

- 1 -

ORDINANCE

**MASTER OF PHYSICAL EDUCATION & SPORTS (M.P.E.S)- Four Semester Course
(w.e.f. Session 2019-2020)**

Applicability of Regulations for the Time Being in Force

Notwithstanding the integrated nature of a course spread over more than two academic years, the regulations in force at the time a student joins a course shall hold good only for the examinations held during or at the end of each semester. Nothing in these regulations shall be deemed to debar the University from amending the regulations subsequently and the amendment regulations, if any, shall apply to the entire student whether old or new.

1. Duration of Programme:

The duration of the course shall be two academic years, divided into four semesters.

2. Reservation:

The reservation policy of the Government of Haryana, as amended from time to time, for admission to government/government-aided educational institution shall be followed.

3. Intake:

There shall be a basic unit of Fifty students for each year.

4. Eligibility:

Candidates who have obtained at least 45% (42.5% for SC/ST) marks in the B.P.Ed. four years integrated degree/ B.P.E.S/B.P.E/B.Sc. degree in Physical Education, Health Education and sports or equivalent degree are eligible for admission.

5. The examination for the degree of Master of Physical Education & Sports (M.P.E.S) shall be held in four semesters to be called Semester-I, II, III and IV. The examination for the I and III semester shall be held in the month of November/ December and for the II and IV semesters in the month of April/May or on such other dates as may be fixed by University.

6. The last dates by which admission forms and fees for Semester-I, II, III and IV examination should reach to the Controller Examination, C.R.S.U., Jind on dates as notified from time to time. No examination form will be accepted after the notified date.

7. The candidate will be required to pay examination fees as prescribed by the University from time to time.

8. The medium of examination, including writing of dissertation will be English/Hindi.

9. The examination will consist of papers according to syllabus as prescribed by the concerned Board of Studies.
10. The selection of Dissertation in Semester-III can be availed only by those students who have secured at least 60% marks in theory in Semester-I and II.
11. The title of the dissertation has to be approved by the Board of Studies in Physical Education on the recommendation of the Principal/Head of the Department subject to the following conditions:
 - (i) When a candidate has failed in the examination but has obtained pass marks in the dissertation, the marks obtained in the dissertation may be carried forward at his selection for the subsequent years.
 - (ii) Fee for submission of dissertation will be as prescribed by the University from time to time.
 - (iii) Receipt of dissertation in the office of the Head of the Department/Principal shall be one month before the commencement of the theory examination of semester four; in exceptional cases, the Vice Chancellor shall have the power to extend, on the recommendation of the Principal/Head of the Department, the last date for receipt of thesis.
12. Each candidate who has got admission in the programme and opted dissertation in third semester shall have to complete dissertation work under the supervision of allotted supervisor. The viva-voce of dissertation and field work will be conducted jointly by the internal and external examiners and marks will be awarded jointly by the internal and external examiners.
13. The marks required to pass the examination shall be 40% marks in internal assessment in each paper separately in theory and practical and 40% in aggregate of internal, external, theory and practical.
14. There shall be internal and external examination (assessment). The relative weightage of internal and external assessments of each theory paper shall be 20% and 80% respectively.



15. The break-up for internal assessment shall be as follows:

Criteria of awarding internal assessment (20 marks)

Sr. No.	Criteria	Marks
1.	One assignment in each paper	5 Marks
2.	One test in each paper	5 Marks
3.	One seminar/presentation in each paper	5 Marks
4.	Attendance	5 Marks
	Below 75%	0 Marks
	Up to 80%	2 Marks
	Up to 85%	3 Marks
	Up to 90%	4 Marks
	Above 90%	5 Marks


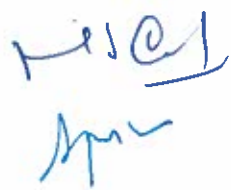
16. The question papers shall be set both in English and Hindi Languages.

17. There will be no condition of passing papers for promotion from odd semester to even semester in an academic session. To qualify for admission to Semester-III of the course, the candidate must have **Passed 50% of total papers of two Semesters in the first year.** However, students have to attend classes in each semester as per the criteria given below:

The Chairperson of the Department/Principal of the college/Director of the course may condone shortage upto 15% lectures in a subject/paper and upto 5% in practicals/tutorials in each subject/paper. These shall also include loss of attendance due to participation in cultural and sports assignments etc. Provided that a student who represents CRSU, jind in the Inter-university Sports Tournaments/Inter University Youth Festivals shall be allowed additional condonation on this ground upto 10% in each paper on a certificate from the Director of Physical Education & Sports or the Director, Youth and Cultural Affairs Department, as the case may be, subject to the condition that such a student shall not be allowed to appear in the examination if his attendance, after condonation on all counts, falls below 50%.

18. If a student fails to attend classes continuously for seven teaching days his/her name shall be struck off from the rolls. He/she may get readmission with the permission of the chairperson/principal with in the seven working days of striking of the names with a readmission fees of Rs. 1000/-. The student may be readmitted twice in an academic year. However, if the name of student struck off third time in an academic year his/her admission shall be cancelled de-novo.

19. A Candidate placed under reappear in any paper, will be given two chances to clear the reappear, which shall be available within consecutive two years/chances i.e. to pass in a paper the candidate will have a total of three chances. One as regular student

3



and two as reappear candidate. In case of reappear in external examination, the internal assessment marks shall be carried forward.

Provided that he/she shall have to qualify in all the papers prescribed in M.P.E.S course within a period of three years from the date he/she joined the course. In case he/she fails to do so within the prescribed period of three years as aforesaid he/she shall be declared fail and his admission shall be cancelled.

20. The examination of reappear papers of Odd Semester will be held with regular examination of the Odd Semester and reappear examination of the Even Semester will be held with regular examination of Even Semester. In case a candidate is placed under re-appear in third (odd) semester, he/she will be given chance to re-appear in the fourth semester. But if a candidate is placed under reappear in the last semester of the course, he will be provided chance to pass the reappear with the examination of the Next Semester. It is understood that a reappear or failed candidate shall be allowed to take the examination in papers not cleared by him according to the date sheets of the semester examinations in which such papers may be adjusted.
21. After completing two years of studies (i.e. Four Semester Course); he/she shall not be admitted to any semester of the same course and will not have any privilege of a regular student.
22. The examination shall be open to any person who satisfies the following requirements:
 - i. has been on the rolls of the University/College throughout the academic year preceding the Part-I i.e. Semester-I & II examination.
 - ii. has his name submitted to the Registrar by the Head of the Department/Principal of the College having attended not less than 75% of the total number of lectures delivered in each paper and 75% of the lectures held in Practical Work/ Activities in each paper during the academic year.
 - iii. In case a candidate could not appear in the Sessional Examination owing to unavoidable circumstances or fails to secure the marks indicated and desires to appear in the University Examination as a regular student, the Head of Department / Principal may at his discretion hold a special test for the candidate(s).
23. The grace marks shall be allowed according to the General Ordinance relating to "Award of Grace Marks" of the university.

24. Students undergoing a Two Year Master Course shall be awarded the Master of Physical Education & Sports (M.P.E.S.) Degree on the basis of their combined score of Semester –I, II, III and IV examination.

University Gradation norms on percentage performance bases are as under:

- | | | |
|-------|---------------------------------|--------------|
| (i) | First Division with Distinction | 75% & above |
| (ii) | First Division | 60% & above |
| (iii) | Second Division | 50% to 59.9% |
| (iv) | Third Division | Below 50% |
| (v) | Fail | Below 40% |

25. A candidate who has passed Master of Physical Education & Sports (M.P.E.S) Examination from this university may be allowed to re-appear as a private candidate for improving his/her division/score of marks as under

i) The candidates who have passed the semester I, II, III and IV of the M.P.E.S degree examination of this university and who desire to improve their marks will be permitted to appear only for theory (external) examination within a period of three years from the date of their appearance at M.P.E.S. examination.

ii) Only one chance will be given to the candidate for each semester for improvement of performance. Such a candidate shall have to submit separate admission form and fee for each part. Such a candidate shall be allowed to appear in Semester Examination.

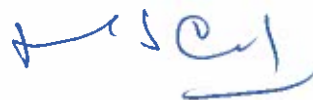
iii) The result of such a candidate shall be declared only if the candidate improves his division/score, otherwise his result will be declared P.R.S. (Previous Result Stands).

26. Teaching (Skill and Prowess) activities for each game or athletics events will be of 21 days each. *in each semester.*

27. Married female selected candidates shall have to submit a certificate from SMO/MO of the Civil Hospital that she is not in family way, along with an undertaking that if during the course of study, it is found that she is in family way, her admission would be liable to be cancelled IPSO-FACTO and all dues paid by her shall be forfeited.

28. **Interpretation and Amendments:**

The ordinances may be amended by the academic council and the amended ordinance, if any, shall be applicable to all the students whether old and new. Where this ordinance remains silent, the decision of the Vice-Chancellor shall be final.





- 7 -

Scheme of Examination for M.P.E.S. w.e.f. Session 2019-2020

PART – A	Theory Papers	2000 Marks
PART – B	Skill and Prowess	800 Marks

Total – 2800 Marks

M.P. E.S.- (Semester-I)

Theory Marks: 500

Practical Marks: 200

Total Marks : 700

Part-A

Paper code	Paper	External	Internal	Total
MPEST-101	Introduction to Research Methodology	80	20	100
MPEST- 102	Exercise Physiology	80	20	100
MPEST-103	Kinesiology	80	20	100
MPEST-104	Sports Training	80	20	100
MPEST-105	Measurement and Evaluation in Physical Education	80	20	100
			Total	500

Part-B Skill and Prowess

Game

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-201	Basketball/Volleyball/ Kho Kho/ Badminton	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student have to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-202	Sprints/Triple Jump/Shot Put	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student have to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for Games & Athletics:

- a) Historical development of the concerned game/track and field event.
- b) Main tournaments organized at National and International level.

- 2
- c) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
 - d) Awardees in the game/athletics.
 - e) Books and magazines of the game /track and field.
 - f) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.
 - g) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

M.P.E.S. (Semester-II)

Theory Marks: 500
Practical Marks: 200
Total Marks : 700

Part-A

Practical Code	Paper	External	Internal	Practical (External)	Total
MPEST-106	Statistics in Physical Education	80	20	-	100
MPEST-107	Research Methods in Sports	80	20	-	100
MPEST-108	Science of Coaching	80	20	-	100
MPEST-109	Health and Wellness	80	20	-	100
MPEST-110	Computer Application in Physical Education	60	20	20	100
				Total	500

Part-B Skill and Prowess Game

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-203	Gymnastic/Football / Softball/ Gym Training	Fundamentals, Rules and Regulations and Measurements of Field	20	80
	Picnic	Institute should organize picnic for students		

Note: Student have to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment

MPESP-204	Discus Throw/Long Jump/ Hammer Throw	Fundamentals, Rules and Regulations and Measurements of Fields	20	80
------------------	--	--	----	----

Note: Student have to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for games & athletics.

- a) Historical development of the concerned game/track and field event.
- b) Main tournaments organized at National and International level.
- c) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- d) Awardees in the game/athletics.
- e) Books and magazines of the game /track and field.
- f) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.
- g) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

M.P.E.S. Semester -III

Theory Marks: 500
Practical Marks: 200
Total Marks : 700

Part-A

Paper Code	Paper	External	Internal	Practical	Total
MPEST-111(A)/ 111(B)	Dissertation* /Yoga	80 (50Research Report 30 Viva Voce)	20	-	100
MPEST- 112	Anthropometry	60	20	20	100
MPEST-113	Foundation of Sports Psychology	80	20	-	100
MPEST-114	Sports Management	80	20	-	100
MPEST-115	Sports Medicine	60	20	20	100
				Total	500

Note : * Students who will select dissertation paper in semester-III will submit two copies of their research report through their respective Principal to Head, Dept of Physical Education , Chaudhary Ranbir Singh University, Jind. The viva voce of the student will be conducted in the Dept. of Physical Education, Chaudhary Ranbir Singh University, Jind.

8

[Handwritten signatures]

- 16 -

Part-B Skill and Prowess

Game

Practical Code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-205	Handball/Swimming/Wrestling/Tennis	Fundamentals, Rules and Regulations and Measurements of Fields	20	80
	Leadership Training Camp	One camp for students related to leadership qualities development has to be organized by the concerned institute under the aegis of government or semi-government body and certificate for this has to be issued to the participants (atleast for 3 days)		

Note: Student have to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-206	High Jump/Javelin Throw/Hurdles	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student have to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for games & athletics.

- a) Historical development of the concerned game/track and field event.
- b) Main tournaments organized at National and International level.
- c) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- d) Awardees in the game/athletics.
- e) Books and magazines of the game /track and field.
- f) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.
- g) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

9




M.P.E.S.- (Semester-IV)

Theory Marks: 500
Practical Marks: 200
Total Marks : 700

Part-A

Paper Code	Subjects	External	Internal	Practical	Total
MPEST-116	Biomechanics	80	20	-	100
MPEST- 117	Applied Psychology	60	20	20	100
MPEST-118	Teaching Pedagogy and Curriculum Design	80	20	-	100
MPEST-119	Sports Journalism	80	20	-	100
MPEST-120	Theory of Athletics	80	20	-	100
				Total	500

Part-B : Skill and Prowess

Game

Practical Code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-207	Kabaddi/ Cricket/ Table Tennis	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student have to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-208	Marking of Athletic Track	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Contents to be covered for games & athletics.

- h) Historical development of the concerned game/track and field event.
- i) Main tournaments organized at National and International level.
- j) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- k) Awardees in the game/athletics.
- l) Books and magazines of the game /track and field.
- m) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.

Handwritten signatures and marks at the bottom of the page, including a large signature in the center and smaller marks on either side.

iv) Duties of the concerned officials.

n) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

11
Chang

11/10/21
SPL

- 13 -

M.P. E.S.- (Semester-I)

Theory Marks: 500

Practical Marks: 200

Total Marks : 700

Part-A

Paper code	Paper	External	Internal	Total
MPEST-101	Introduction to Research Methodology	80	20	100
MPEST- 102	Exercise Physiology	80	20	100
MPEST-103	Kinesiology	80	20	100
MPEST-104	Sports Training	80	20	100
MPEST-105	Measurement and Evaluation in Physical Education	80	20	100
			Total	500

**Part-B Skill and Prowess
Game**

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-201	Basketball/Volleyball/ Kho Kho/ Badminton	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student has to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-202	Sprints/Triple Jump/Shot Put	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student has to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for Games & Athletics:

- h) Historical development of the concerned game/track and field event.
- i) Main tournaments organized at National and International level.
- j) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- k) Awardees in the game/athletics.
- l) Books and magazines of the game /track and field.
- m) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.

n) Fundamental skills /Techniques.
Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

Chung

H.S.O.S

gunc

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT-I

- 1. **Introduction to Research:** Science and scientific method; Research - definition, the process, importance, nature and types.
- 2. **Qualities and Characteristics:** Qualities and Characteristics of good research and good researcher; Need and scope of research in physical education and sports.
- 3. **Research Problem:** Definition of and developing a research question; Identifying, locating and selecting a research problem; Characteristics of a good research problem.

UNIT-II

- 1. **Research Proposal:** Structure of research proposal and methodology of preparing research proposal.
- 2. **Literature Review:** Purpose and importance of literature review.
- 3. **Basic literature search strategies:** Steps in literature search; writing literature review.

UNIT-III

- 1. **Hypothesis:** Definition, importance and types of hypothesis: Formulating and stating hypothesis; Characteristics of a good hypothesis; Testing the hypothesis.
- 2. **Sampling:** Defining population and sample and their characteristics; Sampling theory; Importance of sampling.
- 3. **Technique and Designs:** Sampling techniques; Sampling designs; Sample size.

UNIT-IV

- 1. **Data Collection Tools:** Its Use and Importance in Research.
- 2. **Questionnaire:** types of questionnaire; constructing and administering a questionnaire; questionnaire standardization procedure.
- 3. **Interview:** planning interview, preparing question schedule, conducting interview, summing up.
Observation: observational procedure, recording observation i.e. check list, score card and Rating Scale.

References

- Best, W. J. & Kahn, J.V. (1998). *Research in Education*. USA: Allyn and Bacon publisher.

- Clarke, H. (1958). *David Research Processes in Physical Education Recreation & Health*. New Delhi: Prentice-Hall of India Pvt. Ltd.
- John W. Best (1959). *Research in Education*. USA: Prentice-Hall, INC. Englewood Cliffs, N.J.
- Kamlesh, M.L. (2014). *Methodology of Research in Physical Education and Sport (4th ed.)*. New Delhi: Sports Publication.
- Kothari, C. R. (2004). *Research methodology methods & techniques (2nd ed.)*. New Delhi: New Age International Publishers.
- Koul, L. (2002). *Methodology of Educational Research*. New Delhi: Vikas Publishing House.
- Lipman, H. (2009). *Sports Research*. India: Friends Publications.
- Sharma, Y. P. (1997). *Physical Education and Research Methodology*. New Delhi: Reliance Publishing House.
- Shinde, B.S. (2011). *Research Methods in Physical Education*. New Delhi: Sports Publication.
- Sivaramakrishnan, S. (2004). *Research Methods in Physical Education*. India: Friends Publications.
- Thomas, J.R., Nelson, J. K. & Silverman, S.J. (2001). *Research Methods in Physical Activity (6th ed.)* United State of America: Human Kinetics.
- Yobu (2008). *Research Process in Physical Education and Sports*. New Delhi: Friends Publications.

Paper Code -MPEST-102
EXERCISE PHYSIOLOGY

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

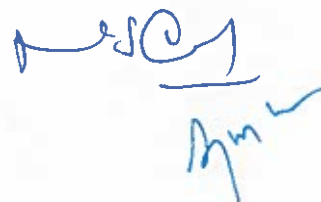
- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

Unit-I

1. **Exercise Physiology:** Meaning, Nature, Scope and Importance of Exercise Physiology in Games and Sports.
2. **Energy Source:** Adenosine tri-phosphate (ATP), Sources of ATP system, (Anaerobic Glycolysis (acid system), Aerobic Glycolysis cycle, The Aerobic and Anaerobic systems during rest and Exercise.
3. **Energy Production:** Carbohydrate Metabolism, Fat Metabolism & Protein Metabolism.

Unit-II

15

1. **Recovery Process:** Introduction, Restoration of Muscle Phosphagen Stores, Replenishment of Myoglobin with Oxygen, Restoration of Muscle Glycogen, Removal of Lactic Acid from Muscle and Blood.
2. **Exercise and Systems:** Effect of Exercise on Respiratory and Cardiovascular.
3. **Exercise and Environment:** Effect of exercise on Hot, Cold and High Altitude.

Unit-III

1. **Neurons:** motor unit and Bio-Electric Potentials, Neuro-Muscular Junction and Transmission of Nerve Impulse, Kinesthetic Sense Organs and Neural Control of Motor Skills.
2. **Muscle movement mechanism:** Sliding filament theory.
3. **Exercise and Systems:** Effect of Exercise on Hormonal and muscular.

Unit-IV

1. **Ergogenic Agents:** Pharmacological agents (Alcohol, Amphetamines, Caffeine, Cocaine, Diuretics, Morphine) Hormonal Agents (Anabolic steroids, Human Growth Hormone) Doping and its types, Blood doping, Oxygen supplementation, carbohydrate loading, phosphate loading, balanced diet and its components, nutritional deficiencies, understanding of malnutrition and nutritional supplements for athletes.
2. **Exercise and Aging:** Physiological changes, Training adaptation in aged, Guidelines for constructing exercise programme, healthing aging.
3. **Exercise and Females:** Physiological gender differences, Physical trainability and Gynecological disorders

References

- Adams M. (1998). *Gene Exercise Physiology: Laboratory Manual*. New York: WCB McGrew-Hill Companies, Inc.
- Ahuja, V. M. (2005). *Text Book of Physiology*. India: Modern Publishers.
- Astrand, P.O. & Karre, R. (1979). *Text Book of work Physiology*. Tokyo: Mc Graw. Hill Xogakusha, Ltd.
- Bourne, G. H. (1973). *The Structure and Function of Muscles*. London: Academic Press.
- Frank, M. C. & Kalas, V. (2005). *Molecular and cellular exercise physiology*. New Zealand: Human Kinetics, Devision of sports distributory Nz Ltd.
- Jack, W.H.& Costill L. P.(2004). *Physiology of Sports and Exercise*. USA: Human Kinetics.
- Karpovich, P.V. & Sinning, W. E. (1971). *Physiology of Muscular Activity (7th Edition)*. Philadelphia: W.B. Saunders Company.
- Katch L. V., Katch I. F. & William, M. D. (1996) *Exercise Physiology*. Philadelphia: Williams & Wilkins, A Waverty Company.
- Majumdar, P. (2011). *Physiology of Sports and Exercise*. India: New central Book Agency (P).
- Mathew. D.K. and Fox, E.L. (1980). *Physiological Basis of Physical Education and Athletics*. Philadelphia: W.B. Saunders Company.
- McArdle, W. D., Katch, F. I. & Katch, V. L. (2010). *Exercise Physiology: Nutrition, Energy and Human Performance (7th ed.)*. London : Lippincott Williams & Wilkins.
- Morehouse, L. E. & Miller, A.T. (1980). *Physiology of Exercise*. Missouri: St. Louis Mousby Company.

Handwritten signatures and marks at the bottom of the page, including a signature on the left and a large scribble on the right.

- Robert, R.A. & Scott, R.O. (2000). *Fundamental Principles of Exercise Physiology*. New York: Mc. Grew Hill Companies, Inc..
- Rowland, T. W. (1996). *Development Exercise Physiology*. Champaign (USA): Human Kinetics.
- Shaver, L. G. (1982). *Essentials of Exercise Physiology*. Delhi : Surjeet Publications.
- Tipton, C.M. (2003). *Exercise physiology*. New York City: Springer Publishing Company.
- Tiwari, S.(1999). *Exercise Physiology*. Delhi: Sports publication Ashok Vihar,.

Paper Code -MPEST-103
KINESIOLOGY

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

1. **Kinesiology:** Meaning, Need & importance of Kinesiology in Physical Education and sports.
2. **Bones and Joints:** Structure of bones, types of bones, Types and structure of Joint, Planes and Axis, Kinds of joint movement.
3. **Skeletal Muscles:** Microscopic Structure of muscles, Factors effecting Muscle strength, Muscle Name.

UNIT-II

1. **Muscles:** Structural classification of muscles, characteristics of muscle tissue, muscles fiber types, reciprocal innervation, all or none law, Types of muscles contraction, Role of muscles, Angle of pull, Two-joint muscles, Reflex-action, Muscle tone.
2. **Shoulder Girdle:** Structure, bones. Ligaments and Movements. Muscles: (Structure, origin, Insertion, Innervations, Action), Pectorals minor, Serratus anterior, subclavius, trapezius, Rhomboid, Levator scapula.
3. **Shoulder joint:** Structure, bones, ligaments and Movements. Pectorals major, subscapularis, deltoid, supraspinatus, latissimus dorsi, Teres major, infraspinatus, Teres minor.

UNIT-III

- 1 **Elbow joint:** structure, bones, ligaments and movements. Muscles: (Structure, origin, insertion, Innervations, Action) Biceps Brachii, Brachialis, Brachioradialis, Pronator Teres, Pronator Quadratus, Triceps brachii.

- 2 **Radio-ulnar joint:** structure, bones, ligaments and movements. Muscles: (Structure, origin, insertion, Innervations, Action) Biceps Brachii, Brachialis, Brachioradialis, Pronator Teres, Pronator Quadratus, Triceps brachii.
- 3 **Hip joint :** Bones, Joints, ligaments and Movements. Muscles: (Structure, origin, insertion, Innervations, Action) Iliopsoas, Sartorius, Rectus Femoris, Gluteus Medius, gluteus minimus, tensor fascia latae, gluteus maximus, Biceps Femoris, Semimembranosus, Semi-Tendinosus, adductor group.

UNIT-IV

- 1 **Ankle Joint:** Bones, joints, ligaments and movements
Muscles(Structure, origin , insertion , Innervations, Action) Vastus group, Gastrocnemius, Soleus, Peroneus Group, extensor digitorum longus, Extensor hallucis longus, Tibialis anterior, Tibialis Posterior.
- 2 **Knee Joint:** Bones, joints, ligaments and movements Muscles(Structure, origin , insertion , Innervations, Action) Vastus group, Gastrocnemius, Soleus, Peroneus Group, extensor digitorum longus, Extensor hallucis longus, Tibialis anterior, Tibialis Posterior.
- 3 **Kinesiological Analysis:** Principles and Analysis of following movement (Throwing, Striking, Jumping Squat, Dead Lift).

References

- Bindal , V.D.(2018). *Textbook of Kinesiology*. India: Jaypee Brothers Medical Publishers.
- Brower, M. R. (1978). *Efficiency of Human movements*. Philadelphia ,W.E.Saunders Company.
- Floyed, R. T. & Clem W. T. (2006). *Manual of structural Kinesiology*. Boston: Mc Graw Hill.
- Hamilton, N. & Lutgens, K. (2002). *Kinesiology Scientific Basis of Human Motion (10th ed.)*. America: McGraw-Hill.
- Hoffman, S. J. (2009). *Introduction to Kinesiology: Studying Physical Activity*. United States of America: Human Kinetics,
- Houglum, P. A. & Bertoti, D. B. (2012). *Brunstrom's Clinical Kinesiology*. India: Jaypee Brothers Medical Publishers.
- Kahari, W. & Kathryn, F. I. (1992). *Kinesiology Scientific basic of Human Motion (8th ed.)*. Philadelphia: Sunder Publishing.
- Khan, S. A. (2010). *Synopsis of Muscle Testing*. CBS Publishers: India.
- Lippert, L.S. (2002). *Clinical Kinesiology for Physical Education (3rd ed.)*. India: Jaypee Brothers Medical Publishers.
- Muscolino, J. E. (2006). *Kinesiology: The Skeletal System and Muscle Function*. United States: Mosby Elsevier.
- Muscolino, J. E. (2008). *The Muscle and Bone Palpation Manual with Trigger Points, Referral Patterns and Stretching*. United States: Elsevier Health Sciences.
- Muscolino, J. E. (2013). *Know the Body: Muscle, Bone, and Palpation Essentials - E-Book*. United States: Elsevier Health Sciences.
- Rasch, P. J. & Burk, R. K. (1995). *Kinesiology & Applied Anatomy*. Philadelphia: Lee & Febiger.
- Scott.M.G. (1970). *Analysis of human Motion*. New York: Meredith Publishing Company.
- Wells, K. (1984). *Kinesiology*. Philadelphia : W.B. saunders Company.

- 20 -
Paper Code -MPEST-104
SPORTS TRAINING

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

Unit-I

- 1 **Sports Training:** Meaning, Aims, Characteristics, Need and Principles.
- 2 **Training Load:** Meaning, Characteristics, Principles, Symptoms, Causes and tackling of overload.
- 3 **Recovery:** Recovery Phases, Means of Recovery and Factors Affecting Recovery.

Unit-II

- 1 **Methods of Training:** Importance, Principles, Types of training - Weight training, Circuit training, Interval training, Fartlek training, Cross-Country and Plyometric training.
- 2 **Training means and methods:** Types, Classification of Physical Exercise, Basic Methods of Conditioning.
- 3 **Muscular Adaptations to Aerobic and Anaerobic training:** Fiber Composition, Oxygen Delivery, Energy Production.

Unit-III

- 1 **Flexibility:** Meaning, Importance, Types, Factors determining them, Methods of training and precautions.
- 2 **Coordinative abilities:** Meaning, importance, types, factors determining Coordinative abilities, methods of training and precautions.
- 3 **Strength:** Types, Factors Determining Strength, Importance, Methods of training and Precautions.

Unit-IV

- 1 **Endurance:** Meaning, Types, Factors Determining Endurance, Importance, Methods of training and Precautions.
- 2 **Speed:** Meaning, Factors Determining Speed, importance, Methods of training and precautions.
- 3 **Agility:** Meaning, Factors Determining Agility, importance, Methods of training and precautions

References

- Beith, P., Remedios, R. D., Smith, B., Livesey, P., Taft, J.L., Feit, A., Fleming, W., Boyle, M., Gleason, D. & Wentworth, S. (2018). *Complete Sports Training: Speed, Strength and Conditioning for Today's Athlete*. Lubbock: Chaplain Publishing, LLC.

19





- Dabas, S. (2016). *Theory of Scientific Sports Training*. New Delhi: Sports Publication.
- Dick, F. W. (1980). *Sports Training Principles*. London: Lepus Birkst.
- Donald, A. C. (1972). *Jumping into Plyometrics*. USA: Publisher Champaign, Ill. : Leisure Press.
- Frank, W. D. (2002). *Sports Training Principles (4th ed.)*. London: A & C Black Publishers.
- Jenson, R. & Fisher, A. G. (1979). *Scientific basis of Athletic conditioning*. Philadelphia: Lea and Febiger Publisher
- Mathew, D. K. and Fox, E. L. (1980). *The Physiological basis of Physical Education and Athletics*. Philadelphia: W.B. Saunders Company.
- Matveyev (1981). *Fundamentals of Sports Training (Translation from Russian)*. Moscow: Mir Publishing.
- Satyanarayana, V. (2016). *Sports Training*. New Delhi: Sports Publication.
- Shepherd, J. (2007). *Sports Training: The Complete Guide*. Canada: Firefly Books Publisher.
- Singh, A. B. & Qureshi, D. R. (2012). *Encyclopedia of Sport straining*. New Delhi: Sports Publication.
- Singh, H. (1995). *Science of coaching*. New Delhi: D. V.S. Publications.
- Thomas, R. and Baechle (1972). *Essentials of Strength training and conditioning*. Philadelphia: Lea and Febiger Publisher.
- Uppal, A.K. (2013). *Scientific basis of Sports Conditioning*. New Delhi: Friends Publications.

Paper Code –MPEST-105

MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- There shall be **nine** questions in all.
- First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- Rest of the paper shall contain four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT – I

- Test, Measurement and Evaluation:** Meaning, Scope and Importance.
- Methods:** Common Methods of Test & Measurement in the Field of Physical Education and Sports.
- Modern Trends:** History and Modern Development in Physical Education Measurements.

UNIT – II

- Test:** Classification of tests, Criteria of a good test: Validity, Reliability, Objectivity, Economy, Standard and Norms, Levels of Measurement, Types and Principles of Evaluation.

2. **Construction of Test:** Physical fitness test, Knowledge tests, Sports skill tests, Organization and administration of tests results.
3. **Test for Measuring Motor Fitness:** - AAHPER Youth Physical Fitness Test, Roger Strength Test, Scott Motor Ability Test, Borrow Motor Ability Test.

UNIT - III

1. **Endurance Test:** Harvard Step Test, Cooper's 9/12 Minutes run/ walk Test.
2. **Agility Test:** - Quadrant jump, Semo test, Side step test & LSU obstacle course test.
Flexibility Test: - Sit & reach test, Side split test.
3. **Balance Test:** - Stork stand test (Static), Bass stick test (Static), Nelson balance beam test (Dynamic).

UNIT IV

1. **Test for Measuring Sports Skill:- Basketball :** Johnson Basketball Test, Knox Basketball Test, AAPHERD Basketball Test Battery
Badminton test: Lockhart and Mc Pherson Badminton Test, French Short and Long Service Test, Miller Wall-Volley Test.
2. **Field Hockey test :** Friedel Field Hockey Test, Schmithals-French Field Hockey Skills Test, SAI Hockey Skill Test, Chapman Ball Control Test.
3. **Soccer skill test:** Johnson Soccer Test, Mc. Donald Soccer Test, SAI Football Skill Test,
Volleyball skill test: Brady's Volleyball Test, Russel Lange Volleyball Skill Test, AAHPER Volleyball Test, SAI Volleyball Test.

21






References

- Barrow, H.M. and McGee, R. and Tritschler, K. A.(1989). *Practical measurement in physical Education and Sports (14th ed.)*. London: Lea & Febiger.
- Baumgartner, T.A, Jackson, A. S. & Mahar, M. T. (2003). *Measurement for Evaluation in Physical Education Exercise Science (7th ed.)*. America : McGraw-Hill.
- Charles Harold McColy (2004).*Test and measurement in Health and Physical Education*. Friends publications: India.
- Clake, H.H & Clarke, D.H. (1991). *Application of Measurement to Physical Education*. United States: Englewood Cliffs, NJ, Prentice Hall.
- Johnson, B.L. & Nelson, J.K. (2007). *Practical Measurements for Evaluation in Physical Education(3rd ed.)*. New Delhi: Surjeet Publications.
- Kansal, D.K. (1996). *Test and Measurement in Sports and Physical Education*. New Delhi: D.V.S Publications.
- Kansal, D.K. (2012). *A practical approach to test measurement & evaluation*. New Delhi: Sports and Spiritual Science Publication.
- Lacy, A.C,(2015) *Measurement & evaluation in physical; education and exercise science*. New York: Daryl fox.
- Lipman, H. A. (2009). *Measurement and Evaluation in Physical Education*. India: Friends publications.
- Marrow, J. R. & Jackson, A.W. (1995). *Measurement and Evaluation in Human Performance*. U.S.A: Human Kinetics Publisher, Urban Champaign, Illinois.
- Mathews, D.K. (1973). *Measurement in Physical Education*. Philadelphia: W. B. Saunders Company.
- Naidu, B. G. N. & Mohan, N. V. (2017). *Test, Measurement & Evaluation in Physical Education & Sports Sciences*. United Kingdom : LAP Lambert Academic Publishing
- Yobu, A. (2010). *Test, Measurement & Evaluation in physical education and sports*. India: Friends publications.



- 24 -
M.P.E.S. (Semester-II)

Theory Marks: 500
Practical Marks: 200
Total Marks : 700

Part-A

Practical Code	Paper	External	Internal	Practical (External)	Total
MPEST-106	Statistics in Physical Education	80	20	-	100
MPEST-107	Research Methods in Sports	80	20	-	100
MPEST-108	Science of Coaching	80	20	-	100
MPEST-109	Health and Wellness	80	20	-	100
MPEST-110	Computer Application in Physical Education	60	20	20	100
				Total	500

**Part-B Skill and Prowess
Game**

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-203	Gymnastic/Football / Softball/ Gym Training	Fundamentals, Rules and Regulations and Measurements of Field	20	80
	Picnic	Institute should organize picnic for students		

Note: Student has to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-204	Discus Throw/Long Jump/ Hammer Throw	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student has to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for games & athletics.

- h) Historical development of the concerned game/track and field event.
- i) Main tournaments organized at National and International level.
- j) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- k) Awardees in the game/athletics.
- l) Books and magazines of the game /track and field.
- m) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications

- iii) Rules of the game/track and Field and their interpretation.
- iv) Duties of the concerned officials.
- n) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

Paper Code –MPEST-106
STATISTICS IN PHYSICAL EDUCATION

Time allowed: 3 Hours

Max Marks: 100
 (External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT-I

- 1. **Statistics:** Meaning and Classification, Importance of Statistics in Physical Education.
- 2. **Data analysis:** Meaning and types, Presentation of Data through Graphs and Tables.
- 3. **SPSS:** Introduction to Statistical Package for the Social Sciences and Its uses in the field in Physical Education.

UNIT-II

- 1. **Measure of Central Tendency:** Properties, Merits and Demerits, Calculation of Mean, Mode and Median.
- 2. **Measure of Variability:** Merits and Demerits and calculation of Range, Quartile and Standard Deviation.
- 3. **Correlation:** Properties and Uses of Correlation, Calculation of Karl Pearson Product Movement and Spearman’s Rank Methods.

UNIT-III

- 1. **Chi-Square χ^2 :** Properties, Importance and Calculation.
- 2. **ANOVA** (one way and two way analysis).
- 3. Mean Differences among group only ‘t’ test. Characteristics of ‘t’-test.

UNIT-IV

- 1. **Normal Probability Curve:** Properties and Uses.
- 2. **Scales:** Sigma Scale and Hull Scale. Standard Score: Z score, T Score and Sigma Score.
- 3. **Parametric and Non Parametric tests:** Meaning, its types and differences between Parametric and Non-Parametric tests.

References

- Best, J.W. (1982). *Research in Education*. Prentice Hall, Inc.
- Clarke, H. D. (1985). *Research Processes in Physical Education*. Recreation & Health, Prentice Hall, Inc.
- Gupta, S.P. (2011). *Statistical Methods*, Sultan Chand & Sons. Fortieth revised Edition. New Delhi: Educational Publishers.
- Kamlesh, M. L. (1986). *Methodology of Research in Physical Education and Sports*. New Delhi: Metropolitan Publication.
- Moorthy, A.M. (2000). *Research Methods in Physical Education*. Sports and Exercise Sciences, New Delhi: Friends Publication.
- Bennett, J.O., Briggs, W.L. & Triola, M.F. (2001). *Statistical Reasoning*. United State of America: Addison Wesley Longman, Inc.
- Gaur, A.S. & Gaur, S.S. (2009). *Statistical Methods for Practice and Research*. New Delhi: SAGE Publication India Pvt Ltd.
- Koul, L. (2012). *Methodology of Educational Research* (4th ed.). New Delhi: VIKAS Publishing House Pvt Ltd.
- Rajaretnam, T. (2016). *Statistics for Social Sciences*. New Delhi: SAGE Publication India.
- Thomas, J. R. & Nelson, J. K. (1996). *Research Methods*. Physical Activity Human Kinetics, Champaign.
- Verma, J.P. (2015). *A Test Book on Sports Statistics*. Darya Ganj, New Delhi: SPORTS Publication.
- Weimer, J. (1994). *Research Techniques in Human Engineering*. New Jersey: Prentice Hall.

Paper Code -MPEST-107
RESEARCH METHODS IN SPORTS

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

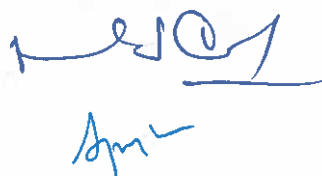
INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

1. **Descriptive Research Methods:** Survey - definition, purpose, types, scope and nature, importance, criteria and major steps;
2. **Case Study** - objectives, basic methodology, values and limitations.
3. **Philosophical Research Method:** Meaning, nature, steps and pitfalls.

UNIT-II



1. **Historical Research Method:** Purpose and scope of history in physical education; procedure;
2. **Sources:** Historical data; Historical Criticism;
3. **Principles:** General principles of historical criticism.

UNIT-III

1. **Experimental Research Method:** Planning the experiment, principles of experimentation;
2. **Experiment Designs:** (simple and complex), Setting up a human performance laboratory.
3. **Correlation research strategy:** concept, characteristics, cause and effect.

UNIT-IV

1. **Ethical issues in Research:** Areas of scientific dishonesty; Ethical issues regarding copyright; methods for considering scientific misconduct; protecting human participation.
2. **Writing of Research Report:** Basic writing guidelines; Thesis and Dissertation format.
3. **Mixed research approach to sport:** characteristics, design and analysis.

References

- Best, J.W. (1982). *Research in Education* (4th ed.). New Delhi: Prentice Hall, Inc.
- Best, W. J. & Kahn, J.V. (1998). *Research in Education*. USA: Allyn and Bacon Publisher.
- Clarke, H. D. (1985). *Research Processes in Physical Education Recreation & Health*. New Delhi: Prentice-Hall of India Pvt. Ltd.
- John, W.B. (1959). *Research in Education*. Englewood Cliffs, N.J: USA. Prentice-Hall, Inc.
- Kamlesh, M.L. (2014). *Methodology of Research in Physical Education and Sport* (4th ed.). New Delhi: Sports Publication.
- Kothari, C.R. (2004). *Research methodology methods & techniques* (2nd ed.). New Delhi: New Age International Publishers.
- Koul, L. (2002). *Methodology of Educational Research*. New Delhi: VIKAS Publishing House.
- Lipman, H. (2009). *Sports Research*. New Delhi: Friends Publications.
- Mark, F.S. (2010). *Research Methods in Sports*. BEBC Distribution, Albion Close, Parkstone.
- Scott, M.G. (1968). *Research Methods in health, physical education and recreation*. Washington: D.C., American Association for Health, Physical Education and Recreation.
- Sharma, Y.P. (1997). *Physical Education and Research Methodology*. New Delhi: Reliance Publishing House.
- Shinde, B.S. (2011). *Research Methods in Physical Education*. New Delhi: Sports Publication.
- Sivaramakrishnan, S. (2004). *Research Methods in Physical Education*. New Delhi: Friends Publications.
- Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2001). *Research Methods in Physical Activity* (6th ed.). Human Kinetics: United State of America.

- Yobu (2008). *Research Process in Physical Education and Sports*. New Delhi: Friends Publications.
- Weimer, J. (1994). *Research Techniques in Human Engineering*. New Jersey: Prentice Hall.

**Paper Code –MPEST-108
SCIENCE OF COACHING**

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

- 1 **Technical Training:** Meaning, Skill, Style, Motor co-ordination, Aims, Phases, Implications and Methods.
- 2 **Tactical Training:** Meaning, Aims, Tactical Action, Training for tactics, Principles.
- 3 **Acclimatization:** Effect of high altitude training on sports performance.

UNIT-II

- 1 **Sports Talent Identification:** Meaning, Process and Procedures.
- 2 **Plyometric Training:** Meaning, Programme Design and Safety considerations.
- 3 **Isokinetic Training:** Meaning, Programme Design and Safety considerations

UNIT-III

- 1 **Planning:** Importance, types, Steps in formulation of plan, training sessions.
- 2 **Periodization:** Meaning, Types, Aims and Contents of different periods.
- 3 **Top form and Periodization:** Relationship of top form and periodization.

UNIT IV

- 1 **Long Term Training:** Meaning, Aims and Characteristics, Nature and Training Schedules of Games & Athletics.
- 2 **Nutrition and Athletic Performance:** Nutrition and Training components of diet, Nutrition for competition.
- 3 **Training Schedules:** Preparation Of Training Schedule in reference to Age, Gender and sports.

References

- Dabas, S. (2016). *Theory of Scientific Sports Training*. New Delhi: Sports Publication.
- Dick, F.W. (1980). *Sports Training Principles*. London: Lepus Birkst.
- Donald, Chu. (1972). *Jumping into Plyometrics*. Illinois: Leisure press Champaign.

- Frank, W.D. (2002). *Sports Training Principles*. (4th ed.). London: A & C Black Publishers.
- Harre, Dietrich. (1982). *Principles of Sports training Berlin*. Sportverlag.
- Jenson, R. & Fisher, A. G. (1979). *Scientific basis of Athletic conditioning*. Philadelphia: Lea and Febiger.
- Mathew, D. K. & Fox, E. L. (1980). *The Physiological basis of Physical Education and Athletics*. Philadelphia: W.B. Saunders Company.
- Matveyev. (1981). *Fundamentals of Sports Training* (Translation from Russian) Moscow: Mir Publishing.
- Satyanarayana, V. (2016). *Sports Training*. New Delhi: Sports Publication.
- Singh, A.B. & Qureshi, D.R. (2012). *Encyclopedia of Sports Training*. New Delhi: Sports Publication.
- Singh, Hardy. (1995). *Science of Coaching*. New Delhi: D.V.S. Publications.
- Thomas, R. & Baechle. (1972). *Essentials of Strength training and conditioning*. Philadelphia: Lea and Febiger.
- Uppal, A.K. (2013). *Scientific basis of Sports Conditioning*. New Delhi: Friends Publications.

Paper Code –MPEST-109

HEALTH AND WELLNESS

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

1. **Health Education:** Meaning, Scope, Objectives and Spectrum, Principles and Importance of health education, Planning and evaluation in health education programmes.
2. **Personal Hygiene:** The concept of hygiene and personal hygiene. Importance of rest, sleep, diet and exercise.
3. **Pollution:** Definition, effects and control measures of Air pollution, Water pollution, Noise pollution and Radiation. Natural hazards and their mitigation.

UNIT-II

1. **Community Health Program:** Health Appraisal and Health Instructions, International and National health promoting government and private agencies.
2. **School Health Service:** History, School Health Problems. Health appraisal, healthy school environment, nutritional services, mental health, school health programmes/services, school health records, Safety measures in the playfields – first aid and emergency care

3. **Communicable Disease:** Meaning, causes, symptoms, prevention, diseases cycle, modes of disease transmission and immunization.

UNIT-III

1. **Psychosomatic disorders/sedentary life style diseases:** Causes, symptoms and prevention.
2. **Obesity:** Meaning, Obesity related health problems, body weight control and its significance on health, role of exercise, dieting and combination of exercise & dieting on weight control.

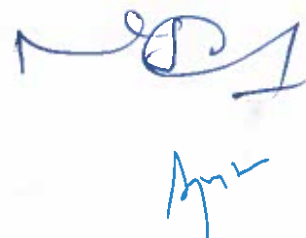
UNIT-IV

1. **Eating Disorders:** Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorders.
2. **Posture:** meaning, Concept of balance Posture & Causes of bad posture.
3. **Postural Deformities & their Correction** (Spinal deformities: Kyphosis, Lordosis, Scoliosis) (Foot deformities: Knock knee, bowlegs, Flat foot), Evaluating techniques of Posture.

References

- Dheer, S., Basu, M., & Kumar, R. (2005). *Introduction to Health Education*. India: M/S Friends Publications.
- Edlin Gorden & Golenty Eric. (2007). *Health and Wellness*. USA: Jones and Bartlett Publishers.
- Hoeger, W.W.K. & Hoegar, S.A. (2007). *Fitness and Wellness* (7th ed.). United State of America.
- Howley, E. T. & Franks, B.D. (1997). *Health Fitness Instructor's Handbook* (3rd ed.). United State of America.
- Kang, G.S. & Deol, N.S. (2008). *An Introduction to Health & Physical Education* (1st ed.). Patiala, Punjab: Twenty First Century Publications.
- Pandey, P.K. & Gongopadhay, S. R. *Health Education for School Children*. Mukerjee Tower, Dr. Mukerjee Nagar-Delhi: Friends Publication.
- Park, J.E. & Park, K. (1985). *Text Book of Preventive and Social Medicine*. Jabalpur: Bnasidar 91, Bhanot Publisher.
- Park, J.E. and Park, K. (1982). *Text Book of Community Health for Nurses*. Jabalpur: Asrani Publisher.
- Sharkey, B.J. & Gaskill, S.E. (2007). *Fitness and health* (6th ed.). United State of America.
- Singh, A., Bains, J, Gill, J.S. & Brar, R.S.(2007). *Essential of physical Education* (3rd ed.). Rajinder Nagar Ludhiana, Punjab: Kalyani Publisher.
- Youngson, R. (2001). *Health Encyclopedia*. London: Bloomsbury Publishing.

29

Paper Code –MPEST-110

COMPUTER APPLICATION IN PHYSICAL EDUCATION

Time allowed: 3 Hours

Max Marks: 100

(External: 60, Practical: 20, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (10x 4= 40 Marks)

UNIT-I

1. **Computer:** Introduction, Definition, Generation of computers, Classification of Computers (Analog, Digital, Hybrid), Characteristics of Computer, Architecture of computer, Limitation and Importance in Physical Education and Sports.
2. **Computer Hardware:** Input Devices and Output Devices
3. **Computer Memory**(i)Primary memory- RAM, Types of RAM, ROM, Types of ROM (ii)**Secondary Memory:** Magnetic Tape, Disk (Hard Disc), CD, DVD, Cache Memory

UNIT-II

1. **Computer Software:** Meaning, types, operating system, function of operating system
2. **Network:** Meaning, advantages, types, LAN, WAN, MAN, Topologies, Bridge, router, Switch
3. **Internet Basic:** Evolution of Internet, Meaning, Importance, world wide web(www)

UNIT-III

- 1 **Electronic mail:** Meaning, features, advantage
- 2 **Windows (OS):** Booting (Hot Booting, Cold Booting), Meaning, features, starting windows, parts of windows, wall papers and screen saver.
- 3 **Window Accessories:** Entertainment, system tools, calculator, Notepad, Paint, word pad, Keypad shortcuts.

UNIT-IV

- 1 **M.S.Word:** Meaning, features, component, different views of word document, creating new document, opening, saving, closing, editing of existing document, creating tables, inserting pictures, Mail Merge , keyboard shortcuts
- 2 **M.S.Excel:** Meaning, features, entering data into excel sheet, Mathematical Functions, keyboard shortcuts.
- 3 **M.S. PowerPoint (P.P.T.):** Meaning, features, preparation of slides, slideshow, keyboard shortcuts.

PRACTICAL

(20 Marks External)

Working on Windows- M.S Office

1. Working on MS Word
2. Working on Excel
3. Working on PowerPoint Presentation
4. Basics of E-mail and Internet
5. Search Engines

Handwritten mark

Handwritten signature

Handwritten signature

References

- Boyce, Jim. et.al. (2007). *Microsoft office system inside out*.
- Barrett, Ron. et. al. (2007). *Administrator's guide to Microsoft office 2007 servers*.
- Jayachitra, M. (2013). *Computer Application in Physical Education* (1st ed.) India: Friends Publication.
- Microsoft. (2003). *Microsoft office 2003 editions resource kit*.
- Murray, Katherine. (2007). *Faster smarter Microsoft office XP: Take charge of your Microsoft office programme*.
- Wempen, Faithe. et. al. (2007). *Microsoft office 2007 bible*.



31 



M.P.E.S. Semester -III

**Theory Marks: 500
Practical Marks: 200
Total Marks : 700**

Part-A

Paper Code	Paper	External	Internal	Practical	Total
MPEST-111(A)/ 111(B)	Dissertation* /Yoga	80 (50Research Report 30 Viva Voce)	20	-	100
MPEST- 112	Anthropometry	60	20	20	100
MPEST-113	Foundation of Sports Psychology	80	20	-	100
MPEST-114	Sports Management	80	20	-	100
MPEST-115	Sports Medicine	60	20	20	100
				Total	500

Note : * Students who will select dissertation paper in semester-III will submit two copies of their research report through their respective Principal to Head, Dept of Physical Education , Chaudhary Ranbir Singh University, Jind. The viva voce of the student will be conducted in the Dept. of Physical Education, Chaudhary Ranbir Singh University, Jind.

Part-B Skill and Prowess

Game

Practical Code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-205	Handball/Swimming/Wrestling/Tennis	Fundamentals, Rules and Regulations and Measurements of Fields	20	80
	Leadership Training Camp	One camp for students related to leadership qualities development has to be organized by the concerned institute under the aegis of government or semi-government body and certificate for this has to be issued to the participants (atleast for 3 days)		

Note: Student has to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
----------------	-----------	------------------------------	---------------------	---------------------

Handwritten signatures and marks at the bottom of the page.

MPESP-206	High Jump/Javelin Throw/Hurdles	Fundamentals, Rules and Regulations and Measurements of Fields	20	80
-----------	---------------------------------	--	----	----

Note: Student has to select two events from the athletic event which will be taught in whole semester.

Contents to be covered for games & athletics.

- o) Historical development of the concerned game/track and field event.
- p) Main tournaments organized at National and International level.
- q) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- r) Awardees in the game/athletics.
- s) Books and magazines of the game /track and field.
- t) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.
- u) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

**Paper Code –MPEST-111(A)
(SELECTION-A)DISSERTATION**

Time allowed: 3 Hours
Max Marks: 100

80(26 Research Report 50 Viva Voce)External	20 (Internal)	05 Credits
---	---------------	------------

Note : * Students who will select dissertation paper in semester-III will submit two copies of their research report through their respective Principal to Head, Dept of Physical Education , CRSU, Jind. The viva voce of the student will be conducted in the deptt of Physical Education , CRSU, Jind.

GUIDELINES FOR WRITING DISSERTATION

1. **CHAPTER-I:** Introduction of the Problem, Statement of the Problem, Objectives of the Study, Hypothesis, Delimitations of the Study, Limitation of the Study, Significance of the Study, Definition and Explanation of Terms.
2. **CHAPTER-II:** Review of the Literature
3. **CHAPTER-III:** Methodology And Procedure: Selection of subjects, Reliability of Data, Selection of Variables, Collection of Data, Statistical Computation.
4. **CHAPTER- IV:** Analysis of data, Discussion and Findings, Discussion of Hypothesis.
5. **CHAPTER-V:** Summary, Conclusion and Recommendations
 - Bibliography
 - Appendix





**Paper Code –MPEST-111 (B)
YOGA (Selectional)**

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- There shall be **nine** questions in all.
- First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT-1

- Yoga:** Introduction, Historical background and Origin of Yoga, Meaning and Concept of Yoga and its relationship with Physical Education and Sports.
- Yoga in present global scenario:** Yoga as a Science; and recent advances in Yoga.
- Contribution of Modern Yogis:** Ramakrishana Parmahansa, Yogananda, Swami Vivekananda, Swami Sivananda, Swami Satyananda and Srila Prabhupad, Relevance of Patanjali's "Asthangyog in 21th century.

UNIT-II

- Main Yogic Texts:** Vedas & Upanishad, Hathayoga Pradeepika, Gheranda Samhitta, Yoga Sutra and Shrimad Bhagvad Gita.
- Yoga as activity and relaxation techniques:** i) Yam, ii) Niyama, iii) Asanas, iv) Pranayama, v) Pratyahar vi) Dharna, vii) Dhayan and viii) Samadhi
- Yoga In Daily Life:** Effect of yoga in daily living.

UNIT-III

- Asanas:** Asanas- meaning , types,principles, Techniques of asanas and effects of asanas on various systems of the body-circulatory, respiratory and digestive system.
- Meditation:** Meaning, definition, types and techniques of meditation.
- Pranayama:** meaning, types and its importance

UNIT-IV

- Shat Kriyas of Yoga:** Neti, Dhauti, Basti, Nauli, Kapalbhati and Trataka.
- Bandhs and Mudras:** Aim, objectives and benefits. Physiological aspects of various bandhs and mudras.
- Yoga and Treatment:** Therapeutic and Corrective Values of Yoga Practices special reference to disease like: Diabetes, Asthma, Constipation, Obesity, Cervical, Gastric and Acidity.

References

- Debnath,M.(2007).*Basic Core Fitness through Yoga and Naturopathy*. Darya-Ganj, New Delhi. Sports:G-6, 23/23B EMCA House, Ansari Road,
- Yogeswa,R.(2004). *Text Book of Yoga*:Penguin Books.
- Harvey, P.(2001).*Yoga for Everybody*:Tucker Slings by Publisher Ltd.
- Sharma, L.(1991). *All You Wanted to Know About Yoga*:Sterling Publisher Pvt. Ltd.
- Sarawati, S .(1969).*Asana Pranayam, Mudra and Bandhas*.
- B.K.S.(1982). *The Illustrated Light of Yoga*. George Allenand Unwin ,Great Britain.

- Osho.(2005). "Dhayan Vigyan" A Rebel Book, 50 Koregoan Park, Pune. Tao :Publishing Pvt. Ltd.
- Osho.(2006).144 Meditation A Rebel Book.50 Koregoan Park, Pune:Tao Publishing Pvt. Ltd.
- Osho. (2006).Meditation the First and the Last Freedom.pune,maharashtra:Tao Publishing Pvt. Ltd.50 Koregoan Park.

**Paper Code –MPEST-112
ANTHROPOMETRY**

Time allowed: 3 Hours

Max Marks: 100

(External: 60, Practical:20, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (10x 4= 40 Marks)

UNIT - I

- 1 **Kinanthropometry:** Meaning, Importance and application of Kinanthropometry data in sports.
- 2 **Anthropometry:** Meaning, Classification, Working and Utility of Anthropometric Instrument, Location of different Land Marks on the Body.
- 3 **Anthropometric Measurement:** Skill for Anthropometry Measurement, Tolerance Limit, Measurement of Girth.

UNIT - II

- 1 **Growth:-**Meaning, Importance, Physical Growth, Normal Growth in adolescence, Growth and Motor Performance.
- 2 **Maturation:** Meaning, Importance and Scope, Measurement of Maturity and Assessment of Skeletal Maturity.
- 3 **Physique:** Meaning, Types and Role in Sports.

UNIT – III

- 1 **Body Proportion:** Meaning, Importance and Sports Specific Body Proportion and Indices.
- 2 **Body Mass Index:** Meaning, Method of Determination and Importance in Sports.
- 3 **Phantom stratagem:** Proportional, Z-Scores in Sports, O-scale System

UNIT-IV

- 1 **Body composition:** Meaning, Importance, Scope in Sports
- 2 **Somatotyping:** Meaning, Importance & Scope in Sports, Sheldon's & Heath and Carter Method of Somatotyping and Classification of Somatotype, Somatochart and Somatoplot.
- 3 **Determination of body composition:** Muscle mass, bone mass and fat mass.

Practical

(20 Marks External)

- Body measurements
 - Head
 - Face
 - Trunk
 - Upper & Lower Extremities
 - BMI
 - Body Composition

References

- Sodhi,S. (1991).*Sports Anthropometry*:Anova Publication.
- Sodhi,S.(1984).*Physique and Selection of sportsmen*:Anova Publication
- Singh,S & Malthotra,P.(1971).*Kinanthropometry* Patiala,Punjab:Lunar Publication.
- Eston,R and Reilly,T.(1977).*Kinanthropometry*. London,England:E. & FN SPON.
- Singh,S.(1992).*Skeletal Maturity*.Human Biology.patiala,Punjab: Publication Society, Punjabi University, Patiala.
- Garry,G.(1975).*Genetic and Anthropological studies of Olympic Athletes*:Academic Press, London.
- Harrison et-al.(1995).*Human Biology*:Oxford University Press, Oxford.

Paper Code –MPEST-113

FOUNDATION OF SPORTS PSYCHOLOGY

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

- 1 **Sports Psychology:** Definition, focuses and scope of sport psychology; Need for psychological training of sportspersons.
- 2 **History and Development** of Sport and Exercise Psychology in the world and in India.
- 3 **Personality:** Definition, dimensions integrity of personality; early theories and psychology models of Personality; Factors affecting personality development, Personality dynamics in sports and performance.

UNIT-II



- 1 **Learning:** Definition and kinds of learning; Learning Theories (Associational, Cognitive and Social), Laws of learning and their import in physical activity; Factors affecting motor learning.
- 2 **Transfer of Learning:** Theoretical basis of the concept of transfer of learning; and types of transfer of learning,
- 3 **Goal Setting:** Concept and importance of goal setting; Goal-orientation physical domain; Principles of goal setting; Interventions and mistakes in goal setting.

UNIT-III

- 1 **Attention and Concentration:** Meaning, and distinction between attention and concentration; Determinants of attention; Role of attention and concentration in sports; Attention-improving techniques.
- 2 **Group Dynamics:** Concepts and models of group dynamics; Group performance in sports; Leadership in sports.
- 3 **Cohesiveness and performance:** Concepts and Building up Cohesion in sports group.

UNIT-IV

- 1 **Intelligence:** Definition and changing concepts of intelligence: Determinants of intelligence; Emotional intelligence; Intelligence in activity and sport.
- 2 **Self-perceptions:** Definition of and distinctions among self-concept, self-efficacy and self-esteem; Self-esteem in athletes;
- 3 **Self-Efficacy:** Development of self-efficacy and self-confidence through activity and sports.

References

- Cox, Richard, H. (1994). *Sport Psychology: Concepts and Applications*: Madison, Wisconsin; Brown and Benchmark.
- Cratty, Bryant J (1989). *Psychology in Contemporary Sport* (3rd Edition): Englewood Cliffs, NJ; Prentice Hall.
- Gill, D & Williams, L. (2008). *Psychological Dynamics of Sport and Exercise* (3rd Edition) : Champaign, IL; Human Kinetics.
- Kamlesh, M.L. (2011). *Psychology in Physical Education and Sport* (5th Edition). New Delhi: Khel Sahitya Kendra.
- Kamlesh, M.L. (2009). *Educational Sport Psychology* New Delhi: Friends Publications.
- Sahni, Sanjeev, P. (2001). *Handbook of Sports Psychology*. New Delhi.
- Shaw, D & Corban, M. (2005). *Sport and Exercise Psychology*. New Delhi: Viva.
- Sigh, A. (2013). *Sports Psychology for Coaches*. New Delhi: Khel Sahitya Kendra.

**Paper Code -MPEST-114
SPORTS MANAGEMENT**

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT-1

1. **Management in Physical Education and Sports:** Concept, meaning and definition, need and scope of sports management.
2. **Theories of Management:** The classical Theory, the Neo- Classical Theory and Modern Theory, Types of Management: Authoritarian management, Laissez- faire management, Democratic management and Eclectic management.
3. **Functions of Management:** Planning, Organizing, Staffing, Directing, Coordinating, Budgeting, Controlling and Evaluating.

UNIT-II

1. **Management Skills:** Personal Skills, Interpersonal Skills, Conceptual Skills, Technical Skills, and Conjoined Skills.
2. **Managerial Roles:** Interpersonal Roles, Informational Roles, decision Making Roles.
3. **Qualities and Qualifications of a Manager:** Personal Qualities, Leadership Qualities; and Academic and Professional Qualities.

UNIT-III

1. **Personnel Management:** Introduction, Meaning, Definition, Principles of personnel management; Aspects of personnel management, Job Analysis, Description and specification.
2. **Communication:** Meaning, types of communication and barriers in effective Communication.
3. **The Budget:** Meaning, definition and objectives of the budget, principles of planning the Budget, preparation of budget.

UNIT-IV

1. **Management of Facilities:** Introduction, Administrative and General Principles of Planning Facilities, Types of Facilities, Facility Requirements, Construction and Management of Sports Infrastructures, Indoor Facilities-Gymnasium and Swimming pool.
2. **Management of Equipment and Material:** Introduction, Meanings of Equipment and Material, Need and Importance, Types, Principles of Purchase of Equipment. Important Considerations in Selecting Sports Equipment, Receiving—Stocktaking and Storing Equipment, Care and Maintenance & Conservation of Equipment, and Disposal of Equipment.

3. **Managerial and Administrative Duties of a Physical Education Teacher:** Instructional, Office, Facilities, Public Relations, Personnel, Professional, Purchases, Intra-murals, Extra-murals .

References

- Zeigler, Earle F. And Bowie, Gary W.(2008).*Management Competency Development in Sports and Physical Education*.New Delhi:Sports Educational Technologies, 101, 4787/ 23 Ansari Road.
- Dheer, S and Radhika,K.(1991).*Organization and Administration of Physical*.Delhi. :Friends Publications,6 Mukherjee Tower, Mukherjee Nagar.
- Kamlesh, M.L.(2000).*Management Concepts in Physical Education*.New Delhi:Meteropolitan Books Co. Private LTD.
- Jenson, Clayne R.(1983).*Administraive Management of Physical Education and Athletic Program*.USA:Lea & Febiger,600 washington Square,Philadelphia.
- Roy, Sudhanshu,S.(1995).*Sports Management*. New Delhi: Friends Publications, 6, Mukherjee Tower, Mukherjee Nagar.
- Brar,R and Joshi,R.(2007).*Sports Management*. New Delhi: Kalyani Publishers.

Paper Code –MPEST-115
SPORTS MEDICINE

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Practical: 20, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (10x 4= 40 Marks)

UNIT-I

1. **Sports Medicine:** Definition, Objective, importance & scope
2. **Reaction to Injury:** Kubbler and Ross model of Athletic reaction to injury and psychological management of injured Athlete.
3. **Sports Injuries:** Causes, prevention and management and pre-participation evaluation.

UNIT-II

1. **Sports Emergencies:** Management of cardio-pulmonary resuscitation (CPR), shock, Bleeding Frost bite and Heat stroke.
2. **First-aid and Bandage:** Meaning, Function, Classification, Indication, Contraindication, Principles and Application.
3. **Exercise Therapy:** For the Bronchial obstruction, Heart diseases & diabetic patient.

UNIT-III

1. **Cryotherapy and Hydrotherapy:** Advantage, method, indications and contraindication, modalities of rehabilitation of sports injuries.
2. **Electrotherapy and Heat:** Modalities, advantage, methods, indications and contraindications modalities of rehabilitation of sports injuries.

3. **Massages:** Techniques, indication, Contraindication and advantages of General massage, Athletic massage and under water massage.

UNIT-IV

1. **Sports Rehabilitation:** Definition, aim, objective, scope & principles.
2. **Sports injuries:** Causes symptoms, prevention and treatment of sprain, strain, dislocation and fracture.
3. **Common sports injuries:** Sports injuries of different part of body: Knock out, Punch Syndrome, Wrestler Ear ,Weight Lifter Black out, Stitch at side, Low back pain, Shoulder impingement syndrome, Tennis elbow, Javelin throwers elbow, Boxer elbow, Mallet finger, Runners Knee, Jumper Knee, Shin splint, Turf toe.

Practical:

(20 Marks External)

- CPR Technique
- First aid for Sprain and Strain
- Bandaging

References

- Sherry, E.& Bokor, D. (1997). *Sports medicine problems and practical management*. London: Greenwich Medical Media.
- Pfeiffer, R.P. & Mangus, B.C. (2005). *Concepts Of Athletic Training* (4th ed.). Sudbury, Massachusetts: Jones and Bartlett Publishers.
- Jain, R. (2002). *Sports Medicine*. Darya ganj, New Delhi: Khel Sahitya Kendra.
- Pande, P.k. (N.D.). *Know How Sports Medicine* .Jalandhar: A P Publishers.
- Tripathi, R.(2012). *Sports Medicine & Exercise Physiology*. Darya ganj, New Delhi: Khel Sahitya Kendra.
- Mellion, M.B. (1996). *Office Sports Medicine* (2nd ed.).Philadelphia: Hanley & Belfus.
- Norris, C.M. (1998). *Sports Medicine Diagnosis and Management* (2nd ed.).Woburn: Butterworth- Heinemann.
- Govindarajulu, N. (2005). *Sports Injuries and its Rehabilitation*. New Delhi: Friends Publications.
- Marcia, K.; Anderson; Susan J. Hall & Malissa, Mortin (N.D.). *Sports Injury Management*. Lippincott Williaams and wilkins Philadelphia.
- Kang, G.S. (2002). *Sports Medicines*. Patiala: Punjabi University Publication Bureau.
- Morries, B. Mellion (N.D.). *Sports Injuries and Athletic Problem*. New Delhi: Surjeet Publication.
- William, E.; Garret, Donald; T.I. Kirkcendall and Deborah, L. Squire (2001). *Primary Care Sports Medicine*, Kippincott Willams and Willkins, Philadelphia.
- Mafetone, P. (1999). *Complemantary Sports Medicine*. Champaign: Human Kinetics.

Handwritten signatures and marks at the bottom of the page, including a large signature in the center and smaller marks on either side.

- Das, L. (2006). *Text Book of Sports Medicine*. New Delhi: Jaypee Brothers.
- Prakash, C.S.J.(2003). *Sports Medicine*. New Delhi: Jaypee Brothers.
- Mery, V. Laxo (1956). *Massage and Medical Gymnastics*.
- Tidy (1980). *Massage & Remedial Gymnastics* .
- Joke Ernest, L. (N.D.). *Scope of Exercise Rehabilitation*.
- Horns, Kang, L. (N.D.). *Therapeutical Exercise*.



- 43 -

M.P.E.S.- (Semester-IV)

Theory Marks: 500
Practical Marks: 200
Total Marks : 700

Part-A

Paper Code	Subjects	External	Internal	Practical	Total
MPEST-116	Biomechanics	80	20	-	100
MPEST- 117	Applied Psychology	60	20	20	100
MPEST-118	Teaching Pedagogy and Curriculum Design	80	20	-	100
MPEST-119	Sports Journalism	80	20	-	100
MPEST-120	Theory of Athletics	80	20	-	100
				Total	500

Part-B : Skill and Prowess

Game

Practical Code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-207	Kabaddi/ Cricket/ Table Tennis	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Note: Student has to select two games in one semester.

Athletics

Practical code	Practical	Contents of Games and Sports	Internal Assessment	External Assessment
MPESP-208	Marking of Athletic Track	Fundamentals, Rules and Regulations and Measurements of Fields	20	80

Contents to be covered for games & athletics.

- v) Historical development of the concerned game/track and field event.
- w) Main tournaments organized at National and International level.
- x) Records/Statistics of the game /track and field event at world, Olympic, Asia, National.
- y) Awardees in the game/athletics.
- z) Books and magazines of the game /track and field.
- aa) Officiating.
 - i) Play area dimensions/track and field.
 - ii) Equipment specifications
 - iii) Rules of the game/track and Field and their interpretation.
 - iv) Duties of the concerned officials.
- bb) Fundamental skills /Techniques.

Note:

- The evaluation of the student will be done by an external examiner on the basis of skills & prowess of the student selected by him during each semester.

Ching

Neelam
April

- 45 -
Paper Code –MPEST-116
BIOMECHANICS

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15x 4= 60 Marks)

UNIT- I

1. **Biomechanics:** Meaning, Scope and importance in Physical Education and Sports.
2. **Kinetics: (Linear Kinetics):** Inertia, Mass, Force and Weight, Momentum and Impulse.
3. **Kinetics: (Angular Kinetics):** Eccentric force, couple, moment of force, torque, moment of inertia and angular momentum. Transfer of angular velocity.

UNIT-II

1. **Kinematics: (Linear Kinematics):** Distance and displacement, Speed and Velocity, Acceleration.
2. **Kinematics: (Angular Kinematics):** Angular distance & angular displacement, Angular speed, angular velocity and angular acceleration, Angular motive vectors.
3. **Biomechanical Analysis:** Running, Walking, High Hurdling, Swimming (Free Style), Shot Put, Discus Throw, Broad Jump and High Jump.

UNIT – III

- 1 **Fluid Mechanics:** Location of buoyant force, specific gravity, Drag force, gyroscopic action, Magnus effect, Surface drag, Form drag, wave drag, Lift force, gyroscopic action.
- 2 **Lever, Spin and Friction:** Meaning, Types, Characteristics, factor determining them and their uses in sports.
- 3 **Projectile:** Meaning, Horizontal and vertical components, Influence of Air Resistance, factors influencing Trajectory (Projection angle, Projection speed, Projection Height, Projection Conditions).

UNIT-IV

- 1 **Equilibrium:** Meaning, Types, Principles, factor determining equilibrium and their application in sports. Different Tools and Techniques used for Biomechanical analysis of sports movement.
- 2 **Motion:** Meaning, Characteristics and Types
- 3 **Newton's Law:** Law of motion and gravitation

References

- Rai, R. (2003). *Biomechanics – Mechanical aspect of human motion*. Mohali, Punjab: Agrim Publication.
- Fung, Y.C. (1993). *Biomechanics Mechanical Properties of Living Tissues* (2nded.). New York, Springer:Verlag.

- Hung, G.K. & Pallis, J.M. (2004). *Biomechanics Engineering Principles in Sports*. New York: Kluwer Academic/Plenum Publishers.
- Sharma, S.K. (2014). *Biochemistry & Biophysics for nurses*. Victoria Street, London: Jaypee Brothers Medical Publishers.
- Pal, S. (2009). *Textbook of Biomechanics*. Daryaganj, New Delhi: Vinod Vasishtha.
- Luttgens, K. & Hamilton, N. (2001). *Kinesiology-Scientific basis of Human Motion*. New York: McGraw Hill.
- Hall, S. J. (1995). *Basic Biomechanics*, New York: McGraw Hill.
- Peter, M. & Ginnis, M. (2005). *Biomechanics of Sports and Exercise*. Human Kinetics, Champaign, USA.
- James, G. & Hay (1978). *The Biomechanics of Sports Techniques* (2nded.). Englewood Cliffs, N. J. Prentics Hall.
- J W. Bunn, J.W. (1972). *Scientific Principles of Coaching* (2nded.) Englewood Cliffs N. J. Prentics Hall.
- Scott, M.G. (N.D.). *Analysis of Human Botto*. New York: Application Century Craft

**Paper Code –MPEST-117
APPLIED PSYCHOLOGY**

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Practical: 20, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (10× 4= 40 Marks)

UNIT-I

- 1 **Motivation** : Concept, definition and kinds of motivation: Motivational theories: (Instinct, Drive, Need theories); Incentive and Achievement motivation; Reasons for participation and withdrawal from activity and sport; Sources of motivation for sport; Individual differences and motivation.
- 2 **Human Growth and Development**: Growth phenomenon; Differentiation between growth and development; Principles of growth; Different stages of development.

- 3 **Emotions:** Concept, definition and characteristics of emotions: Positive and negative emotions - their impact on the individual; Regulation of emotions; Role of emotions in athlete performance.

UNIT-II

- 1 **Stress:** Definition, dimensions and causes of stress; Importance of emotional control and stress management; Educational stress management techniques.
- 2 **Mental Health:** Defining mental health and wellbeing; Causes and impact of poor mental health; Defense mechanisms and psychological adjustment.
- 3 **Anxiety:** Definition, types, and dimensions of anxiety; Factors precipitating anxiety: Anxiety in sports contexts; Causes of competition anxiety; Anxiety management techniques.

UNIT-III

- 1 **Aggression:** Definition, types and theories of aggression.
- 2 **Aggression in sport:** Spectator violence; Management of aggression.
- 3 **Relaxation Training:** Importance of relaxation; Relaxation techniques - Progressive muscle relaxation, Breathing exercise, Yoganidra, Transcendental meditation; Bio-feedback and autogenic training.

UNIT-IV

- 1 **Adjustment:** Definition of mental conflict, frustration and adjustment; Causes of maladjustment; Psychodynamics and adjustment; Athlete reactions to success and failure: Strategies to resolve conflicts and seeking adjustment; .
- 2 **Psychological Management of Injury:** Athlete reaction to Injury - behavioral, physical, emotional and cognitive.
- 3 **Kubbler & Ross Model:** athlete reaction to injury; Psychological management of injured athlete.

Practical

(20 Marks External)

- GSR
- EMG
- ECG
- Depth Perception
- Steadiness
- Collection of Data through Various Questionnaires.

References

- Rachna, J. (2002). *Sports Psychology*. New- Delhi: Vivek Thani Khel Shathiya Kendra Publications.
- Cox, & Richard, H. (1994). *Sport Psychology: Concepts and Applications*. Madison, Wisconsin: Brown and Benchmark
- Robert S. Weinberg & Gould, D. (2006). *Foundations of sport & exercise psychology*. Human Kinetics.

Am -  

- Cratty, Bryant, J. (1989). *Psychology in Contemporary Sport* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Gill, Diane & Williams, L. (2008). *Psychological Dynamics of Sport and Exercise* (3rd ed.). Champaign, IL: Human Kinetics.
- Richard, M. suinn. (1994). *Psychology in sports- methods and applications*. Kamla Nagar, Delhi: Surjeet Publications.
- Kamlesh, M.L. (2011). *Psychology in Physical Education and Sport* (5th ed.). New Delhi: Khel Sahitya Kendra.
- Shelley E. Taylor. (2006). *Health Psychology*. Tata McGraw Hills.
- Kamlesh, M.L. (2006). *Educational Sport Psychology*. New Delhi: Friends Publications.
- Sahni, Sanjeev P. (2001). *Handbook of Sports Psychology*. New Delhi.
- Kaushik , V. K. & Sharma, S.R (2004) . *Physical & psychological education*. New-Delhi: Anmol publications.
- Shaw, D.F., Gorley, T. & Corban, R.M. (2005). *Sport and Exercise Psychology*. New Delhi: Viva.
- Sigh, A. (2013). *Sports Psychology for Coaches*. New Delhi: Khel Sahitya Kendra

Paper Code-MPEST-118

Teaching Pedagogy and Curriculum Design

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT - I

1. **Foundation of Professional Preparation:** Meaning, Components of Professional Preparation, Recent governmental policies for promoting physical education and sports in India and factors affecting educational policies and program.
2. **Historical Perspective:** Historical review of Professional Preparation in India, Professional courses being offered in professional preparation colleges in India, Professional Preparation in Physical Education in USA, Russia and UK and Beginning of Professional Preparation in the world.

3. **Teacher and Teaching:** Teaching as a career, Basic Qualities of a successful teacher, Preparation of the specialized physical education teacher, Types of teaching jobs and Types of non-teaching jobs.

UNIT - II

1. **In-Service Education:** Nature and Scope, Role of teacher education institutions in in-service education, Role of Profession in in-service education and Course and Formal education experience.
2. **Evaluation:** Trends in evaluating professional preparation, evaluating the program of professional preparation, Relation of evaluation to administration & Personal program.
3. **Curriculum-** Old and new concepts, Mechanics of curriculum planning.

UNIT - III

1. **Curriculum Design:** Meaning, Importance, selection and classification of subject matter with reference to age, gender and differently abled pupils, integrated program for boys and girls and factors affecting curriculum design and the role of teacher in curriculum development.
2. **Factors Affecting Curriculum** - Social factors - Personnel qualifications - Climatic consideration - Equipment and facilities -Time suitability of hours.
3. **Basic Guide Line:** curriculum construction; contest (selection and expansion).
 - o Focalization
 - o Socialization
 - o Individualization
 - o Sequence and operation
 - o Steps in curriculum construction.

UNIT - IV

1. **Curriculum Development:** Concepts, Basic principles of curriculum construction, Subject matter for Different Levels of Education (Primary, Secondary and Higher Education).
2. **Curriculum Evaluation:** Concepts and Purpose, Procedure and Appraisal.
3. **Curriculum Aids:** Time table, credit system for various courses- theory and practical, impact of technology in physical education and sports.

References

- Murthy, J.K. (2005). *Curriculum Construction in Physical Education and Sports*. Ansari Road, Daryaganj, New Delhi: Commonwealth Publishers.
- Kamlesh, M.L. (2008). *Scientific Art of Teaching Physical Education* (2nd ed.). New Delhi: Metropolitan Book Co. Pvt. Ltd.
- Pape, Laurence, .A, Means, Louis, E. (1963). *A Professional Career in Physical Education*. Englewood Cliffs: N.J. Prentice Hall.
- Jensen, R. Clayne. (1983). *Administrative Management of Physical Education and Athletic Programmes*. Philadelphia Lea and Febiger.
- Snyder & Scott. (1971). *Professional Preparation in Health, Physical Education and Recreation*. Connecticut: Greenwood press, Westport.

- Sandhu, K. (2004). *Professional preparation and career development in physical education and sports*. New Delhi: Friends Publication India.
- Gupta R. Sharma A & Sharma, S. (2004). *Professional preparation and Curriculum Design in physical education; and sports*. New Delhi: Friends Publications.
- Barrow, H. M. (1983). *Man and movement: principles of physical education*. Philadelphia: Lea and Febiger.
- Bucher, C. A. (1986). *Foundation of physical education*. St. Louis: The C. V. Mosby & Company.
- Cassidy, R. (1986). *Curriculum development in physical education*. New York: Harper & Company.
- Larson, L.A. (N.D.). *Curriculum foundation in physical education*. Englewood Cliffs: N.J. Prentice Hall Inc.
- Underwood, G. L. (1983). *The physical education curriculum in secondary school: planning and implementation*. England: Taylor and Francis Ltd.
- Willgoose, C.E. (1979). *Curriculum in physical education* (3rd ed.). Englewood Cliffs: N.J. Prentice Hall, Inc.

**Paper code - MPEST-119
SPORTS JOURNALISM**

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain Four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-1

1. **Journalism:** Meaning, definition and concept of journalism.
2. **Historical background:** History of journalism and Role of Journalism in society.
3. **Mode of journalism:** Mass Media; Print, Electronic and Informal media **News:** Definition of news, basic news elements and values, news story, Qualities and responsibilities of sports news reporters.

UNIT-II

1. **Information Technology:** role of IT in Journalism.
2. **News desk:** Organisation of sports news desk,

3. **Duties and responsibilities:** sports sub editor, photo journalist.

UNIT-III

1. **Amateurism v/s professionalism:** invasion of private life, emphasis on winning, sportsmanship and sports for charity.
2. **Writing Sports Features:** Types of sports features, exclusive features, fearless writing in sports.
3. **Thumb Nail Sketches:** sports personalities and their thumb nail sketches. Reviewing sports books.

UNIT-IV

1. **Editorials And Column:** Writing sports editorials, Writing weekly or fortnightly column
2. **Coverage:** Covering local / national sports competitions, writing of press release.
3. **Art of Commentating and interviewing:** Commentating sports for radio and television channels, interviewing sports persons.

References

- Mishra, S. (2007). *Text Book of Sports Journalism*. New Delhi: House, Ansari Road, Darya Ganj.
- Sita R. (2004). *Book of Sports Journalism*. Nagar-Delhi: Friends Publication, 6, Mukerjee Tower, Dr. Mukerjee.
- Conrad .C .(2004) . *Principles of sports journalism*. Kamala Nagar, Delhi: Surjeet Publication, 7 Kholapur Road.
- Ahuja, B.N. and Chhabra, S. (2004). *Principles and Techniques of Journalism*. New Delhi : Surjeet Publication
- Keval. J. Kumar.(2004). *Mass Communication in India*. Mumbai: Jaico Publishing House.
- Agarwal,V.B and Gupta, V.(2001). *Handbook of Journalism and mass communication*: Concept publishing company.

Paper Code –MPEST-120 THEORY OF ATHLETICS

Time allowed: 3 Hours

Max Marks: 100
(External: 80, Internal: 20)

INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units for descriptive questions. Each unit shall have **two** questions and the students shall be given internal choice i.e. the students shall attempt **one** question from each unit. (15× 4= 60 Marks)

UNIT-I

1. **Sprint, Middle & Long Distance Trot:** Rule & regulations, seeding, draws, tie breaker, officials, equipment's, organization, competitions and records.

2. **Team Events and Walk Race:** Rule & regulations, officials, measurements, equipments, organization, competitions and records.
3. **Obstacle Events:** Rule & regulations, measurements, equipments, organization, competitions, records, Officials and event distances of High & low Hurdles and steeplechase.
4. **Technical Rules:** International officials, officials of the competition (Management, competition & additional officials).

UNIT-II

1. **Horizontal and Vertical Jump:** Measurements, rule & regulations, entries, tie breaker, officials, equipments, organization, competitions and records.
2. **Throwing events:** Measurements, rule & regulations, officials, equipments, organization, competitions and records.
3. **Combine events:** Measurements, rule & regulations, officials, equipments, organization, competitions and records.
4. **General Competition Rules of Track & Field Event:** Entries, clothing, shoes, Athletic bibs, disqualification, protests & appeals and mixed competition & scoring.

UNIT-III

1. **Techniques of Track Event: Starting Techniques** (Standing Start, Crouch Start and its variations). **Finishing Techniques** (Run Through, Shoulder Shrug, Forward Lunge). **Technique of Relay Race** (Upward & Downward sweep, Push pass) **Hurdles:** (High & Low hurdles) Stride pattern from start to first hurdle, between hurdles & last hurdle to finish, hurdle clearance, take off, landing. Various phases of sprint & hurdle races.
2. **Techniques of Horizontal jumps: Long Jump:** - (Sail, Hang & Hitch kick Technique), approach run, take off, flight & landing. **Triple Jump:** - (Russian, Polish & Mixed technique), approach Run, take off, flight & landing..
3. **Techniques of Vertical jumps: High Jump :-**(Scissor cut & Fosbury flop technique). Approach run, take-off, bar clearance and landing.
4. **Techniques of Throws: Shot Put:** - (Glide and Disco put Technique), grip, stance, glide, release and reverse. **Discus Throw:** - grip, stance, swing, release and reverse. **Hammer Throw:** - Grip, preliminary swings, turns, release and recovery. **Javelin Throw:** - Grip, carry, approach, five Stride Rhythm, withdrawal stride, cross step / impulse stride, release & follow through.

UNIT-IV

1. **Marking of track & field arena:** Introduction of standard track & its measurements, types of track, marking & measurements of track & field events.
2. **Road Races:** Rule & regulations, entries, tie breaker, officials, event distances.
3. **Cross Country Races:** Rule & regulations, entries, tie breaker, officials, event distances.
4. **Athletics Bodies:** Formation, member countries & Honours of International Olympic committee (I.O.C), International Association of Athletic Federation (I.A.A.F) and Athletic Federation of India (A.F.I).

References



- Bosen, K.O. (1996). *Track and Field Fundamental Techniques*. Patiala: Netaji subhas National Institute of Sports.
- Waldo E. Sweet, Segal, E. (1987). *Sport and recreation in ancient Greece*. Oxford University Press. p. 37. Retrieved on 3 August 2009.
- IAAF Rule 162.1, from Chapter 5, 'Technical rules', Section III on 'Track events'.
- European Athletics Championships Zurich. (2014). *Statistics Handbook* (Pdf). European Athletics Association, retrieved 13 August 2014
- Bell, Daniel. (2003). *Encyclopedia of International Games*. McFarland and Company, Inc. Publishers, Jefferson, North Carolina. ISBN 0-7864-1026-4.
- Ashe, Arthur R., Jr. A Hard Road to Glory (1993). *A History of the African-American Athlete 1619–1918*. Volume I. New York: Amistad.
- Wallechinsky, David. (2000). *The Complete Book of the Olympics*. Wood-stock, N.Y.: Overlook Press.
- The Ancient Olympic Games (N.D.). *Mythic Worship of Gods and Athletes*. e-Legacies. Retrieved on 2010-05-28.
- Hoshino, Atsushi (2009). *The Origin of Indoor Track and Field Meets*. IAAF. Retrieved on 2011-04-09.

[Handwritten signature]

[Handwritten signature]

