

Ch. Bansi Lal University, Bhiwani

Scheme of Examination for Master of Physical Education and Sports

Semester-II

Credits = 26

Marks =600

Semester-II			Credits = 26			Examination Scheme							Total	
Paper Code	Subjects	Type of Course	Credit		Contact Hours Per Week			Theory			Practical			
			Theory	Practical	Total	Theory	Practical	Total	External Assessment	Internal Assessment	External Assessment	Internal Assessment		
25PN-MPES-201	Research Process and Statistics in Physical Education	C.C	04	--	04	04	--	04	70	30	--	--	100	
25PN-MPES-202	Sports Biomechanics	C.C	04	--	04	04	--	04	70	30	--	--	100	
25PN-MPES-203	Anatomy & Physiology	C.C	04	--	04	04	--	04	70	30	--	--	100	
25PN-MPES-204	Foundation and Professional Preparation in Physical Education	C.C.	04	--	04	04	--	04	70	30	--	--	100	
25PN-MPES-DEC205/ 25PN-MPES-DEC206	Education technology/Computer application in Physical Education	D.E.C.	02	02	04	02	04	06	35	15	35	15	100	
25PN-MPES-PC207	Practical-Athletics (Track & Jump events) and Game (Volleyball, Wrestling & Boxing)	P.C.	--	04	04	--	08	08	--	--	70	30	100	
	IKS/VAC	V.A.C.			26			30					600	
Total			02 credit offered from the University Pool of Courses											

C.C.- Core Course

D.E.C. – Discipline Elective Course

P.C. – Practicum Course

V.A.C.= Value Added Course

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Master of Physical Education & Sports

Semester -II

Paper Code: 25PN-MPES-201

Session: 2025-27

Paper: Research Process and Statistics in Physical Education

Maximum Marks 100

Theory Examination :70

Internal Assessment :30

Max. Time: 3 hrs

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Research Process and Statistics in Physical Education	04	04	00	00	60 hrs

COURSE LEARNING OUTCOMES

CLO 1: The Students would be able to know the Meaning and importance of Experimental Research.

CLO 2: The Students would be able to know the Research Synopsis & Research Report

CLO 3: The Students would be able to know the Meaning, Definition, Nature and Importance of Statistics.

CLO 4: The Students would be able to know about the Statistical Models in Physical Education and Sports.

Note: There shall be nine questions in all. Question no. 1 consisting of seven short answer type questions covering the entire syllabus shall be compulsory. Two questions will be asked from each unit. Student will have to attempt one question from each unit. All questions shall carry equal marks.

UNIT-I

Experimental Research – Meaning, Nature and Importance, Experimental Design - Single Group Design, Repeated Measure Design, Static Group Comparison Design, Equated Group Design.

Research Proposal and Report: Meaning of Research Proposal, steps of preparing Research proposal/synopsis, Format of a synopsis, Meaning of Research Report, Chapterization of Thesis/ Dissertation, Format of a dissertation.

Unit-II

Meaning of Statistics, Need and importance of statistics in Physical Education, Methods of organizing Data through Frequency Distribution, Meaning of the Measures of Central Tendency, i.e. Mean, Median and Mode.

Meaning of Measures of variability: Range, Quartile Deviation, Average Deviation and Standard Deviation, Meaning and computation of Percentile and Quartile.

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Unit-III

Introduction to Normal Probability Curve and Correlation- Meaning of Normal Probability Curve, Properties of Normal Curve, Meaning and types of Skewness and kurtosis, Sigma Scores, Z- Scores, Hull Scores, Calculation of probability for various combinations of Heads and Tails, Meaning and Types of Linear Correlation, Computation of Correlation Coefficient with Product Movement Method and Rank Difference Method.

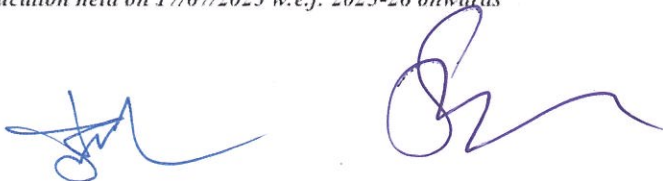
Unit-IV

Graphical representation of data and testing of Hypothesis- Types of Bar Diagrams, Method of preparing Histogram, Frequency Polygon, Cumulative-Frequency Graph, Bar-Diagram and Pie Diagram, Introduction to R Programming, Meaning of two – tailed and one tailed test of significance, computing significance of difference between two means with t – Test (independent samples), One way ANOVA Test.

Suggested Readings:

- Best J.W. Research in Education, Prentice Hall Inc.: Delhi-1982
Clarke, H.David., Research Processes in Physical Education , Recreation & Health Prentice Hall Inc.1985.
Thomas Jerry R. and Nelson Jack K., Research Methods, Physical Activity. Human Kinetics Champaign, 1996.
Weimer, Jon, Research Techniques in Human Engineering. Prentice Hall: New Jersey.1994.
C.V.Good : Methods of Research , Appleton Century Crofts Inc., New York,1954.
W.R.Mouly : Educational Research Introduction, David Making CO. Inc. Yew York, 1975.
J.W.Best : Research in Education, Prentice Hall, 1980.
D.H. Clarke: Research Processes in Physical Education, Recreation and Health , Premice Hall, 1970

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Master of Physical Education & Sports

Semester -II

Paper Code: 25PN-MPES-202

Paper: Sports Biomechanics

Session: 2025-27

Maximum Marks 100

Theory Examination :70

Internal Assessment :30

Max. Time : 3 hrs

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Research Process and Statistics in Physical Education	04	04	00	00	60 hrs

COURSE LEARNING OUTCOMES

CLO 1: The Students would be able to know the Meaning, definition, functions and importance of biomechanics in Physical Education and Sports.

CLO 2: The Students would be able to know and understand the Fundamental Mechanical Concept of: Force, Pressure, Mass, Weight, Volume and Density.

CLO 3: The Students would be able to know the Newton laws of motion, Force, levers and their application in sports.

CLO 4: The Students would be able to know and understand the concept of Spin, Rebound and Swing and their application in Physical Education & Sports.

Note: There shall be nine questions in all. Question no. 1 consisting of seven short answer type questions covering the entire syllabus shall be compulsory. Two questions will be asked from each unit. Student will have to attempt one question from each unit. All questions shall carry equal marks.

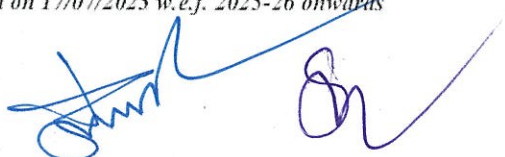
Unit-I

Meaning, definition & importance of biomechanics in physical education, Basic concepts of kinematics and kinetics. Definition of terms Distance and displacement, speed, velocity, acceleration, momentum, pressure, mass and weight, Mechanical concepts- concept of motion & its types, Structure of motor action

Unit-II

Newton's Law of motion and their application in sports, Lever- its types and advantages, Human body lever, force: Definition and effects of forces, principle of force, internal and external forces, centripetal and centrifugal forces, friction forces and drag and lift forces. Biomechanical instruments used in physical education and sports.

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Unit-III

Meaning of centre of gravity and line of gravity, meaning of equilibrium, types of equilibrium, principles of equilibrium and stability, meaning of projectile, characteristics of projectile, range of projectile, height and time of projectile, buoyant force and principle of floatation.

Unit-IV

Meaning of spin, type of spin and effect of spin, Magnus effects, meaning of work, power and energy, Mechanical analysis of gait cycle, walking and running, Mechanical analysis of long jump Mechanical analysis of shot put.

Suggested Readings:

1. Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement, (3rd. Ed.) Baltimore: Williams and Wilkins, (1988)
2. Grimshaw, Paul., Lees, Adrian., Flower, Nel. & Burden, Adrian, Sports and Exercise Biomechanics, Taylor & Francis.
3. Groves, R and Camaine, D. Concepts in Kinesiology. (2nd Ed.) Philadelphia: Saunders College Publishing, (1983).
4. Hall, S.J., Basic Biomechanics, London, Mosby, 1991.
5. Hay, J. & Reid, J. The Anatomical and Mechanical Bases of Human Motion. Englewood Cliffs: Prentice-Hall, (1982)
6. Luttegens, Kathryn., Deutsch, Hega., Hamilton, Nancy. Kinesiology-Scientific Basis of Human Motion, 8 th Ed, Brown & Bench mark.
7. Nordin, M. & frankel, V. Basic Biomechanics of the musculoskeletal System. Philadelphia: Lea & Febiger, (1990).
8. Northrip, J. Logan, G. & Mckinney, W. Analysis of sport Motion. (3rd Ed.) Dubuque: William C. brown, (1983).
9. Thompson, C. Manual of structural Kinesiology. (10th Ed.). St. Louis: Times Mirror/ Mosby college Publishing, (1985)



Master of Physical Education & Sports

Semester -II

Paper Code: 25PN-MPES-203

Paper: Anatomy & Physiology

Session : 2025-27

Maximum Mark: 100

Theory Examination :70

Internal Assessment :30

Max. Time : 3 hrs

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Anatomy & Physiology	04	04	00	00	60 hrs

COURSE LEARNING OUTCOMES

CLO 1: The students would be able to know the skeletal system, cell, tissue, organ, ligament, cartilage, Spinal column, Pelvic Girdle, The extremities, Joints and their movements.

CLO 2: The students would be able to know the muscular system & digestive system and effects of exercise on both systems.

CLO 3: The students would be able to know Fatigue, staleness, muscle cramp.

CLO 4: The students would be able to know about excretory system and effects of exercise on it.

Note: There shall be nine questions in all. Question no. 1 consisting of seven short answer type questions covering the entire syllabus shall be compulsory. Two questions will be asked from each unit. Student will have to attempt one question from each unit. All questions shall carry equal marks.

Unit-I

Meaning and definition of Anatomy and Physiology, Role of Anatomy and Physiology in physical education & sports

Structure, types and Function of the Cell and Tissues, Skeleton system, Classification of bones and Types of Joints

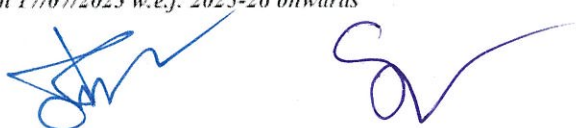
Unit-II

Introduction of Muscular system, Types of muscles in human body, Types of Muscle Contraction and Short and long term Effect of Exercise on Muscular system.

Introduction of Digestive system, Role of Digestive system in human body, Structure of Digestive organs, Mechanism of Digestion, Effect of Exercise on Digestive system

Unit-III

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Macro & Micro Structure of the Skeletal Muscle, Chemical Composition of Skeletal Muscle, Sliding Filament Theory of Muscular Contraction, Composition of slow and fast twitch muscle fibers, Muscle Tone, Neuro-muscular Junction and transmission of nerve impulse across it.

Unit-IV

structure and functions of excretory system, meaning of endocrine glands and exocrine glands, structure of the following glands - pituitary glands, thyroid, parathyroid, adrenal glands, Hypothalamus. Effect of Exercise on excretory system and Endocrine System.

Suggested Readings:

1. Amrit Kumar, R. Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.
2. Beotra Alka. (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.
3. Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
4. David, L Costill. (2004). Physiology of Sports and Exercise. Human Kinetics.
5. Fox, E.L., and Mathews, D.K. (1981). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
6. Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co.
7. Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.
8. Sandhya Tiwaji. (1999). Exercise Physiology. Sports Publishers.
9. Shaver, L. (1981). Essentials of Exercise Physiology. New Delhi: Subject Publications.
10. Vincent, T. Murche. (2007). Elementary Physiology. Hyderabad: Sports Publication.
10. William, D. Mc Aradle. (1996). Exercise Physiology, Energy, Nutrition and Human Performance. Philadelphia: Lippincott Williams and Wilkins Company.



Master of Physical Education & Sports

Semester -II

Paper Code: 25PN-MPES-204

Session: 2025-27

Paper: Foundation and Professional Preparation in Physical Education

Maximum Marks 100

Theory Examination :70

Internal Assessment :30

Max. Time: 3 hrs

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Foundation and Professional Preparation in Physical Education	04	04	00	00	60 hrs

COURSE LEARNING OUTCOMES

CLO 1: The students would be able to know about Meaning and basis of Professional Preparation.

CLO 2: The students would be able to know about Educational Policies in Physical Education.

CLO 3: The students would be able to know about Olympic History of different Countries.

CLO 4: The students would be able to know about The Schemes of UGC for Physical Education

Note: There shall be nine questions in all. Question no. 1 consisting of seven short answer type questions covering the entire syllabus shall be compulsory. Two questions will be asked from each unit. Student will have to attempt one question from each unit. All questions shall carry equal marks.

Unit-I

Concept of Physical Education – Meaning and Definition

Foundations of Professional Preparation, Features of Indian Democracy with regard to Contribution of Physical Education & Sports

Meaning of Profession Preparation

Basis of Professional Preparation in Physical Education and Sports Sciences.

Unit-II

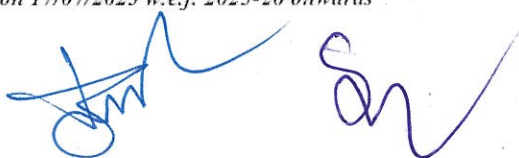
Forces and Factors Affecting Educational Policies and Programmes - Function of the State Govt. in implementation of the Educational and Professional Preparation of Physical Education and Sports Programme.

Historical Review of Physical Education in Pre-Independent India and Post-Independent India.

Unit-III

Historical Review of Germany & Denmark.

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Historical Review of Professional Preparation in Greece & Rome.
Olympic movements through ages
Structure of IOC (International Olympic Committee)

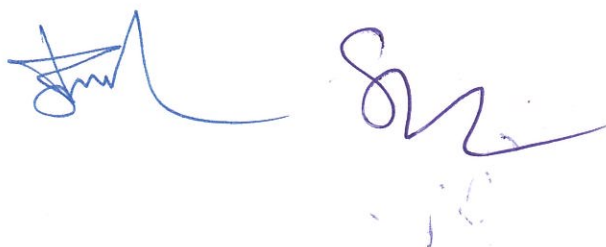
Unit-IV

In-Service Professional Preparation Programmes in Physical Education Concept: Meaning, Importance Process and its Applications.
Professional Courses, Advancement Schemes of UGC for Physical Education, Role of Government and Institutes for Professional Preparation.
Training Programmes in Physical Education & Sports Coaching.

Suggested Readings

- I. Gupta Rakesh, Akhilesh, Santosh, Professional Preparation & Curriculum Design in Phy. Education.
- II. Bhatia, K.K. and Narang, Principles of Education (Methods and Technique) Ludhiana Prakash Brothers Educational Publishers, 1991.
- III. Bhatia, K.K.Kadian, KS Chanda, PC and Sharma (1990) Contemporary Problem of Indian Education, Jalandhar Prakash Brothers Educational Publishers.
- IV. Graily, J.Byrant (1990) Career Potentials in Physical Activity New Jery, Prentice Hall in Englowood Cliffes USA.

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Master of Physical Education & Sports

Semester –II
Discipline Elective I

Paper Code: 25PN-MPES-DEC205

Session: 2025-27

Paper: Education Technology

Maximum Marks 100
Theory Examination :35
Internal Assessment :15
Max. Time : 2 hrs
Practical :50 Marks
External Examination :35
Internal Assessment :15

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Foundation and Professional Preparation in Physical Education	04	02	00	02	60 hrs

COURSE LEARNING OUTCOMES

CLO 1: The students would be able to know about teaching techniques, personal and technical preparation in presentation technique.

CLO 2: The students would be able to know about command and it types & teaching aids and Lesson planning.

Note: There shall be five questions in all. Question no. 1 consisting of seven short answer type questions (1x7=7 Marks) covering the entire syllabus shall be compulsory. Two questions will be asked from each unit (14 marks for each question). Student will have to attempt one question from each unit. All questions shall carry equal marks.

Unit I – Introduction to Educational technology and Instructional design

Educational technology: meaning, characteristics and Scope. Types of educational technology, Instructional design: Concept and Views, process and stages of development of Instructional design, Meaning of Teaching Phases of teaching: Pre – active phase, Inter – active phase and Post active phase. General principles of teaching

Unit II – Lesson Planning & Audio Visual Media Aids

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Meaning of lesson Plan, Need of lesson plan, essentials of a good lesson plan. Different Types of lesson plans, Structure of a lesson plan
Meaning of Audio-visual media Aids, Classification of Audio-visual media Aids. Characteristics of Audio-visual media Aids. Procedure and organization of Teleconferencing/ Interactive video experiences of institutions in schools and colleges. Audio Conferencing and Interactive Radio Conference -strengths and Limitations. Video/Educational Television: Telecast and Video recordings Strengths and limitations.

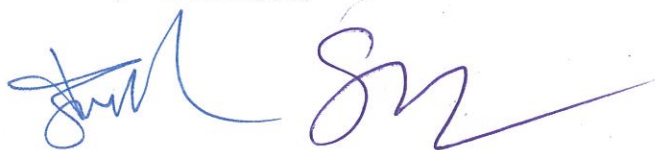
Practical- Application of education technology

- I. MS Word: toolbar, Menu bar, Editing, Printing & Preview Document, Formatting, Mail Merge.
- II. MS Excel: Entering & Editing worksheet data, Creatable Pivot table, charts & Graphs
- III. MS Power point: Editing, Formatting & Transaction Slides, Insert & Move Slide Show, Create Presentation
- IV. Internet: Search Engine & Sites, URL, Browser, WWW, Email concept.
- V. Calculation of Mean, Median & Standard Deviation
- VI. t - test, ANOVA & Correlation

REFERENCE:

- Amita Bhardwaj, New Media of Educational Planning". Sarup of Sons, New Delhi-2003
- Bhatia and Bhatia. The Principles and Methods of Teaching (New Delhi : Doaba House), 1959.
- Education and Communication for development, O. P. Dahama, O. P. Bhatnagar, Oxford Page 68 of
- 71 IBH Publishing company, New Delhi
- Essentials of Educational Technology, Madan Lal, Anmol Publications
- K. Sampath, A. Pannirselvam and S. Santhanam. Introduction to Educational Technology (New Delhi: Sterling Publishers Pvt. Ltd.) : 1981.
- Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jalandhar, Sterling Publishers Pvt. Ltd.), 1982
- Kozman, Cassidy and Jackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia and London), 1952.

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Master of Physical Education & Sports

Semester –II
Discipline Elective II

Paper Code : 25PN-MPES-DEC206

Session : 2025-27

Paper- Computer Application in Physical Education

Maximum Marks 100

Theory Examination :35

Internal Assessment :15

Max. Time : 2 hrs

Practical :50 Marks

External Examination :35

Internal Assessment :15

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Computer Application in Physical Education	04	02	00	02	90 hrs

COURSE LEARNING OUTCOMES

CLO 1: The students would be able to understand the basics & types of computer.

CLO 2: The students would be able to aware about fundamentals of computer hardware and software.

Note: There shall be five questions in all. Question no. 1 consisting of seven short answer type questions (1x7=7 Marks) covering the entire syllabus shall be compulsory. Two questions will be asked from each unit (14 marks for each question). Student will have to attempt one question from each unit. All questions shall carry equal marks.

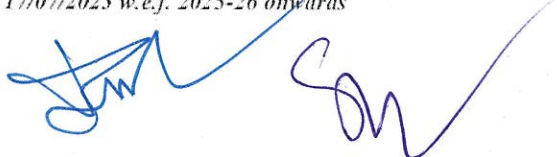
Unit -I

Use of computer application in physical education and sports ,Mobile Communication: Fundamentals of mobile communication, 2G, 3G ,4G and 5G technology, Data communication: General block diagram of communication system, types of communication, application of data communication, digital data communication techniques, concept of network, types of network, LAN topologies, Computer protocols

Unit-II

History of Internet, Intranet, Web Browsers, Search Engines, Working with Internet, Applications of Internet, Internet Payment Systems, Concept of Mobile commerce, multimedia, Concept of Multimedia, Application of Multimedia

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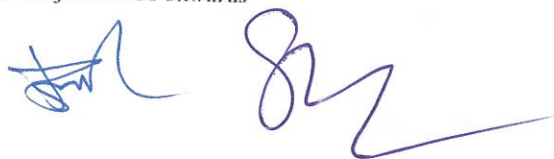


Practical- Computer Application in Physical Education

Max.Marks-50

- I. MS Word: toolbar, Menu bar, Editing, Printing & Preview Document, Formatting, Mail Merge.
- II. MS Excel: Entering & Editing worksheet data, Creatable Pivot table, charts & Graphs
- III. MS Power point: Editing, Formatting & Transaction Slides, Insert & Move Slide Show, Create Presentation
- IV. Internet: Search Engine & Sites, URL, Browser, WWW, Email concept.
- V. Calculation of Mean, Median & Standard Deviation
- VI. t - test, ANOVA & Correlation

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Master of Physical Education & Sports

Semester -II

Paper Code: 25PN-MPES-PC207

Session: 2025-27

Practical: Athletics (Track and Jump Events) & Game (Volleyball, Wrestling & Boxing)

Maximum Marks 100

External Examination :70

Internal Assessment :30

Course Title	Credit	Credit Distribution of the Course			Contact Hours
		Lecture	Tutorial	Practical/Practicum	
Athletics (Track and Jump Events) & Game (Volleyball, Wrestling & Boxing)	04	00	00	04	120 hrs

Practical: Track and Jump Events

- (i) Organisation of Athletic Meet
- (ii) Marking of Long, High and Tripple Jump Pit
- (iii) Teaching ability of Long, High and Triple Jump
- (iv) Interpretation of various rules of Jumping event
- (v) Preparation of Score Sheet of Long, High and Triple Jump
- (vi) Baton exchange of Relay Race and Hurdle Rac

Note: Candidate has to take at least 5 teaching lessons of Jumps,Relay and Hurdle Events.

Practical: Game (Volleyball, Wrestling & Boxing)

1.Volleyball

- (i) Marking of Volleyball Court
- (ii) Teaching ability of various basic skills of Volleyball
- (iii) Interpretation of Various rules of Volleyball
- (iv) Filling the score sheet of Volleyball
- (v) Officiating Symbols

2.Wrestling & Boxing

- (i) Teaching ability of various basic skills of Wrestling & Boxing
- (ii) Interpretation of Various rules of Wrestling & Boxing
- (iii) Filling the score sheet of Wrestling & Boxing
- (iv) Officiating Symbols of Wrestling & Boxing

Note: Candidate has to take total 5 teaching lessons of different skills of both games.

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