

BHARATI VIDYAPEETH DEEMED UNIVERSITY
(Established u/s 3 of UGC Act 1956, vide notification no. F9. 15.U.3 of Govt. of India)

COLLEGE OF PHYSICAL EDUCATION

Dhankawadi, Pune-411 043 (Maharashtra), Tel.020-24373741

REACCREDITED 'A' GRADE BY NAAC



Bachelor of Physical Education

(B.P.Ed.)

(4 Semester Programme)

CURRICULUM FRAMEWORK

**GUIDELINES OF REGULATIONS AND SYLLABUS STRUCTURE FOR
B. P. ED. (FOUR SEMESTERS)
CHOICE BASED CREDIT SYSTEM (CBCS)**

Preamble: Bachelor of Physical Education (B. P. Ed.) two years (Four Semesters Choice Based Credit System) B.P.Ed programme is a professional B.P.Ed programme meant for preparing teachers of physical education in classes VI to X and for conducting physical education and sports activities in classes XI and XII.

B. P. Ed. B.P.Ed programme shall be designed to integrate the study of childhood, social context of Physical Education, subject knowledge, pedagogical knowledge, aim of Physical Education and communication skills. The B.P.Ed programme comprises of compulsory and optional theory as well as practical courses and compulsory school internship.

Intake, Eligibility and Admission Procedure:

The Intake, Eligibility and Admission Procedure are as per the NCTE norms and standards.

Eligibility

(a) Bachelor's degree in any discipline with 50% marks and having at least participation in the Inter-College/Inter-Zonal/District/School competition in sports and games as recognized by the AIU/IOA/SGFI/Govt. of India. (Sports participation in last 05 years.)

Or

(b) Bachelor's degree in physical education with 45%marks.

Or

(c) Bachelor's degree in any discipline with 45%marks and studied physical education as compulsory/elective subject.

Or

(d) Bachelor's degree with 45%marks and having participated in national/Inter University/State competitions or secured 1st, 2nd or 3rd position in Inter College/Inter-Zonal/District/School competition in sports and games as recognized by the AIU/IOA/SGFI/Govt. of India. (Sports participation in last 05 years.)

Or

(e) Bachelor's degree with participation in International competition or secured 1st, 2nd or 3rd position in National/Inter-University competition in sports and games as recognized by the AIU/IOA/SGFI/Govt. of India. (Sports participation in last 05 years.)

Or

(f) Graduation with 45%marks and at least three years of teaching experience (for deputed in-service candidates i.e. trained physical education teachers/coaches).

The relaxation in the percentage of marks in the qualifying examination and in the reservation of seats for SC/ST/OBC and other categories shall be as per the rules of the Central Government/State Government, whichever is applicable.

Age:-

For General category candidates the upper age limit is 32 years as on 1st July of the academic year. Age relaxation for SC, ST and OBC candidate will be given according to the rules and regulation of Bharati Vidyapeeth University and GOI

Number of seats:-

50 (Fifty) seats are approved by NCTE Bhopal for B.P.Ed. course.

Note:-

*Married girl is eligible for admission to B.P.Ed. programme. But, it is also compulsory for her to sign an undertaking that she will discontinue the B.P.Ed programme at once for at least one academic year, if she gets pregnant during the course of study. She can join back afresh from the beginning of the semester keeping the guidelines pertaining to the maximum duration of the course in mind.

*No differently-abled candidate is eligible for the admission in B.P.Ed. Course.

Admission procedure:-

Admission shall be made on merit on the basis of marks obtained in the entrance examination consisting of 100 marks based on the following.

a- Physical fitness test	50 marks
b- Written test	30 marks
c- Interview	10 marks
d- Sports achievement	10 marks

The total entrance test will be conducted in two days and could be extended, if needed and it will be conducted at Bharati Vidyapeeth Deemed University College of Physical Education

There shall be Physical Fitness Test (modified AAHPER/CNADIAN/OR ANYOTHER fitness test) of 50 marks will be conducted by Internal Examiners of Bharati Vidyapeeth Deemed University College of Physical Education

- (A)** Theory Paper comprising of 30 multiple-choice questions of 30 minutes duration carrying 30 marks. Questions shall be based on Aptitude Test, Current Affairs and General Knowledge about sports.
- (B)** Interview comprising of 10 marks will be conducted by Internal Examiners of Bharati Vidyapeeth Deemed University College of Physical Education
- (C)** Sports Participation Weightage :- Candidate shall be given maximum 10 marks weightage on the basis of their sports participation in any one of the following level:

Participation	Marks
➤ International:	10
➤ Senior National championship/ National Games:	
1st Place :	10
2nd Place :	08
3rd Place :	07
Participation:	05
➤ All India Inter-Zonal Inter University Competitions:	
1st Place :	08
2nd Place :	07
3rd Place :	06
Participation:	05
➤ Zonal Inter University Competitions/Junior National Competitions:	
1st Place :	07
2nd Place :	06
3rd Place :	05
Participation:	04
➤ Senior State Championship/Rural national games/Woman Festival:	
1st Place :	05
2nd Place :	04
3rd Place :	03
Participation:	02

Note:-

*The marks will be given in only those games/sports, which are in the competition list of Association of Indian Universities (**AIU**) and/or School Games Federation of India (**SGFI**).

*The obtained position must be during last five academic sessions.

*The school state championship and inter collegiate championship participation shall be considered for eligibility criteria only; the candidate shall not get any marks for sports weightage.

Medical examination:-

Qualified candidates will have to submit medical certificate by CMO and blood group certificate to the concern office.

Course fee

The course fee Rs 80,000/- shall be deposited in Four installments ie.

Semester	Installment	Month	Amount
1 st	1 st	July- At the time of admission	Rs.20,000
2 nd	2 nd	December	Rs 20,000
3 rd	3 rd	June	Rs.20,000
4 th	4 th	December	Rs.20,000

The mode of **DD/Banker's cheque** in favor of the **The Pricipal ,Bharati Vidyapeeth (Deemed to be) University, College of Physical Education, or candidate can deposit cash in Bharati Bank in prescribed bank account of the college through Challan obtaining from College office .**

Duration: The B.P.Ed programme shall be of duration of two academic years, that is, four semesters. However, the students shall be permitted to complete the B.P.Ed programme requirements within a maximum of three years from the date of admission to the programme.

The student, who discontinue the B.P.Ed programme after one year or more semesters due to extraordinary circumstances, are allowed to continue and complete the B.P.Ed programme with due approval from the principal .

SCHEME OF EXAMINATION FOR B.P.ED. (4 SEMESTERS)
(2015-2017)

Semester wise Distribution of Marks & Credits

		Sem-I	Sem-II	Sem-III	Sem-IV	Total
Part-A: Theory Courses	Marks	400	400	400	200	1500
	Credits	16	16	16	8	60
Part-B: Activity Courses (Games/Sports)	Marks	400	300	300	400	1300
	Credits	8	6	6	8	26
Part- C: Game/ Sport Specialization	Marks	100	100	100	100	400
	Credits	2	2	2	2	8
Part D -: Teaching Ability and Internship	Marks	--	100	100	300	400
	Credits	--	2	2	6	8
Grand Total	Marks	900	900	900	900	3600
	Credits	26	26	26	24	102

NOTES:

- Each Theory Course shall have 4 Units and 3 hrs. duration final examination except Sports Specialization which will have 3 units in each semester and 2-hour duration semester-end examination.
- The pattern of Semester-end question papers shall be:
 - 2.1. For papers having Max. Marks- 60 : [12+12+12+12+(4x3)=60 marks]**
For University examination each question paper shall consist of 9 questions (8 long answer questions from each unit and 1 combined question of 4 short notes from all 4 units). The candidate will attempt any one question from each unit (4 questions of 12 marks each from first 8 questions). The 9th question will be compulsory consisting 4 short notes of 3 marks each.
- For Internal Assessment of Theory Courses one Mid Semester Test of 30 marks for each course will be conducted by the college. For the mid semester test each question paper (of 30 marks) shall consist of 5 questions (4 long answer questions from first two unit and 1 combined question of 2 short notes from both units). The candidate will attempt any one question from each unit (2 questions of 12 marks each from first 4 questions). The 5th question will be compulsory consisting 2 short notes of 3 marks each. In addition, the teacher concerned shall conduct one open book examination consisting of 10 marks and submit the marks to the college exam department.

4. For Semester-end Examination in Activity Courses, the breaks-up of 100 Marks shall be as follows:

-	Skill proficiency/playing ability	:	80
-	Diary / Record book	:	20

5. For Specialization Sports Practice and Sports Training, the break-up of 100 Marks shall be as follows:

-	Skill proficiency/playing ability	:	60
-	Written Test	:	40

6. For internship, student needs to complete 150 hrs. as a physical education teacher in schools and also needs to prepare day to day lesson plan. Every day lesson plan will be evaluated and signed by School Administrator/Principal. Student needs to submit a report on his or her internship with the lesson plan duly signed by School Administrator/Principal. School Administrator/Principal will also be asked to give marks to the student according to his performance after the internship gets over. The break-up of 300 Marks shall be as follows

-	School Administrator Report	:	100 marks
-	Lesson Plan	:	100 marks
-	Viva-Voce	:	100 marks

CURRICULUM FRAMEWORK FOR B.P.ED.

(4 SEMESTERS 2015-2017)

B.P.Ed. I-Semester (July 2015 to November 2016)

PART-A: THEORY COURSES:

Subject Code	Courses	University Exam	Internal Assessment	Total	Lecture	Credits
BPEd/I/A/HC/01	Introduction & History of Physical Education	60	40	100	64	4
BPEd/I/A/HC/02	Anatomy, Physiology and Exercise Physiology	60	40	100	64	4
BPEd/I/A/HC/03	Computer Application & Communicative Skills in Physical Education	60	40	100	64	4
BPEd/I/A/SC/01 BPEd/I/A/SC/02	Select anyone of the following: *Development of Sports Movements *First Aid & Safety Education	60	40	100	64	4
Total		240	160	400	256	16

NOTE:HC- Hard Core/Compulsory Course; **SC-** Soft Core/Elective Course.

PART-B: PRACTICUM / ACTIVITY COURSES (GAMES & SPORTS):

Activity Code	Name of Activity	University Exam	Class	Credits
BPEd/I/B/HC/01	Conditioning	100	48	2
BPEd/I/B/HC/02	Track and Field (Running events)	100	48	2
BPEd/I/B/SC/01-04	Select anyone Activity/ Game/Sport from each Group* (B1 and B2 – the offer shall depend on administrative feasibility).	100X2	48X2	2X2
Total		400	--	08

****Groups of Activity/Game/Sport:** (Should be other than Sport Specialization).

Activity Group-B1		Activity Group-B2	
Activity Code	Activity	Activity Code	Activity
BPEd/I/B/SC/01	Basketball	BPEd/I/B/SC/03	Table Tennis
BPEd/I/B/SC/02	Volleyball	BPEd/I/B/SC/04	Tennis

PART-C: GAME/SPORT SPECIALIZATION: A student shall select/opt for any one Game/Sport from amongst: Basketball, Cricket, Football, Handball, Table Tennis, Tennis, Track & Field, Volleyball, Weight Lifting, Kho-Kho, Kabaddi and Yoga.

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/I/D/SCC/01	Sports Practice and Sports Training (in selected/opted Game/Sport - sessional only)	100	48	2

NOTE: SCC- Soft Core Compulsory.

B.P.Ed. II-Semester (December 2015 to April 2016)

PART-A: THEORY COURSES:

Subject Code	Courses	University Exam	Internal Assessment	Total	Lecture	Credits
BPEd/II/A/HC/01	Educational & Sports Psychology	60	40	100	64	4
BPEd/II/A/HC/02	Methodology of Teaching in Physical Education	60	40	100	64	4
BPEd/II/A/HC/03	Sports Training	60	40	100	64	4
BPEd/II/A/SC/01	Select anyone of the following: *Fitness, Wellness and Sports Nutrition	60	40	100	64	4
BPEd/II/A/SC/02	*Adapted Physical Education					
	Total	240	160	400	256	16

PART-B: PRACTICUM / ACTIVITY COURSES (GAMES & SPORTS):

Activity Code	Name of Activity	University Exam	Class	Credits
BPEd/II/B/HC/01	Track & Field-I (Field Events)	100	48	2
BPEd/II/B/HC/03	Light Apparatus	100	48	2
BPEd/II/B/SC/01-04	Select anyone Activity/ Game/ Sport from Group-B3* (The offer shall depend on administrative feasibility).	100	48	2
	Total	300	144	06

*Group of Activity/Game/Sport: (Should be other than Sport Specialization).

Activity Group-B3			
Activity Code	Activity	Activity Code	Activity
BPEd/II/B/SC/01	Handball	BPEd/II/B/SC/03	Kho- Kho
BPEd/II/B/SC/02	Cricket	BPEd/II/B/SC/04	Weight Lifting

PART-C: GAME/SPORT SPECIALIZATION: (Continued from Semester-I)

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/II/D/SCC/01	Sports Practice and Sports Training (in selected/opted Game/Sport)	100	48	2

PART-D: TEACHING ABILITY AND INTERNSHIP-I (ACTIVITY TEACHING):

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/II/C/HC/01	Teaching Lessons (students shall conduct minimum 5 teaching lessons at the Institute itself in different activities like Marching, Calisthenics and Rhythmic Activities).	100	48	2

B.P.Ed. III-Semester (July 2016 to November 2016)

PART-A: THEORY COURSES:

Subject Code	Courses	University Exam	Internal Assessment	Total	Lecture	Credits
BPEd/III/A/HC/01	Measurement & Evaluation in Physical Education	60	40	100	64	4
BPEd/III/A/HC/02	Kinesiology & Biomechanics	60	40	100	64	4
BPEd/III/A/HC/03	Yoga and Health Education	60	40	100	64	4
BPEd/III/A/SC/01	Select anyone of the following: *Sports Entrepreneur, Marketing & Sports Management	60	40	100	64	4
BPEd/III/A/SC/02	*Professional Preparation in Physical Education					
	Total	240	160	400	256	16

PART-B: PRACTICUM / ACTIVITY COURSES (GAMES & SPORTS):

Activity Code	Name of Activity	University Exam	Class	Credits
BPEd/III/B/HC/01	Conditioning	100	48	2
BPEd/III/B/HC/02	Judo	100	48	2
BPEd/III/B/HC/03	Select anyone Activity/ Game/ Sport from Group-B4* (The offer shall depend on administrative feasibility).	100	48	2
	Total	300	94	6

*Group of Activity/Game/Sport: (Should be other than Sport Specialization).

Activity Group-B4			
Activity Code	Activity	Activity Code	Activity
BPEd/III/B/SC/01	Yoga	BPEd/II/B/SC/03	Aerobics

PART-C: GAME/SPORT SPECIALIZATION: (Different from Semester - I & II)

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/III/D/SCC/01	Sports Practice and Sports Training (in selected/opted Game/Sport)	100	48	2

PART-D: TEACHING ABILITY AND INTERNSHIP-II (ACTIVITY TEACHING):

(Continued from Semester - II)

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/III/C/HC/01	Teaching Practice	100	60	2

B.P.Ed. IV-Semester (December 2016 to April 2017)

PART-A: THEORY COURSES:

Subject Code	Courses	University Exam	Internal Assessment	Total	Lecture	Credits
BPEd/IV/A/HC/02	Sports Medicine, Physiotherapy and Rehabilitation	60	40	100	64	4
BPEd/IV/A/HC/03	Research and Statistics in Physical Education	60	40	100	64	4
	Total	120	80	200	128	8

PART-B: PRACTICUM / ACTIVITY COURSES (GAMES & SPORTS):

Activity Code	Name of Activity	University Exam	Class	Credits
BPEd/IV/B/HC/01	Kabaddi	100	48	2
BPEd/IV/B/HC/02	Weight Training	100	48	2
BPEd/IV/B/HC/03	Gymnastics	100	48	2
BPEd/IV/B/HC/03	Camping, Hiking and Tracking	100	48	2
	Total	400	192	8

PART-C: GAME/SPORT SPECIALIZATION: (Continued from Semester - III)

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/III/D/SCC/01	Sports Practice and Sports Training (in selected/opted Game/Sport)	100	48	2

PART-D: TEACHING ABILITY AND INTERNSHIP (ACTIVITY TEACHING):

Activity Code	Name of Area	University Exam	Class	Credits
BPEd/III/C/HC/01	Internship	300	150	6

(Choice Based Credit System)

Standard of Passing:

For all courses, both UE and IA constitute separate heads of passing. In order to pass in such courses and to earn the assigned credits, the learner must obtain a minimum grade point of 5.0(40% of marks) at UE and also a minimum grade point of 5.0(40% marks) at IA.

If a student fails in IA, the learner passes in the course provided he/she obtains a minimum of 25% in IA and GPA for the course is at least 6.0 (50 % in aggregate). The GPA for a course will be calculated only if the learner passes at the UE.

A student who fails at UE in a course has to reappear only at UE as a backlog candidate and clear the head of passing. Similarly, a student who fails in a course at IA has to reappear only at IA as a backlog candidate and clear the head of passing.

The 10-point scale Grades and Grade Points according to the following table:

Range of Marks (Out of 100)	Grade	Grade Point
80 ≤ Marks ≤ 100	O	10
70 ≤ Marks ≤ 80	A+	9
60 ≤ Marks ≤ 70	A	8
55 ≤ Marks ≤ 60	B+	7
50 ≤ Marks ≤ 55	B	6
40 ≤ Marks ≤ 50	C	5
Marks ≤ 40	D	0

The performances at UE and IA will be combined to obtain the Grade Point Average (GPA) for the course. The weights for performance at UE and IA shall respectively be 60% and 40%.

GPA is calculated by adding the UE marks of 60 and IA marks out of 40. The total marks out of 100 are converted to grade point, which will be the GPA.

Formula to calculate Grade Points (GP)

Suppose that Max is the maximum marks assigned for an examination or evaluation based on which GP will be computed. In order to determine the GP. Sex x -Max/10 (since we have adapted 10-point system). Then GP is calculated by the formulas shown as below.

Range of marks at the evaluation	Formula for the Grade Point
$8x \leq \text{Marks} \leq 10x$	10
$5.5x \leq \text{Marks} \leq 8x$	Truncate (Marks/x)+2
$4x \leq \text{Marks} \leq 5.5x$	Truncate (Marks/x)+1

particular semester. While the CGPA measures the cumulative performance in all courses since his/her enrolment. The CGPA of learner when he/she completes the B.P.Ed programme is the final result of the learner.

The Formula to compute equivalent percentage marks for specified CGPA:

% Marks (CGPA)	10x CGPA - 10	If $5.00 \leq \text{CGPA} \leq 6.00$
	5x CGPA + 20	If $6.00 \leq \text{CGPA} \leq 8.00$
	10x CGPA - 20	If $8.00 \leq \text{CGPA} \leq 9.00$
	20x CGPA - 110	If $9.00 \leq \text{CGPA} \leq 9.50$
	40x CGPA - 300	If $9.50 \leq \text{CGPA} \leq 10.00$

Award of Honours:

A student who has completed the minimum credits specified for the B.P.Ed programme shall be declared to have passed in the programme. The final result will be in terms of letter grade only and is based on the CGPA of all courses studied and passed. The criteria for the award of honours are given below.

Range of CGPA	Final Grade	Performance Descriptor	Equivalent Range of Marks (%)
$9.50 \leq \text{CGPA} \leq 10.00$	O	Outstanding	$80 \leq \text{Marks} \leq 100$
$9.00 \leq \text{CGPA} \leq 9.49$	A+	Excellent	$70 \leq \text{Marks} \leq 80$
$8.00 \leq \text{CGPA} \leq 8.99$	A	Very Good	$60 \leq \text{Marks} \leq 70$
$7.00 \leq \text{CGPA} \leq 7.99$	B+	Good	$55 \leq \text{Marks} \leq 60$
$6.00 \leq \text{CGPA} \leq 6.99$	B	Average	$50 \leq \text{Marks} \leq 55$
$5.00 \leq \text{CGPA} \leq 5.99$	C	Satisfactory	$40 \leq \text{Marks} \leq 50$
CGPA Below 5.00	F	Fail	Marks Below 40

Educational Tour/Camp: In addition to the above rules the student must fulfill the following requirements to acquire the degree which is mandatory. Educational Tour or Leadership Camp organized by the College of Physical Education of at least 07 days. The students shall contribute separately for these activities.

B.P.Ed

Semester I

BPed/I/A/HC/01: Introduction & History of Physical Education

Unit – 1: Introduction

Meaning, Definition and Scope of Physical Education
 Aims and Objective of Physical Education
 Importance of Physical Education in present era.
 Misconceptions about Physical Education.
 Relationship of Physical Education with General Education.
 Physical Education as an Art and Science.

Unit- II – Historical Development of Physical Education in India

Indus Valley Civilization Period. (3250 BC – 2500 BC)
 Vedic Period (2500 BC – 600 BC)
 Early Hindu Period (600 BC–320 AD) & Later Hindu Period (320AD-1000AD)
 Medieval Period (1000 AD – 1757 AD) British Period (Before 1947)
 Physical Education in India (After 1947)
 Contribution of Akhadas and Vyayamshalas
 Y.M.C.A. and its contributions.

Unit- III- Foundation of Physical Education

Philosophical foundation:
 Idealism, Pragmatism, Naturalism, Realism, Humanism,
 Existentialism and Indian Philosophy and Culture.
 Fitness and wellness movement in the contemporary perspectives
 Sports for all and its role in the maintenance and promotion of fitness.

Unit-IV- Principles of Physical Education

Biological, Growth and development, Age and gender characteristics, Body Types
 Anthropometric differences , Psychological, Learning types, learning curve Laws and principles of learning, Attitude, interest, cognition, emotions and sentiments. Sociological, Society and culture, Social acceptance and recognition, Leadership
 Social integration and cohesiveness

References:

- Bucher, C. A. (n.d.) *Foundation of Physical Education*. St. Louis: The C.V. Mosby Co.
- Deshpande, S. H. (2014). *Physical Education in Ancient India*. Amravati: Degree college of Physical Education.(Maharashtra)
- Mohan, V. M. (1969). *Principles of Physical Education*. Delhi: Metropolitan Book Dep.
- Nixon, E. E. & Cozen, F.W. (1969). *An introduction to Physical Education*. Philadelphia: W.B. Saunders Co.
- Obertuffer, Delbert(1970) *Physical Education*. New York: Harper & Brothers Publisher.

BPEd/I/A/HC/02: Anatomy, Physiology and Exercise Physiology

Unit – 1 Introduction

Brief introduction of Anatomy and Physiology
 Need and importance of anatomy and physiology
 Organization of Living organism
 Essential Properties of living cell

Unit – II Skeletal System, Digestive System and Respiratory system

Skeletal System

General structure of the bone, various kinds of bones, functions of the bones.
 Joints, their structure, and their movements

Digestive System

Organs and its function in digestive system
 Process of digestion in human body

Respiratory system

Organs and its function in respiratory system
 Types of respiration

Unit – III Cardiovascular System and Nervous system

Cardiovascular System

Heart, its location, structure and function.
 Mechanism of blood circulation.
 Blood pressure, cardiac output, cardiac cycle, heart rate, pulse rate and athletes heart.

Nervous system

Organs of nervous system
 Function of brain
 Function of spinal cords
 Types of nervous system

Unit – IV- Effect of Exercise on Various Systems

Cardio – respiratory system
 Skeletal system
 Muscular System
 Digestive and Excretory system
 Nervous system

References:

- D. (1979). A Christine, M. D., (1999). *Physiology of Sports and Exercise*. USA: Human Kinetics.
- Conley, M. (2000). *Bioenergetics of Exercise Training*. In T.R. Baechle, & R.W. Earle, (Eds.), *Essentials of Strength Training and Conditioning* (pp. 73-90). Champaign, IL: Human Kinetics.
- Gupta, A. P. (2010). *Anatomy and Physiology*. Agra: Sumit Prakashan.
- Gupta, M. and Gupta, M. C. (1980). *Body and Anatomical Science*. Delhi: Swaran Printing Press.
- Guyton, A.C. (1996). *Textbook of Medical Physiology*, 9th edition. Philadelphia: W.B. Saunders.

BPEd/I/A/HC/03: Computer Application & Communicative Skills in Physical Education

Unit I: Introduction of Computer

1. History, application, characteristics, types of computer (Analog, Digital, Hybrid) and generations of Computer.
2. Physical structure of computer.
3. Role of computer in various fields
4. Need of computer in Physical Education.

Unit-II Component of Computer System: An Introduction of Hardware and Software

1. Components of computer system
2. CPU (CU, ALU and Main memory)
3. Input devices (Keyboard, Mouse and Track Ball, Touchpad, Joysticks, Touch Sensitive Screens, Data Scanning Device, Bar Code Readers, Optical Mark Reader (OMR) and Magnetic Ink Character Reader (MICR)
4. Output Devices (Monitor, Printer, LCD)
5. Hardcopy Devices (Printers and Plotter)
6. UPS and types of UPS
7. Operating System Programme Languages translator.
8. Application program/package

UNIT III Effective Communication

A) The Seven C's of the Effective Communication

B) Communication: Its interpretation

- i) Basics ii). Nonverbal Communication iii). Barriers to Communication

UNIT IV Business Communication and Writing

A) Business Communication at Work Place

- i) Letter Components and Layouts ii). Planning a letter iii). Process of Letter writing iv). Email Communication v). Memo and Memo Reports vi). Employment Communication vii). Notice Agenda and Minutes of Meeting vii). Brochures

B) Report Writing

- i). Effective Writing ii). Types of Business Reports iii). Structure of Reports iv). Gathering Information v). Organization of the Material vi). Writing Abstracts and Summaries vii) Writing Definitions viii). Visual Aids ix). User Instruction Manual

Reference

- Koneru Aruna, Professional Communication McGraw Hill Pub. 1998, New Delhi
- Murphy Herta, Herbert W Hilderbrandt, Jane P Thomas Effective Business Communication, 1997, McGraw Hill
- Petit Lesikkar, Business Communication, 1994, McGraw Hill
- Willey, Communication Skills Handbook, Summers Willey Pub. India
- Rai and Rai, Business Communication, 1999, Himalaya Publishing House, Mumbai.

BPEd/I/A/SC/01: Development of Sports Movements (Elective)

UNIT - I A) Physical Education in Ancient Civilization with reference to

I) India ii) Greece iii) Rome IV) Egypt.

B) Development of Physical Education & sports during 20 Th Century with special reference to 1) U.S.A. ii) Sweden iii) Germany iv) Olympics v) Asian Games.

UNIT - II Physical Education in India during 20th century

- a) Physical Training for teacher working in school & college.
- b) Movement of Akhadash & Vyayam Shalas.
- c) Central Advisory Board of Physical Education.
- d) All India council of sports.
- e) SNIPES, NSNIS, LNIPE.
- f) Sports authority of India (sai)
- g) Nehru yuwak Kendra.
- h) Awards National & state level.

UNIT - III A Study of the development of Physical Education sports & Games in Maharashtra with reference to

- a) The present Organization set up in state.
- b) Important schemes and activities including indigenous activities.
- c) Role of Voluntary Physical Education & sports Bodies in state...

UNIT - IV Youth welfare & Youth Services:-

- a) Concept of youth welfare & Youth work.
- b) Youth organization in India
- c) Programmers under youth development
- d) Youth services such as secreting & guiding N.C.C. N.S.S., Civil defense & scout & Guide movement.

Reference

- 1) Manual of Physical Education of India - D.G. Wakharkar
- 2) A World History of Physical Education - Van Ten Micher
- 3) History of Physical Education C.W. Hyensmith
- 4) A Brief History of Physical Education - Emmel A Rice & John L Hutchinson
- 5) Physical Education in ancient India - Dr. S.H. Deshpande.

BPEd/I/A/SC/02: First Aid & Safety Education (Elective)

UNIT - I

- a) Meaning and definition of first aids and its importance in sports
- b) Types of first aids and its objectives
- c) First aids box and its management
- d) Role and qualification of first aider

Unit-II

- a) Common sports injuries in different parts of body
- b) First aids for sports injuries
- c) Common causes of sports injuries and its prevention
- d) RICE & Bandage

UNIT - III

- a) Definition of safety education and its significant
- b) Aims and objectives of safety education
- c) Identify causes of accidents & List types and sources of accidents
- d) Safety measures at
 - Home
 - Road
 - School
 - Community

UNIT – IV

- a) Describe and demonstrate the management of the following:-
 - Stings and Snake bites
 - Fracture
 - Nose bleeding
 - Electric shocks and other shocks
- b) Fevers:-
 - Definition of fever
 - signs of fever
 - first Aid for fever
 - Management of fever.
- c) Fainting- Definition and causes of fainting, first aid for fainting
- d) Drowning/Near-drowning:- Definition of drowning, definition of near-drowning
- e) first aid for drowning/near drowning.

Reference :

- Guyton, A.C. (1996). Textbook of Medical Physiology, 9th edition. Philadelphia: W.B. Saunders.
- Hunter, M. dictionary for physical educators. In H. M. Borrow & R. McGee, (Eds.), A Practical approach to measurement in Physical Education (pp. 573-74). Philadelphia: Lea & Febiger.

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Semester II

BPEd/II/A/HC/01: Educational & Sports Psychology

UNIT-I : Introduction of Sports Psychology

- 1.1 Meaning, Scope of Sports Psychology
- 1.2 Importance of Sports Psychology for Physical Education teacher and Coach
- 1.3 Human behavior, Urge and instincts.

UNIT-II: Cognitions Process and higher mental Processes in Physical Activities

- 2.1 Learning: Definitions, Meaning and Types (Primary, Associate & Concomitant)
- 2.2 Laws of Learning and Transfer of Training
- 2.3 Meaning of Sensation & Perception, Thinking and Attention. 2.4 Fatigue.

UNIT-III : Growth and Development and Personality

- 3.1 Meaning and Concept of Motor Development
- 3.2 Motor Development during Childhood, Adolescence
- 3.3 Concept of personality and Personality traits of sportsmen.
- 3.4 Adjustment and maladjustment and causes of maladjustment.

UNIT-IV : Individual Differences

- 4.1 Meaning of Individual differences.
- 4.2 Heredity and Personality and their role in individual differences.
- 4.3 Interaction of Heredity and Environment.
- 4.4 Various Status of an Individual
- 4.5 Other Causes of individual differences.

Reference

1. Kamlesh, M.L. (2006). Educational Sport Psychology. New Delhi: Friend's publication
2. Cox Richard. (1998) Sports Psychology (W.C.B.)
3. Gill, Diance L. Psychological Dynamics of Sports (Illinois: Human Kinetics Publishers, 1986)
4. Silva, J.M. and Weinberg. (1984). Physiological Foundation of Sports. IL: Kinetics Publishers,
5. Suinn, Richard M. (1982) Psychology in Sports: Methods and Applications. New Delhi: Sujeet Publication.
6. Martens, Rainer. (1987). Coaches Guide to Sports Psychology. IL: Human Kinetics;
7. Roberts Glyn C. and et al. (1986). Learning Experiences in Sports Psychology. IL: Human Kinetics.
8. Alegaonkar, P.M. (1997). Sports Psychology Pune: Pune Vidyarthi Griha.

BPEd/II/A/HC/02: Methodology of Teaching in Education & Physical Education

Unit -I Introduction

- i) Aims and Objectives of Physical Education.
- ii) Place of Physical Education in Curriculum.
- iii) Principles of Learning Process.
- iv) Principles of Teaching Process.

Unit -II Methods and importance of Teaching

Orientation, Demonstration, Imitation, Command, Exploration, Set Drill, Progressive Part, Observation, Verbal Explanation, Whole- Part- Whole, Formal informal.

Unit III Procedure of Teaching Presentation Technique -

- i) Personal Preparation
- ii) Technical Preparation.
- iii) Steps and characteristics of Presentation.
- iv) Principle of classes Management.
- v) Factors affecting class management.

Unit IV - Lesson Planning -

- i) Micro Teaching - importance and skills.
- ii) Types of lesson - General & Specific
- iii) Planning and importance of lesson.
- iv) Teaching Aids- Importance Types and uses.

References

- Capel, S. et al Editors (2006). A Practical Guide to Teaching Physical Education. Routledge Publishers, USA.
- Graham, G.M. (2009). Children Moving : A Reflective Approach to Teaching Physical Education. 8th Ed. McGraw Hill, USA
- Gupta R. (2010). SharirikShiksha Mein ShikhshanPradhyogiki. Friends Publication. New Delhi
- Gupta R. Kumar P. and Sharma D.P.S. (1999). Lesson Plan in Physical Education & Sports. R.D.P. Publication. New Delhi
- Gupta R. Kumar P. and Sharma D.P.S. (2004). SharirikShiksha Mein Path Yojna. SahyogPrakashan. New Delhi
- Kamlesh ML (2005). Methods in Physical Education. Friends. Delhi.

BPEd/II/ A/HC/03: Sports Training**UNIT – I Sports Training & Training Load**

- 1.1 Sports Training, Definition, Meaning, Aim & Tasks.
- 1.2 Coaching, Meaning, Aim and Objectives.
- 1.3 Principles of Sports Training.
- 1.4 Load, Intensity, Density, Duration and Frequency.
- 1.5 Over Load, Fatigue causes, symptoms and remedial measures.

UNIT – II Development of Motor Components:

- 2.1 Strength: Definition, Importance & Classification, Methods of Development.
- 2.2 Endurance: Definition, Importance & Classification, Methods of Development.
- 2.3 Speed: Definition, Importance & Classification, and Methods of Development.
- 2.4 Flexibility: Definition, Importance & Classification, Methods of Development.
- 2.5 Coordinative Abilities: Definition, Importance & Classification, Methods of Development.

UNIT – III Technical & Tactical Preparation:

- 3.1 Technique: Meaning & Definition and Importance, Stage of technical Development, correction of faults.
- 3.2 Methods of Technique Training.
- 3.3 Strategy & Tactics: Meaning, Importance.
- 3.4 Methods of Tactical Training.
- 3.5 Principles of Attack & Defence.

UNIT – IV Planning and Periodisation:

- 4.1 Meaning and Importance.
- 4.2 Types of Plan: Short term, Medium term and long-term training Programme.
- 4.3 Periodisation: Meaning & Importance.
- 4.4 Types of Periodisation.

References:

1. Bunn, Johan D: The Art of Officiating Sports.
2. Lawther, J.D.: Psychology of Coaching.
3. Bunn, J, N.: Scientific Principles of Coaching.
4. Kamlesh, M.I. : Methods in Physical Education.
5. Singh, H.: Scientific Principles of Sports Training.

BPed/II/A/SC/01 : Fitness, Wellness and Sports Nutrition (Elective Subject)

Unit I Physical Fitness

- a. Definition, meaning and concept of Physical fitness, Physical Activity and Exercise
- a. Components of HRPF, SRPF and Physical fitness
- b. Definition and concept of wellness and holistic health
- c. Factors affecting Physical Fitness and wellness

Unit II Doping and Nutrition

- a. Prevention and first-aid for common sports injuries
- b. Nutrition-components, balance diet and diet for athlete
- c. Meaning and definition of doping, ergogenic aids

Unit III Development of Fitness

- a. Benefits of physical fitness and exercise and principles of physical fitness
- b. Calculation of fitness index level 1-4
- c. Waist-hip ratio larger heart rate, BMI and types and principles of exercise (FITT)
- d. Methods of training – Continues, Interval, Circuit, Fartlek and Plyometric

Unit IV Wellness and Weight Management

- a. Concept, meaning and Components of wellness
- b. Manipulation of energy balance to Induce weight loss and weight gain
- c. Methods of Weight Management
- d. Concept, types and causes of obesity and its management

REFERENCES :

- 1 Alexandria, V. (1989). ***Fitness for Life***. Virginia : Time Life book.
- 2 Anne, R. (1995). ***Health & Social Care***. UK : Thomas Nelson & Sons Ltd.
- 3 Bates M. (2008). ***Health Fitness Management*** (2nd Ed.) USA : Human Kinetics.
- 4 Bean, Anita. (1999). ***Food For Fitness***. London : A & C Block
- 5 Beashel P., & Taylor, J. (1996). ***Advanced Studies in Physical Education and Sports***. UK : Thomas Nelson & Son Ltd.
- 6 Bouchard, C. M. & Robert, P.L. (1997). ***Genetics of Fitness and Physical Performance***. USA : Human Kinetics.

BPEd/II/A/SC/02 : Adapted Physical Education

Unit 1: Introduction to Adapted Physical Education

- 1.1 Meaning, Need and Importance of Adapted Physical Education and Sports
- 1.2 Purpose, Aims and Objectives of Adapted Physical Education and Sports
- 1.3 Program organization of Adapted Physical Education and Sports
- 1.4 Adapted Sports- Para Olympics

Unit 2: Development of Individual Education Program (IEP)

- 2.1 The student with a disability
- 2.2 Components and Development of IEP.
- 2.3 Principles of Adapted Physical Education and Sports
- 2.4 Role of Physical Education teacher
- 2.5 Teaching style, method and approach in teaching Adapted Physical Education

Unit 3: Developmental Considerations of an Individual

- 3.1 Motor development
- 3.2 Perceptual Motor development
- 3.3 Early childhood and Adapted Physical Education

Unit 4: Individual with unique need and activities

- 4.1 Behavioral and Special learning disability
- 4.2 Visual Impaired and Deafness
- 4.3 Health Impaired students and Physical Education
- 4.4 HRPF and its development for Individual with unique need
- 4.5 Role of games and sports in Adapted Physical Education

Reference

1. Beverly, N. (1986). Moving and Learning. Times Mirror/Mosby College Publishing.
2. Cratty, B.J. Adapted Physical Education in the Mainstream. (4th Edition) Love Publishing Company.
3. Houser, L.D. Integrated Physical Education- A guide for the elementary classroom teacher.
4. Winnick, J. P. (2005). Adapted Physical Education and Sports. Human Kinetics (4th Edition).
5. Pangrazi, R.P. and Dauer, V. P. Dynamics Physical Education for Elementary School Children. (11th Edition). Allyn and Bacon Publishing.

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Semester III

BPEd/III/A/HC/01: Measurement & Evaluation in Physical Education

Unit- I Introduction to Test & Measurement & Evaluation

Meaning of Test & Measurement & Evaluation in Physical Education

Need & Importance of Test & Measurement & Evaluation in Physical Education

Principles of Evaluation

Unit- II Criteria; Classification and Administration of test

Criteria of tests, scientific authenticity (reliability, objectivity, validity)

Type and classification of Test, Administration of test

Unit- III Physical Fitness Tests

AAHPER youth fitness test

National physical Fitness Test

Indiana Motor Fitness Test

JCR test

U.S Army Physical Fitness Test

Unit- IV Sports Skill Tests

Badminton Skill test

Basketball Skill test

Soccer Skill test

Volleyball Skill test

Hockey Skill test

REFERENCES:

1. Andrew and Jackson : Instructors manual, measurement, evaluation in Physical Education, Allanta Dullas, Geneva, 1981.
2. Banmgartner and Jackson : Measurement for Evaluation in Physical Education, Instructor's Manual, Houghton Mifflin Col. Boston,1975.
3. Barrow and Rosemary Mc. Gee : Practical Approach to Measurement in Physical Education, Lea and Febiger, Philadelphia,1979.
4. Bosco J.S. and F.G. William : Measurement and Evaluation Fitness and Sports, Prentice Hall, New Jersey, Inc. 1983.
5. Clarke, Harison and Clark H. David : Application of Measurements in Physical Education, Prentice Hall, Englewood Cliff, New Jersey, 1987.
6. Eckert H.M. : Practical Measurement of Physical Performance, Lea and Febiger, Philadephic,1974.
7. Garretl, H. E. and Woodward : Statistics in Psychology and Education, Greenwood Press, Westport,1966.

BPEd/III/A/HC/02 : Kinesiology & Biomechanics

Unit – I Introduction to Kinesiology and Sports Biomechanics

Meaning and Definition of Kinesiology and Sports Biomechanics
 Importance of Kinesiology and Sports Biomechanics to Physical Education
 Teacher, Athletes and Sports Coaches.
 Terminology of Fundamental Movements
 Fundamental concepts of following terms – Axes and Planes, Centre of Gravity,
 Equilibrium, Line of Gravity

Unit – II Fundamental Concept of Anatomy and Physiology

Classification of Joints and Muscles
 Types of Muscle Contractions
 Posture – Meaning, Types and Importance of good posture.
 Fundamental concepts of following terms- Angle of Pull, All or None Law,
 Reciprocal

Unit – III Mechanical Concepts

Force - Meaning, definition, types and its application to sports activities
 Lever - Meaning, definition, types and its application to human body.
 Newton's Laws of Motion – Meaning, definition & its application to sports
 activities.
 Projectile – Factors influencing projectile trajectory.

Unit – IV Kinematics and Kinetics of Human Movement

Linear Kinematics – Distance and Displacement, speed and velocity,
 Acceleration
 Angular kinematics – Angular Distance and Displacement, Angular Speed and
 velocity, Angular Acceleration.
 Linear Kinetics – Inertia, Mass, Momentum, Friction.
 Angular Kinetics – Moment of inertia, Couple, Stability.

Reference:

- Bunn, J. W. (1972). *Scientific principles of coaching*. Englewood Cliffs, N.J.: Prentice Hall Inc.
- Hay, J. G. & Reid, J. G. (1982). *The anatomical and mechanical basis of human motion*. Englewood Cliffs, N.J.: prentice Hall Inc.
- Hay, J. G. & Reid, J. G. (1988). *Anatomy, mechanics and human motion*. Englewood Cliffs, N.J.: prentice Hall Inc.
- Hay, J. G. (1970). *The biomechanics of sports techniques*. Englewood Cliffs, N.J.: Prentice Hall, Inc.
- Simonian, C. (1911). *Fundamentals of sport biomechanics*. Englewood Cliffs, N.J.: Prentice Hall Inc.
- Deshpande, S.H. ((1995) *Manav Kriya Vigyan (Hindi)*, H.V.P.Mandal, Amravati.

BPED/III/A/HC/03 : Yoga and Health Education

Unit – I Introduction of Yoga

Meaning and Definition of Yoga

Aims and Objectives of Yoga

Yoga in Early Upanisads

The Yoga Sutra: General Consideration

Need and Importance of Yoga in Physical Education and Sports

Unit - II: Foundation of Yoga

Yoga in the Bhagavadgita - Karma Yoga, Raj Yoga, Jnana Yoga and Bhakti Yoga

The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi

Effect of Asanas and Pranayama on various systems of the body

Unit – III Health Education

Concept, Dimensions, Spectrum and Determinants of Health

Definition of Health, Health Education, Health Instruction, Health Supervision

Aim, objective and Principles of Health Education

Health Service and guidance instruction in personal hygiene

Unit – IV Health Problems in India

Communicable and Non Communicable Diseases

Obesity, Malnutrition, Adulteration in food, Environmental sanitation,

Explosive Population,

Personal and Environmental Hygiene for schools

Objective of school health service, Role of health education in schools

Health Services – Care of skin, Nails, Eye health service, Nutritional service,

Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

References:

Brown, F. Y.(2000). *How to use yoga*. Delhi: Sports Publication.

- Gharote, M. L. & Ganguly, H. (1988). *Teaching methods for yogic practices*. Lonawala: Kaivalyadham.
- Shankar, G.(1998). *Holistic approach of yoga*. New Delhi: Aditya Publishers.
- Shekar, K. C. (2003). *Yoga for health*. Delhi: Khel Sahitya Kendra.
- Agrawal, K.C. (2001). *Environmental Biology*. Bikaner: Nidhi publishers Ltd.
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- Nemir, A. (n.d.). *The school health education*. New York: Harber and Brothers.
- Odum, E.P. (1971). *Fundamental of Ecology*. U.S.A.: W.B. Saunders Co.

BPEd/III/A/SC/01: Sports Entrepreneur, Marketing & Sports Management (Elective)

Unit I: Introduction to Sports Entrepreneurship

Concept of entrepreneurship, innovation and knowledge management in sports.
Business Planning Process - The business plan as an entrepreneurial tool
Elements of Business Plan, Objectives, Market Analysis, Development of product / idea, Marketing, Finance, Organisation & Management, Ownership, Critical risk contingencies of the proposal, Scheduling and milestones, Value proposition, Business Model Canvas and Drafting Business Proposal for Funding Agency.

Unit II : Introduction to Sports Marketing

The Four Domains of Sports Marketing, Marketing Through Sports ,
Marketing concepts – traditional and modern; Selling vs. marketing; Marketing mix; Marketing environment.

Sponsorship: Introduction , Sponsorship: Developing and Selling the Proposal

Unit II. Management of Physical Education and sports

Meaning, Need and scope of management of Physical Education

Principles of Sports Management

Construction, marking and maintenance of play grounds, track & field, gymnasium, swimming pool and athletic track

Unit IV: Organization of co-curricular activities and Physical Education programmes.

Physical Education Budget : Need, Importance, procedure and principles of budget making,

Physical Education and sports programmes for - Primary, secondary and higher secondary School for sports awareness – demonstration, play days, sports rallies, sports exhibitions

Organization of National days (15th August & 26th January)., Organization of mass competition, sports day, hiking, trekking, Scout and Guide Camp and picnics

Ceremonies of competition – Opening, closing and victory

References:

- Sports Marketing By Melissa Jane Johnson Morgan Jane
- Small Business, Entrepreneurship and Enterprise Development. Harlow: Pearson Education.
- Broyles, F. J. & Robert, H. D. (1979). *Administration of sports, Athletic programme: A Managerial Approach*. New York: Prentice hall Inc.
- Business-Model-Generation-Visionaries-Challengers
- Bucher, C. A. (1983). *Administration of Physical Education and Athletic programme*. St. Louis: The C.V. Mosby Co.
- Earl, F. Z, & Gary, W. B. (1963). *Management competency development in sports and physical education*. Philadelphia: W. Lea and Febiger.
- Kozman, H.C. Cassidy, R. & Jackson, C. (1960). *Methods in Physical Education*. London: W.B. Saunders Co.
- Pandey, L.K. (1977). *Methods in Physical Education*. Delhi: Metropolitan Book Depot

BPEd/III/A/SC/02: Professional Preparation in Physical Education (Elective)

UNIT I: Foundation of Professional Preparation

- 1.1 Meaning of Professional
- 1.2 Components of Professional Preparation.
- 1.3 Contribution of physical education in attaining ideals of Indian democracy.
- 1.4 Forces and factors affecting educational policies and Programme.

UNIT-II Historical Perspective

- 2.1 Historical review of Professional Preparation in India.
- 2.2 Professional courses being offered in professional preparation colleges in India.
- 2.3 Professional Preparation in Physical Education in USA, USSR and UK.
- 2.4 Beginning of Professional Preparation in the world.

UNIT-III Under-Graduate preparation of professional personnel.

- 3.1 Purposes, Admission Requirements of Undergraduate preparation.
- 3.2 Theory, Teaching practice and practical.
- 3.3 Professional competencies to be developed.
- 3.4. Post-Graduate Preparation.
- 3.5 Purposes & Admission requirements.
- 3.6 Methods of instruction.
- 3.7 Professional relations.

UNIT-IV Teacher and Teaching

- 4.1 Teaching as a career.
- 4.2 Basic Qualities of a successful teacher.
- 4.3 Preparation of the specialized physical education teacher.
- 4.4 Types of teaching jobs.
- 4.5 Types of non-teaching jobs.

Reference

- 1) A Professional Career in Physical Education. (Englewood Cliffs, N.J. Prentice Hall, Inc. 1963.)
- 2) Jensen, R. Clayne, Administrative Management of Physical Education and Athletic Programmes. (Philadelphia Lea and Febiger, 1983.)
- 3) Snyder and Scott. Professional Preparation in Health, Physical Education and Recreation. (Connecticut, Greenwood press, Westport, 1971).
- 4) Bucher, C.A Foundations of Physical Education (Saint Louis) : The C.V. Mosby Company, 1975), Ed. 7.
- 5) Aahper publication: Professional Preparation in Dance, Physical Education Recreation Education Safety Education and School health Education, Washington, Aahper pub.1974
- 6) Borozne Joseph & Pechar Stanley: Administration & Supervision for Safety in sports, Washington, Aaphper pub. 1977.
- 7) Aahper pub: Profession preparation in Safety Education and School health Education, Washington Aahper Pub.1974.

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Semester IV

BPEd/IV/ A/HCS/01: ports Medicine, Physiotherapy and Rehabilitation

Unit – I Sports Medicine

Meaning and concept of sports medicine
 Aim and objective of sports medicine
 Role of Sports trainers and physician in team

Unit-II Common Sports injuries

Types of sports injuries and their causes
 Common regional injuries and their management – shoulder, elbow, wrist, knee and ankle
 Low back problem cause, symptom and its management in sports
 First aid – meaning and its concepts
 Athletic bandage and massage – Its classification, indications & contra-indications, general principles of massage

Unit – III Athletic Care and Rehabilitation

Meaning of Physiotherapy and Rehabilitation
 Diagnosis of injuries – signs and symptoms of injuries
 Different forms of Hydrotherapy and Thermotherapy – hot and cold packs, whirlpool, contrast bath, infrared, short wave diathermy and ultrasound

Unit – IV Drugs and Doping

Meaning of drugs and doping
 Wada and Nada
 Types of doping and its advantage and disadvantage
 Types of dope test

References:

- D. (1979). A Christine, M. D., (1999). *Physiology of Sports and Exercise*. USA: Human Kinetics.
- Conley, M. (2000). *Bioenergetics of Exercise Training*. In T.R. Baechle, & R.W. Earle, (Eds.), *Essentials of Strength Training and Conditioning* (pp. 73-90). Champaign, IL: Human Kinetics.
- David, R. M. (2005). *Drugs in Sports*, (4th Ed). Routledge Taylor and Francis Group.
- Gupta, A. P. (2010). *Anatomy and Physiology*. Agra: Sumit Prakashan.
- Gupta, M. and Gupta, M. C. (1980). *Body and Anatomical Science*. Delhi: Swaran Printing Press.
- Guyton, A.C. (1996). *Textbook of Medical Physiology*, 9th edition. Philadelphia: W.B. Saunders.
- Hunter, M. *dictionary for physical educators*. In H. M. Borrow & R. McGee, (Eds.), *A Practical approach to measurement in Physical Education* (pp. 573-74). Philadelphia: Lea &Febiger.
- Karpovich, P. V. (n.d.). *Physiology of Muscular Activity*. London: W.B. Saunders Co.

BPEd/IV/A/HC/02: Research and Statistics in Physical Education

Unit-I Introduction to Research

Definition of Research

Need and importance of Research in Physical Education and Sports.

Scope of Research in Physical Education & Sports.

Classification of Research

Research Problem, Meaning of the term, Location and criteria of Selection of Problem, Formulation of a Research Problem, Limitations and Delimitations.

Unit-II Survey of Related Literature

Need for surveying related literature.

Literature Sources, Library Reading

Research Proposal, Meaning and Significance of Research Proposal.

Preparation of Research proposal / project.

Research Report: A group project is to be undertaken by a small batch of students under the supervision of a teacher, wherein it is expected to survey school facilities of physical education, health assessment, programme evaluation, fitness status of the students, staff and other stakeholders etc. and submit the report to the institution.

Unit-III Basics of Statistical Analysis

Statistics: Meaning, Definition, Nature and Importance

Class Intervals: Raw Score, Continuous and Discrete Series, Class Distribution, Construction of Tables, Graphical Presentation of Class Distribution: Histogram, Frequency Polygon, Frequency Curve. Cumulative Frequency Polygon, Ogive, Pie Diagram

Unit- IV Statistical Models in Physical Education and Sports

Measures of Central Tendency: Mean, Median and Mode-Meaning, Definition, Importance, Advantages, Disadvantages and Calculation from Group and Ungrouped data

Measures of Variability: Meaning, importance, computing from group and ungroup data

Percentiles and Quartiles: Meaning, importance, computing from group and ungroup data

References:

- Best, J.W. (1963). *Research in education*. U.S.A.: Prentice Hall.
- Bompa, T. O. & Haff, G. G. (2009). *Periodization: theory and methodology of training, 5th ed.* Champaign, IL: Human Kinetics.
- Brown, L. E., & Ferrigno, V. A. (2005). *Training for speed, agility and quickness, 2nd ed.* Champaign, IL: Human Kinetics.
- Brown, L.E. & Miller, J., (2005). *How the training work*. In: Training Speed, Agility, and Quickness. Brown, L.E. & Ferrigno, V.A & Ferrigno, V.A., eds. Champaign, IL: Human Kinetics.
- Thomas, J.R., & Nelson J.K. (2005). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.
- Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2011). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.
- Uppal, A. K. (1990). *Physical fitness: how to develop*. New Delhi: Friends Publication.
- Verma, J. P. (2000). *A text book on sports statistics*. Gwalior: Venus Publications.