**Annexure - B**

**New Scheme of Examination for Master in Physical Education (M.P.ED)**

**(Semester-4th from Session – 2017-18)**

**(Changes will be implement in the 4th Semester Exam May – 2018)**

**Credits= 26 Total Marks = 800**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Paper Code** | **Subjects** | **Type**  **of Course** | **Contact Hours Per Week** | | | **Credit** | | | **Examination Scheme** | | | **Total** |
| **Theory** | **Practical** | **Total** | **Theory** | **Practical** | **Total** | **Internal Assessment** | **Theory** | **Practical** |
| MPEd -401 | Sports Journalism and  Mass Media | CCC | 04 | -- | 04 | 04 | -- | 04 | 20 | 80 | -- | 100 |
| MPEd - 402 | Value and Environmental  Education | CFC | 04 | -- | 04 | 04 | -- | 04 | 20 | 80 | -- | 100 |
| MPEd - 403 | Sports Bio Mechanics | CFC | 04 | -- | 04 | 04 | -- | 04 | 20 | 80 | -- | 100 |
| MPEd -404 | Sports Management and  Curriculum Designs in  Physical Education | CCC | 04 | -- | 04 | 04 | -- | 04 | 20 | 80 | -- | 100 |
| MPEd - 405 | Option:  i) – Sports Technology  ii) – Dissertation | CCC | 04 | -- | 04 | 04 | -- | 04 | 20 | 80 | -- | 100 |
| MPEd - 406 | Practicum:  (i) Game – I | CCC | -- | 05 | 05 | -- | 2.5 | 2.5 | -- | -- | 100 | 100 |
| MPEd - 407 | (ii) Game - II | CCC | -- | 05 | 05 | -- | 2.5 | 2.5 | -- | -- | 100 | 100 |
| MPEd -408 | (iii) Class Room Teaching | CCC | -- | 02 | 02 | -- | 01 | 1.0 | -- | -- | 100 | 100 |
| **Total** | |  | 20 | 12 | 32 | 20 | 06 | 26 | 100 | 400 | 300 | 800 |

**C.C.C = Compulsory Core Course C.F.C = Compulsory Foundation Course**

**Semester 4th**

**Theory Courses**

**M.P.Ed – 403: Sports Bio-mechanics**

**Time : Three Hours Total Marks : 100 (Theory Marks: 80 + Internal Assessment :20)**

***Note:*** *Paper setter is required to set 2 questions from each Unit - I, II, III and IV. Unit - V consists of 10 questions of short answers distributed from all over the syllabus. The candidates are required to attempt one question from each Unit – I, II, III & IV carrying 15 marks for each question. Unit - V is compulsory for all consisting 2 marks of each short answer.*

**Unit- I**

Meaning and Scope of Biomechanics in Physical Education, Basic concepts of kinematics and kinetics. Definition of terms: Distance, Displacement, Speed, Velocity, Acceleration, Mass and Weight. Meaning of Motion and types of Motion

**Unit- II**

Newton’s Laws of Motion and their application in sports.

**Lever:**  (a) Classification of Levers and Lever Arms (b) Concept of Mechanical advantage (c) Human body levers.

**Force:**  (a) Definition and Effects of Forces. (b) Properties of Force (c) Internal and External Forces (d) Centripetal and Centrifugal Forces (e) Friction: Meaning, Coefficient of friction, factors effecting friction

**Unit – III**

* Meaning of Center of Gravity and Line of Center of Gravity
* Meaning Equilibrium, types of equilibrium & principles of stability
* Meaning of Projectile, Characteristics of Projectile, Range of Projectile, Height of Projectile and Time of Projectile
* Buoyancy Force and Principle of Flotation

**Unit – IV**

* Meaning of Spin, Types of Spin, Effect of Spin on angle of rebound and Magnus Effect
* Meaning of Work, Power and Energy
* Mechanical Analysis of Gait Cycle Walking and Running
* Mechanical Analysis of Long Jump (Takeoff and landing)
* Mechanical Analysis Shot Put (Power Position and Delivery Phase)

**REFERENCES**

1. Gowitzke, B.A and Milner, M (1988). Scientific Basis of Human Movement. (3rd. ed.)Baltimore: Williams and Wilkins.

2. Groves, R and Camaine, D.(1983) . Concepts in Kinesiology. (2nd.ed.) Philadelphia: Saunders College Publishing.

3. Hay, J & Reid, J (1982). The Anatomical and Mechanical Bases of Human Motion.Englewood Cliffs: Prentice – Hall

4. Luttegens, Kathryn, Deutsch, Helga, Hamilton, Nancy. Kinesiology – Scientific Basis of Human Motion. 8th.Ed, Brown & Bench mark.

5. Rasch, P. (1989). Kinesiology and Applied Anatomy. Philadelphia: Lea & Febiger.

6. Thompson, C. (1985). Manual of Structural Kinesiology. (10th. ed.) St. Louis: Times Mirror/ Mosby College Publishing.

7. Grabiner. M.D. Current Issue is Biomechanics, New Delhi, 1993.

8. Mood, S.D., Beyond Biomechanics, New York: Taylor, 1996.9. Shaw, D. Mechanical Bases of Biomechanics, Delhi: Sport Pub. 2000

9. Shaw, D. Mechanical Bases of Biomechanics, London- A & C, 2003

**Semester – 4th**

**Theory Courses**

**M.P.Ed – 405: Option – i – Sports Technology**

**Time: Three Hours Total Marks: 100 (Theory Marks: 80 + Internal Assessment: 20)**

***Note:*** *Paper setter is required to set 2 questions from each Unit - I, II, III and IV. Unit - V consists of 10 questions of short answers distributed from all over the syllabus. The candidates are required to attempt one question from each Unit – I, II, III & IV carrying 15 marks for each question. Unit - V is compulsory for all consisting 2 marks of each short answer.*

**Unit I – Sports Technology**

Meaning and definition of sports technology.

Significance of technology in sports

General Principles of instrumentation in sports.

Meaning of Foams, Types of foams (Polyurethane, Polystyrene, Styrofoam, closed-cell, open- cell foams and Neoprene) and there uses in different sports.

**Unit II – Nanotechnology in Sports Materials**

Meaning and definition of Nanotechnology

Meaning of nano glue and nano moulding technology.

Uses and benefits of Nanotechnology in sports uniforms, and safety equipments

Uses and benefits of Nanotechnology in sports equipments and playing surfaces

**Unit III – Surfaces of Playfields and Measuring Gadgets**

Method of construction and installation for Synthetic and Cinder tracks.

Method of construction for Cricket pitches: Turf and Cemented.

Meaning and types of flooring materials for different sports: synthetic (polyurethane and poly grass) and wooden.

Modern Measuring Equipments used in Running, Throwing and Jumping Events.

**Unit IV – Modern Stadiums and Training Machines**

Cricket: Bowling Machine, Mechanism and Advantages,

Tennis: Serving Machine, Mechanism and Advantages,

Dimensions of Sports Infrastructure - Gymnasium, Pavilion, Swimming Pool, Indoor Stadium and Out-door Stadium.

Lighting Facilities: Method of erecting and luminous in indoor and outdoor stadiums. Methods of measuring luminous.

**REFERENCE:**

Charles J.A. Crane, F.A.A. and Furness, J.A.G. (1987) “Selection of Engineering Materials”

UK: Butterworth Heiremann.

Finn, R.A. and Trojan P.K. (1999) “Engineering Materials and their Applications” UK: Jaico

Publisher.

John Mongilo, (2001), “Nano Technology 101 “New York: Green wood publishing group. Walia,

J.S. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999.

Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling

Publishers Pvt. Ltd.), 1982

Kozman, Cassidy and Jackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia

and London), 1952.

**Semester – 4th**

**Theory Courses**

**M.P.Ed – 405: Option – ii - Dissertation**

**Evaluation Marks =80 Int. Assessment = 20 Total =100**

**Note: Students must submit their Dissertation in the office of the Department before the Start of 4th semester theory exams.**