotha, Visarpa, Vatavyadhi, Vatarakta, Shiro-Karna-Nasa- Mukha- Netra Roga.

19. Ayurvediya Ahara, Aushadha Kalpana in relation with nutraceuticals and nutrigenomics (Prakruti Anurup Ahara).
20. Food adulteration, methods for detecting, controlling food adulteration and its legislative control.
21. Role of Nidra, Brahmacharya, Abrahmacharya in maintenance of health and causation of diseases and their management.
22. Sadvritta – Description of Charaka, Sushruta and Vagbhata. Clinical importance of Achar Rasayana, Nitya Rasayana and Sadvritta in prevention of diseases & promotion of health
23. Rasayana -- its utility in health and disease condition.
24. Scope of Vajikarana in health. – Pathya Apathya Kalpana and Vihara for Vajikarana.
25. Role of Ayurveda in mental health.

26. Vyadhikshamatva – Ayurvedic, Modern concepts and its practical implementation.
27. Concept of genomics in relation with status of health.

PAPER II

100 MARKS

SAMAJIKA SWASTHAVRITTAM(COMMUNITY HEALTH)

1. Ayurvedic aspect of social health.
2. Vyadhi Sankarya as a causative factor of a Vyadhi. Web of causation of diseases, multifactorial causation.
3. Natural history of diseases. ICD- International Classification of Diseases.
4. Ecology and community health. Impact of bio-geo-chemical cycle (impact of changing global nitrogen cycle on human health)
5. Environment and community health (Bhumi, Jala, Vayu their Shuddhikarana and Prakasha, Shabda, Vikirana)
6. Disinfection practices for the community – Ayurvedic and Modern .
7. Immunization programmes. Possible contribution of Ayurveda. E.g. Suvarnaprashana, Karnapalibhedana etc.
8. Housing Standards. Description of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
9. Disposal of Wastes- refuse, sewage. Methods of excreta disposal in sewerred andunsewered areas. Disposal of dead body.
10. Management of biomedical waste. Biomedical waste act- 1998, 2016.
11. Occupational Health. Role of Ayurveda in Occupational health, in ESI and other Government sectors.
12. Medical Entomology– Arthropods of medical importance and their control measures.
13. Medical parasitology and control in relation to communicable diseases.
14. School Health Services and possible contribution of Ayurveda.
15. Demography and Family Planning. Recent developments in family planning measuresand contribution of Ayurveda.
16. Family Welfare Programme and the role of Ayurveda in it.
17. Old age problems in community. Role of Swasthavrutta in Geriatric care.
18. Role of Ayurveda in palliative, rehabilitative and convalasence care.
19. Life Style disorders and Non Communicable diseases in community and the role of Ayurveda in them.

20. Medical Sociology.- adolescent health, social and behavioral problems, its policy for prevention and control, public relation, doctor patient relationship and hospital sociology.

PAPER III

100 MARKS

**SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYA PRASHASANAM
(EPIDEMIOLOGY AND HEALTH ADMINISTRATION)**

1. Modern Concept of Epidemiology
2. Critical evaluation of Janapadodhdhwamsa.
3. Clinical epidemiology of different communicable diseases, re- emerging and newer diseases and the role of Ayurveda in them.
4. Investigations for communicable diseases
5. Sexually Transmitted Diseases and their control
6. Ayurvedic view of Samkramaka Rogas.
7. Investigation and control of an Epidemic and probable role of Ayurveda in it.
8. Host Defenses.
9. Notifiable diseases and procedure for notification and other formalities.
10. Ayurvedic concept of health maintenance for travelers.
11. Nosocomial infection, iatrogenic diseases, opportunistic infection, isolation ward and its Ayurvedic perspective.
12. AYUSH- aims, objectives, structure, function and health policies.
13. National Health Programmes and possible contribution of Ayurveda in them.
14. Health administration in India.
15. National Health Mission, National AYUSH Mission, administration, functions and programmes. Swachha Bharat Abhiyana.
16. National and International Health Agencies and their activities.
17. Disaster management
18. Statistics related with Infectious diseases at International, National and State levels.
19. Vital Statistics.

PAPER IV

100 MARKS

**YOGA EVAM NISARGOPACHARA(YOGA AND NATURE
CURE)**

1. History and evolution of Yoga
2. Nirukti and definitions of yoga
3. Rajayoga – (Ashtanga yoga) philosophy of Patanjali according to Yogasutras.
4. Hathayoga - according to Hatha Pradipika, Gheranda Samhita and Shiva Samhita.
5. Karmayoga – Philosophy according to Bhagavad Gita
6. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
7. Concept of Sthula, Sukshma and Karana Shariras
8. Concept of Panchakoshas
9. Concept of Shat Chakras, Nadis and Kundalini. Signs of Nadishuddhi.
10. Physiological effect of Yoga on Body and mind – ancient and modern concepts.
11. Suryanamaskara and its effect on health.
12. Shat Kriyas and its physiological their therapeutic effects.
13. Therapeutic effect of Yogic practice in the following diseases - Diabetes, Hypertension, Cardiovascular disorders, Obesity, Asthma, Irritable Bowel Syndrome, Eczema, Psoriasis, Stress Disorders, Eye disorders, Headache, Juvenile Delinquency, Mental Retardation, Depression, Neurosis, Sexual Dysfunction, Gynecological, Uterine Disorders, Cancer,

Addiction.

14. Utility of Yoga in Rehabilitation and the usage of props..
15. Yoga in Ayurveda –Concept of Moksha, Tools for Moksha, Naishthiki chikitsa, TattvaSmriti, Satyabudhhi, YoginamBalamAishwaram, Mukta Atmalaxana (Charaka Samhita Sharirasthana chapter 1 & 5)
16. History of Nisargopachara.
17. Basic Principles of Indian School of Nature Cure – Panchabhuta Upasana and its therapeutic effects and utility.
18. Basic Principles of Western School of Nature Cure.
19. Different types of Mud therapy, Hydro therapy, Helio therapy and Chromo therapy Massage and excise therapy, fasting and relaxation therapy and their therapeutic effectsand utility.

SCHEME OF PRACTICALSDURATION: - 02 YEARS

1. Health promotive and protective practices of Dinacharya procedures viz. Dantadhavana, Anjana, Nasya, Kavala, Gandusha, Dhumapana, Abhyanga, Udvartana

2) Practical Demonstration of Yoga

a) Sukshma and Sthula Vyayama

b) Suryanamaskara

c) Aasanas :

Sitting Position

1. Padmasana
2. Swastikasana
3. Siddhasana
4. Bhadrasana
5. Gomukhasana
6. Vajrasana
7. Suptavajrasana
8. Simhasana
9. Paschimottanasana
10. Ardhamasytendrasana
11. Ushtrasana

Supine position:

1. Shavasana
2. Uttananpadasana
3. Sarvangasana
4. Halasana
5. Karnapidanasana
6. Naukasana
7. Matsyasana
8. Setubandhasana
9. Prone position:
10. Makarasana
11. Niralmbasana
12. Shalabhasana
13. Bhujangasana
14. Dhanurasana
15. Mayurasana

Standing position:

1. Tadasana
2. Utkatasana
3. Vrikshasana
4. Ardhakaticharasana
5. Trikonasana
6. natarajasana

d) Mudra

- 1) Viparita karani
- 2) Yoga Mudra
- 3) Shanmukhi Mudra
- 4) Brahma Mudra
- 5) Ashwini mudra

e) Bandha

- 1) Jalandhara, Uddiyana, Mula Bandha

f) Shuddhikriya – Jala Neti, Sutra Neti, Jala Dhauti, Trataka, Shankhprakashalana, Kapalbhathi- Vyutkrama and Shitkrama Kapalbhathi, Nauli.

g) Pranayama

Nadishudhhi- Anulom Vilom Pranayama,

h) Kumbhaka Bhedas

- 1) Suryabhedana
- 2) Ujjayi,
- 3) Bhastrika,
- 4) Bhramari
- 5) Sheetali
- 6) Sitkari

i) Dhyana

Practical Demonstration of Naturopathy procedures

- a. Mruttika Snana (Mud Bath)
- b. Mruttika Patti (Mud Pack)
- c. Pada and Hasta Snana (Foot and Arm bath)
- d. Bashpasnana (Steam bath)
- e. Avagahana (Immersion bath)
- f. Prishthasnana (Spinal bath)
- g. Katisnana (Hip bath)
- h. Alternate hot and cold bath
- i. Water packs
- j. Deferent massage techniques
- k. Sun Bath techniques
- l. Relaxation techniques – QRT (Quick Relaxation Technique), IRT (Instant Relaxation Technique), DRT (Deep Relaxation Technique).

3) Long case sheets for Pathya, Apathya, Yoga and Nisargopachara advice to

- a) Non communicable diseases 10

(Proforma attached as Annexure ‘A’/ ‘E’)

- b) Communicable diseases 10

(Proforma attached as Annexure ‘B’)

- c) Garbhini Paricharya 10

(Proforma attached as Annexure ‘C’ d) Mal

Nutrition treatment cases 10 (Proforma attached as Annexure ‘D’)

Departmental Practicals

- 1) Danta dhavana
- 2) Anjana
- 3) Nasya
- 4) Gandusha
- 5) Kavala
- 6) Dhoompana – Dhumavarti Nirmana

6) Educational Visits-

The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by Guide and HOD)

- 1) Water Purification Centre
- 2) Milk Dairy
- 3) Industry
- 4) Leprosy Centre
- 5) T.B. Centre
- 6) Yoga Centre
- 7) Naturopathy Centre
- 8) Primary Health Center
- 9) Disposal of Waste Unit

- 10) Sewage Disposal Unit
- 11) Psychiatric Hospital
- 12) Isolation Hospital
- 13) A.R.T. Centre
- 14) Food and Drug Administration Centre
- 15) District /Civil Hospital

7) Field Work

- a) Community Health Survey (Minimum 10 forms) –
(Proforma attached as Annexure ‘F’)
- b) School Health Check-up (Minimum 10 forms)

8. Departmental duties : Regular Attendance as-

1. Duty in OPD and IPD
 2. Museum Development
 3. Yoga training for Self, Swastha and patients.
 4. Departmental Seminars
 5. Research Journal /Article Reviews(Minimum 2)
 6. Submit minimum 2 papers in any publications.
 7. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
 8. Health Awareness talk for public.
 9. Daily diary- Log book
-

Annexure ‘A’

PROFORMA

(Non - Communicable Disease case)A]

General Information :

1. Name of the Patient: _____
2. Age : _____ yrs. 3. Sex : Male/Female 4. Religion : _____
5. Date of Admission : _____
6. Address : _____
7. Occupation : _____ 8. Education : _____
9. Per Capita income : _____ Rupees.
10. Socio economic class (Modified _____)

B] Present illness:

Chief complaints (chronological order) : _____

C] History of past illness :

1. Similar complaints in past : _____
2. Any other significant history : _____

D] History of illness in Family :

1. Type : _____ 2. Composition : _____
3. Similar illness in family : Yes /No If yes, give details : _____

E] Life Style and personal history :

1. Occupation : Manual Work /Table Work/ Field Work/ Administration /Any other (Specify)
2. Muscular exertion (occupational / domestic etc.) Minimum / Moderate /Heavy
3. Exercise: Nil / Walking / Running / Jogging/ Cycling / Swimming / Weight Lifting/ Anyother specify _____
4. Mental Stress &Strain : Occupational/ domestic/ any other specify _____
5. Hobby , Recreation : _____
6. Diet :
 - a. Veg / Non Veg / Mixed

b. Total calorie intake _____calorie /day

adequate / inadequate/ excess

c. Fat :

adequate / inadequate/ excess

Vegetable / Animal fats

Predominantly saturated / unsaturated

d. Spice & Hot foods (Specify)

e. Regularity in taking meals

f. Type of diet : balanced / Non balanced (Give reason)

7. Sleep and rest : adequate / inadequate

8. Habits & addictions

Smoking : Yes / No /Past Smoker

If yes : Type /duration /quantity/ frequency. _____

Alcohol : Yes / No /Past Alcoholic

If yes : Type /duration /quantity/ frequency. _____

Any Other : Specify, give details. _____

F] General Examinations : _____

G] Systemic Examination : _____

RS/ CVS/CNS/PA : _____

H] Diagnosis :

i. Provisional : _____

ii. Differential : _____

I] Investigations :

Investigation done : _____

Any further investigations required : _____

J] Final Diagnosis : _____

K] Management : _____

Drug therapy (give details) : _____

Diet modification : _____

Health Education / Life Style modification : _____

Follow up : _____

L] Prevention & Control Measures

Primary Prevention : _____

Secondary Prevention : _____

Tertiary Prevention : _____

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Date :-

Annexure 'B'

PROFORMA

(Communicable Disease case)A]

General Information :

1. Name of the Patient : _____
2. Age : _____ yrs. 3. Sex : Male / Female
4. Date of Examination : _____
5. Address : : _____
6. Locality : Urban – Slum / Non-Slum /Rural/Other (Specify) _____
- 7 Duration of Stay in the Locality ; _____(years/months)
8. Hospital Registration No. : _____ 9. Date of Admission : _____
10. Religion / Caste : _____ 11. Education : _____
12. Occupation : _____ 13. Type of Family : _____
14. Total No. of Family Members : _____ 15. Total Family income: _____
16. Per Capita income per month : _____ Rs.
17. Socio-economic Status (As per _____ classification) : _____

B] Chief Complaints (In Chronological order)

1. _____
2. _____
3. _____
4. _____

C] H/O Present illness : _____

D] H/O Past illness : _____

i. Similar complaints in past : _____

ii. Any other significant history : _____

E] History of illness in the family : _____

F] Personal History

a. Dietary : _____

b. Immunization : _____

c. Habits : _____

G] Environmental history (Pertinent to the route of transmission)

- i] Water Supply ii] Excreta Disposal iii] Drainage iv] Cattle
v] Pet animals, Poultry vi] Housing condition vii] Over Crowdingviii]
insect nuisance ix] Courtyard of house etc.

H] Epidemiological information (Backward tracing of index case.)

i. Any similar case in the family / neighborhood / School / Place of recreation / any other

Specify. _____

ii. History of attending to similar case – if yes, when ? _____

iii. History of visiting any unaccustomed place if yes, When ? _____

iv. Total contacts _____ v. High risk contacts. _____

I] Provisional Diagnosis (with justification in brief) _____

J] Differential Diagnosis : _____

1. _____
2. _____
3. _____
4. _____
5. _____

K] Investigation Done :

a. If yes, reports & your comments. _____

b. Other investigations required (with reason) if any. _____

L] Final Diagnosis : _____

M] Management of Patients :

1 Chemotherapy / Other drugs (Specify with name, dose schedule, route of administration, duration of treatments and precautions if any) _____

2. Diet modification _____

3. Personal Hygiene _____

4. Health Education _____

5. Any other (Specify) _____

6. Follow up : _____

N] Preventive & Control Measures at

a. Family Level

i. Chemoprophylaxis _____

ii. Immunization (Active / Passive) _____

iii. Personal Hygiene (specify) _____

iv. Chemical disinfections of (Specify) _____

concentration, quantity, technique, contact period, way of disposal of disinfected material

v. Follow up _____

vi. Care of Contacts _____

b. Community Level

i. General Intervention measures _____

ii. Specific measures against the illness _____

iii. Any other (Specify) _____

c. National Level _____

National Health Programme for control / Eradication of the disease or related health programmes.

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Annexure 'C'

PROFORMA

(Ante-natal case)

A] General Information :

- 1) Date of Examination : _____
- 2) Name : _____
- 3) Age : _____ yrs.
- 4) ANC Registered : Yes/No If yes, place/date/month of registration _____
- 5) Education of pt _____ Occupation of pt _____
- 6) Education of Husband _____ Occupation of Husband _____
- 7) No of family members _____ Total family income _____ Rs/month
- 8) Socio-economic class _____ (as per Modified _____ classification)
- 9) Address : _____

B] Complaints – if any: _____

C] Menstrual History : Menarche, cycles-day/month, regularity, flow etc.

L. M. P _____ E.D.D. _____

D] Obstetric History :

Gestational

- Age (wks)
- Type of
- Delivery
- Hosp./ Home
- Conducted
- By
- Baby alive/stillborn/ abortion
- Live birth interval
- Use of contraceptives(specify)1.
- 2.

E] Family History :

F] Past History : Hypertension/ Diabetes/ S.T.D./T.B./Leprosy etc.

G] Personal History : Bowel/Bladder/Sleep/Appetite/Habits/Addictions etc.

Immunization status : Tetanus toxoid / Any other (specify)

a) For current pregnancy

b) For previous pregnancy

Nutritional status (based on Calorie Intake, other nutrients, anthropometry etc.)

H] General Examination :

- Height _____ Cms./ Wt. _____ kgs, / TPR / B.P _____ mm of Hg
- Pallor/Icterus/ Cyanosis/Oedema/ Lyphadenopathy. any other (specify)
- Cleanliness of : Skin /Nails/Hair/Clothes/Eyes/Ears/Nose/Oral Cavity / breasts & Nipples etc.

I] P/A Examination:

- Ht. of uterus/presentation and lie of foetus /Head-floating or engaged/foetal movements/FHS/ Any other (specify) _____

J] Systemic Examination:

RS/ CVS/CNS _____

- K] Investigations:** - Urine: Albumin/sugar/microscopic/culture.
- Hb % Blood grouping & cross matching/VDRL/HIV/Blood Sugar
- Any other (specify) _____

L] Clinical impression :

- Whether high risk ? If yes, mention the risk factors. _____

M] Advice to the Patient and Management :

- Immunization/Diet/Supplementary nutrition/personal hygiene/preparation for motherhood/ drugs given (if any) / Warning signals/fallow up visits
- Whether the patient/ family members are availing services from Anganwadi / Other Community Health Centre /Private Health Agency? If yes – Give details.
- Give details of referral in high risk cases. _____

N] Follow up :

Findings & Remarks (including advice) _____

During subsequent visits (mention the date of visits) _____

O) Comments :

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Annexure 'D'

PROFORMA

MALNUTRITION CASE (UNDER FIVE YEARS AGE)

A] General Information :

- i..Date of Examination : _____
- ii.. Name of the informer & his/her relationship with the child (case)
1. Name of the child : _____
 2. Date of birth : _____ 3.Age : _____ 4.Sex : Male/Female
 5. Caste /Religion : _____
 6. Address : _____
 7. Whether the child is attending Balwadi/Nursery etc. : _____
 8. Father _____ Mother _____
 - I. Name : _____
 - II. Age : _____
 - III. Education : _____
 - IV. Occupation : _____
 - V. Income : _____
 9. I Total number of family members and family composition _____
 - II. Total family income _____ Rupees per month
 - III. Per Capita Income _____ Rupees per month
 - IV. Socio economic Status _____ as per _____ classification

B] Complaints (if any) : _____

C] History of Present illness : _____

D] History of Past illness (if any) : _____

E] Family history : _____

F] Birth history of the case : _____

- i. Place of delivery : Home/ Hospital /Other (Specify) _____
- ii. Delivery conducted by : Untrained or trained Dai / Nurse / Doctor etc. _____
- iii. Type of delivery : FTND/ Pre mature/SFD/Assisted delivery etc. _____
- iv. Congenital anomaly : if any give details. _____

G] Anthropometry

- i. Weight : _____ Kgs. ii. Height _____ Cms.
- iii. Chest Circumference _____ Cms. Iv. Head Circumference _____ Cms
- iv. Mid arm Circumference _____ Cms.

H] Immunization History

- i. B.C.G./ OPV/ DPT/Measles/Any other give details _____
- ii. Immunization card available : Yes / No.

I] Dietary History

- i. Breast feeding : Yes/ No
 - a. If yes : Only breast feed or weaning started
 - b. If weaned : Age at weaning, type of weaning foods etc.
 - c. If not breast feed : At what age breast feeding stopped? (give reason if any)
- ii. a. Total calorie intake _____ Calorie /day
- b. Total Protein intake _____ gram/day
- iii. Calorie / Protein deficient if any : Yes/No.
- iv. Any other nutritional deficiency (Specify) _____

J] General Examination :

- 1) Built, nourishment & general appearance
- 2) TPR 3) Pallor 4) Icterus 5) Cyanosis 6) Lymphadenopathy
- 7) Oedema 8) Dehydration 9) Eyes 10) Ears
- 11) Face, Nose, Lips & Tongue 12) Teeth gums oral cavity 13) Skin, nails hair
- 14) Rachitic changes. 15) Any other (specify)

K] Systemic Examination :RS/CVS/PA/CNS/Gonads

L] Milestones of growth & development

Physical / Psychological/ Motor / intellectual / behavioral/ Social
Milestones : Normal/ Augmented / Delayed

M] Provisional diagnosis / Differential Diagnosis :

N] Investigations :

O] Diagnosis : _____

P] Management, Advise and Comments : _____

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Annexure 'E'

PROFORMA

PathyaApathya, RutuShodhan, Yoga &Nisargopachar Advice to Patients of Attached Hospital.

A) General Information :-

- 1) Sr. No. : _____
- 2) Name of the Patient : _____
- 3) Address : _____
- 4) OPD No. : _____ IPD NO. _____
- 5) Diagnosis : _____
- 6) Date of Advice : _____

B) Advice given

a) Pathya - Apathya

- i. Ahar : _____
- ii. Vihar : _____

b) RutuShodhanUpakrama :

c) Yogopachar: _____

d) Nisargopachar: _____

C) Date of follow up : _____

D) Remarks: _____

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ANNEXURE 'F'

HEALTH SURVEY

Name and address of the family head-

Telephone no.

Family profile

Family Structure

Age(in completed years)	Male	Female	Total
<1 yr(infants)			
1-5yrs			
6-15yrs			
16-64yrs			
>65 yrs			

Family Composition

Family type: Nuclear/Joint/Three generation

Total members:

Sr.no	Name	Age in years	Sex	Marital status	Education	Occupation	Income	Medico social status

Immunization status (if relevant)

Per capita monthly income=Total family income/no. of members

Socioeconomic Class

Medico Social Status

Infant Children under 5yrs Pregnancy Lactation Old age	Leprosy HIV/STD Cancer Diabetes BP/Cardiac problem	Disability Mental retardation Psychiatric problem Alcohol addiction Social evils
--	--	--

Living Conditions (Housing)

Sr.No.	Housing standards	Score :1 for satisfactory criteria 0 for poor criteria
1.	Construction :Locality, Safety ,Protection	
2	Space :Spatial sufficiency to prevent overcrowding	
3.	Light and Ventilation	
4.	Water :Adequacy ,accessibility and safe storage of water	
5.	Sanitation : Washing, bathing, toilet facilities, sanitary disposal of kitchen waste ,garbage and excreta	
6.	Kitchen :Facilities for hygienic cooking and storage of food,smoke outlet	
7.	Environment Disturbances : Noise, air pollution ,weather Inclemency toxic fumes, dust ,odour ,moisture, open drainetc. Vector like fly ,mosquito ,rodent and other nuisance	
8.	Animals : Pet, cattle, poultry keeping	
9.	Cleanliness of persons and premises	
10.	Connectivity :Road ,transportation ,communication, schools, hospital cultural ,social, recreational ,fire, police ,etc	

Assessment of living condition: Score: 6-10 Satisfactory, 0-5 Poor

Vital Events in the Family in last 1 year

Birth:

Adoption:

Marriage/Divorce:

Death with cause:

Social status of the Family

Education:

Occupation:

Living condition:

Social relationship:

Socioeconomic status:

Health Status of the Family - Good/Average/Poor

Which pathy family members prefer for treatment- Allopathy/Ayurvedic/Homeopathy

Epidemiological History for Communicable Diseases

- 1 .Name of disease:
- 2 .Any similar case in the family: Yes/No
3. Any similar case in neighborhood: Yes/No
4. Any contact with similar case: Yes/No

Family (Hereditary) History For Non-communicable DiseasesNon-communicable disease: Present/Absent

If yes, specify:

SIGN OF STUDENT SIGN OF GUIDE

Format of Practical / Oral Examination

Sr. No.	Heading of Practicals	Marks
1	Daily work book-Log book	10
2	Case Record Sheets	20
3	One Long Case (Pathya-Apathya advice)	20
4	One Short Case (Yoga and naturopathy advice)	10
5	Yoga Demonstration	20
6	Microteaching/Topic presentation	10
7	Thesis Presentation	50
8	Viva Voce	60
	Total	200

Reference Books

- 1) Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratanakara, Bhela Samhita with the respective commentaries
- 2) SwasthavrittaSamuchaya –VaidyaPtRajesvarDuttaShastri
- 3) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
- 4) SwasthavrittaVigyan - Dr.Ramharsha Singh.
- 5) Swasthrittam - Dr.BramhanandTripathi
- 6) AyurvediyaSwasthrittam - Vd.Jalukar
- 7) SwasthaVigyan - Dr.MukundswaroopVerma
- 8) Swasthavritta - Dr.Shivkumar Gaud
- 9) Swasthavritta- Part-I & II- Vd. Mhaiskar, Vd.Vatve
- 10) Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- 11) Preventive and Social Medicine - J.K.Park
- 12) Preventive and Social Medicine – Mahajan
- 13) Preventive and Social Medicine – B.N.Ghosh

14) Community Medicine - Baride and Kulkarni

- 15) Preventive and Social Medicine – Gupta
- 16) Patanjali Yoga Sutra – Maharshi Patanjali, Karambelkar
- 17) HathaPradipika – SwatmaramYogendra
- 18) GherandSamhita- Gherand Muni
- 19) Shiva samhita – Kaivalyadhama
- 20) Yoga and Ayurveda - Dr.Rajkumar Jain
- 21) YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
- 22) YogikChikitsa - ShriKedarnath Gupta
- 23) SachitraYogasanDarshika - Dr.IndramohanJha
- 24) Yoga and Yogikchikitsa - Ramharsha Singh
- 25) The Foundation of Contemporary Yoga - R.H.Singh
- 26) Yogadeepika - Shri. B.K.S. Iyengar
- 27) YogasidhantaevumSadhna - H.S.Datar
- 28) PrakritikaChikitsa -Kedarnath Gupta
- 29) PrakrutikChikitsaVigyan - Verma
- 30) PrakrutikChikitsaVidhi - Sharan Prasad
- 31) Light on Yoga, Light on Pranayama- Shri. B.K.S. Iyengar
- 32) Light on Patanjala yogasutra - Shri. B.K.S. Iyengar
- 33) Janasankhyashikshasidhanta evamUpadeysa - S.C.Seel
- 34) Health and Familywelfare - T.L.Devraj
- 35) Bio-Statistics - B.K. Mahajan
- 36) Swasthavritta - Vd.Sakad
- 37) Reddy's Comprehensive Guide to Swasthavritta –Dr.P.Sudhakar Reddy
- 38) Swasthavritta – Vd Yeshwant Patil and Vd. Vhawal
- 39) Swasthavritta – Vd. Patrikar Vijay
- 40) Swasthavrittavidnyan -
Dr.MangalaGowri41)Positive Health
- Dr.L.P.Gupta
- 42) Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
- 43) Text book of Swasthavritta - Dr.Ranade, Dr.Bobade, Dr.Deshpande
- 44) Food and nutrition – Swaminathan
- 45) Yoga and Nisargopachar- Vd. Prama Joshi
- 46) Yogic sukshmavyayam –Swami Dheerendra Brahmachari
- 47) Integrated approach of Yoga therapy for Positive Health-Dr R Nagarathna
and DrH.R.Nagendra
- 48) Yogavasistha
