

DIRECTORATE OF SPORTS AND PHYSICAL EDUCATION

UNIVERSITY OF JAMMU

(Physical Education)

Syllabus for Ph.D Course work for the year 2023, 2024 and 2025

PAPER- I & II

Ph.D (Course Work), Physical Education

PAPER- I

Paper Title: Research Methodology and Data Analysis in Physical Education

Maximum Marks: 100

Contact hours: 45

Duration of Exam: 3hrs

PAPER- II

Paper Title: Applied Research in Physical Education and Sports Sciences

Maximum Marks: 100

Contact hours: 45

Duration of Exam: 3hrs

Mandeep Nathyal

[Signature]

[Signature]

DIRECTORATE OF SPORTS AND PHYSICAL EDUCATION

UNIVERSITY OF JAMMU

(Physical Education)

Syllabus for Ph.D Course work for the year 2023, 2024 and 2025

PAPER-I

Paper Title: Research Methodology and Data Analysis in Physical Education

Maximum Marks: 100

Contact hours: 45

Duration of Exam: 3hrs

Course Objectives:

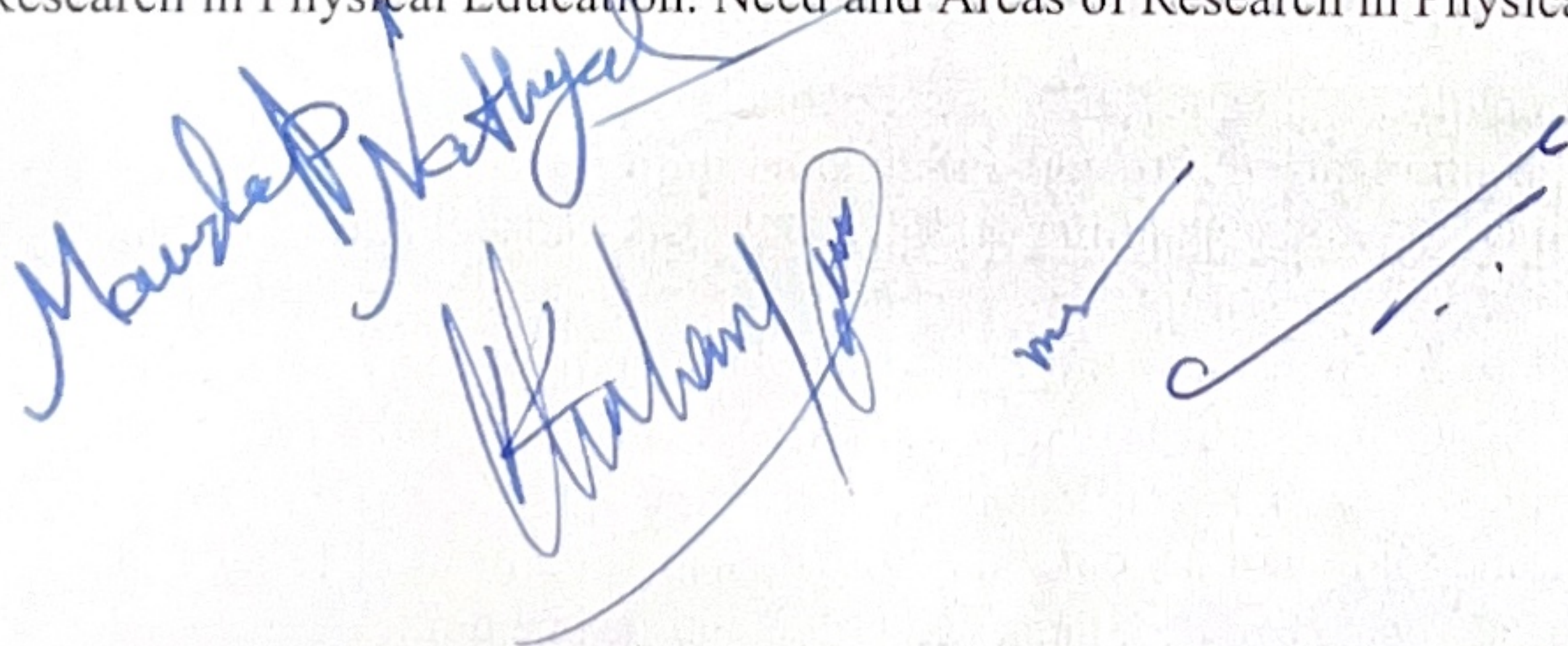
1. To provide academic and Research leaders to National and International Organizations.
2. To promote Research Participation in Physical Education and Sports.
3. To encourage and produce scientific literature and research in the field of Physical Education and Sports.
4. To provide excellent research and teaching for the promotion and development of individual's health and well-being.
5. Trains and demonstrates various skills, techniques, tactics and strategies of various games and athletic events with special reference to Research.

Course Outcomes:

1. Student improves the competency of Research knowledge in the field of Physical Education and Sports.
2. Understands the meaning, concept, process and methods of Research in the field of Physical Education and Sports.
3. Students will develop the understanding of objectives, hypothesis, limitations, delimitations and scope of research in the field of Physical Education and Sports.
4. Students will develop the knowledge regarding the use of various tools for data collection.
5. Understanding of Writing the Research Report will be enhanced.
6. Students will develop the knowledge regarding the use of various tools for data collection.
7. Thoughtful regarding various research and publication ethics and issue in the field of physical education and sports.

Unit-I Introduction

Research: Meaning, Importance, Characteristics and its Classification. Nature and Purpose of Research in Physical Education. Need and Areas of Research in Physical Education.



Unit – II Process and Stages Involved in Research

Locating, Selection, Identification, and formulation of Problem, Review of literature, Formulation of Hypothesis, its types, importance and Characteristics of a Good Hypothesis, Presenting the Research Hypothesis, Formulation and Stating Hypothesis, Testing and Evaluation of the Hypothesis

Unit-III Sampling and Data Collection

Sampling: Concept and its types

Data Collection: Sampling, Aim, Importance, Sampling Techniques and Selecting a Sample, Questionnaire, Interview, Observation, Rating Scale, Score Card, Sociometric Techniques.

Test Construction and Standardization, Norms, Reliability and Validity

Unit – IV Data Analysis, Software and Report Writing

Data Analysis: Basic Orientation and use of statistical software.

Parametric and Non- Parametric Techniques (Concept, assumptions and Analysis using Software)

Report Writing: Writing an Abstract, Synopsis, Research Paper and Research Report.

BOOKS RECOMMENDED

Best J.W., "Research in Education", Prentice Hall inc. Delhi, 1982.

Bernard, H.R. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. Sage Publications.

Breakwell, G.M., Hammond, S. and Fife, S.C. (2000). *Research Methods in Psychology*. New Delhi: Sage.

Broota, K. D. (2002). *Experimental Design in Behavioural Research*. New Delhi: New Age International (P) Ltd., Publishers.

Clarke, H. David, "Research processes in Physical Education, Recreation & Health", Prentice Hall inc., 1985.

Edwards, A.L. (1972). *Experimental Designs in Psychological Research*. New York: Holt, Rinehart and Winston, Inc.

Field, A. (2009). *Discovering Statistics Using SPSS.3/e*. New Delhi: Sage.

Goodwin, C. J. (2010). *Research in Psychology: Methods and Design*. 6/e. N J.: John Wiley and Sons.

Gravetter, F. J., & Wallnau, L. B. (2011). *Essentials of Statistics for Behavioral Sciences*. 7/e. Wadsworth, Cengage Learning.

Guilford, J.P. (1963). *Psychometric Methods*. New York: McGraw Hill

Mandeep Nathyal
Arham
ms

- Howitt, D., & Cramer, D. (2011). *Introduction to Research Methods in Psychology*. 3/e. U.K.: Person Education Limited.
- Kerlinger, F.N. (1983). *Foundations of Behavioural Research*. New Delhi: Surjeet Publication.
- Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: New Age International (P) Ltd., Publishers.
- Kumar, R. (2014). *Research Methodology* (4th ed). New Delhi: Sage Publications India Pvt. Ltd.
- McBurney, D.H. (2001). *Research Methods*. 5/e. New York: Thomson Wadsworth.
- Nachmias, D. and Nachmias, C. (1981). *Research Methods in the Social Sciences*. 2/e. New York: St. Martin's Press.
- Weimer, Jon, "Research Techniques in Human engineering", Prentice Hall: New Jersey, 1994.

NET SURFING REQUIRED:

Students will be highly encouraged to find out the relevant material through NET surfing.

Note for Paper Setting:

The question paper will contain two sections:

Section I: (Weightage 80 marks)

Will consist of eight long answer questions (2 questions from each unit with internal choice within the unit). Each question will be of 20 marks. The candidate will be required to answer one question from each unit. (Total four questions).

Section II: Weightage 20 marks

Will consist of four short answer type questions (attempt any two). The weightage for each question shall be 10 marks. The candidate will be required to answer any two questions.

Mandeep Nathyal
Himanshu

mer
/

DIRECTORATE OF SPORTS AND PHYSICAL EDUCATION

UNIVERSITY OF JAMMU

(Physical Education)

Syllabus for Ph.D Course work for the year 2023, 2024 and 2025

PAPER-II

Paper Title: Applied Research in Physical Education and Sports Sciences

Maximum Marks: 100

Contact hours: 45

Duration of Exam: 3hrs

Course Objectives:

1. To provide foundation of sports studies with the knowledge of various Subjects viz., Research Methodology, Exercise Physiology, Sports Psychology, Biomechanics, Anthropometry, Kinesiology, Sports Medicine etc.
2. To provide Specialized Knowledge on Applied Physical Education with relation to Sport Sciences and Field Knowledge.
3. To promote Specialized Research and participation in various domain in Physical Education and Sports.
4. To encourage for the promotion and development of scientific approach in Physical Education and Sports Science for individual's health and well-being and Performance enhancement.

Course Outcomes:

1. Identify critical elements of Research and Ethics in the field of Physical Education and Sports.
2. Demonstrate competent Research performance in a variety of physical activities.
3. Students will have clarity regarding various concepts of Physical Education and its allied subjects with special reference to Research and Ethics.
4. Understand and debate current physical education research issues and laws based on historical, philosophical, and sociological perspectives.
5. Demonstrate knowledge of approved local, state, and national content standards, and local program goals.

Unit-I Sports Training, Measurement and Evaluation

Sports Training: Fitness and Components, Sports Training: Meaning, Aims, Characteristics, Need, Scope and Principles. Training Load: Meaning, Characteristics, Principles, Symptoms, Causes and tackling of overload, recovery phases, Factors affecting recovery. Methods of Training: Importance, Principles, Types of training, Weight Training, Circuit training, Interval, Fartlek training Cross-Country and Plyometric Training. Periodization, Talent Identification.

Measurement and Evaluation: Meaning of test, measurement and evaluation, Importance of measurement and evaluation in physical education., Modern developments in physical

Mandeep Nathyal

Hanant

ms

education measurements. Characteristics of an effective test: validity, reliability, objectivity, economy, standard and norms. Procedure for construction of skill tests. Principles of writing knowledge tests. Physical Fitness Test and Skill Tests

Unit-II Sports Psychology

Sports Psychology: Meaning, Scope and need, Psychological preparation of Athlete. Personality: Assessment of personality, Factors effecting personality, Athletic performance and personality. Motivation: Meaning, type, sources, motive, drive, need and incentives in motivation; Impact of motivation on Athletic performance. Stress, Anxiety, Mental Health, Aggression, Intelligence and Adjustment.

Unit-III Biomechanics

Biomechanics: Meaning, Scope and importance in Physical Education and Sports. Linear and Angular Kinematics. Linear and Angular Kinetics: Projectile: Meaning, Horizontal and vertical components, Influence of Air Resistance, factors influencing Trajectory (Projection angle, Projection speed, Projection Height, Projection Conditions) Equilibrium: Meaning, types, principles and their application in sports. Biomechanics of Running, Walking, High Hurdling, Shot put, Discus Throw, Broad Jump, High Jump and Swimming (Free Style) Different Tools and Techniques used for Biomechanical analysis of sports movement Motion: Meaning, Characteristics, Types and Law of motion (Newton's Law)

Unit-IV Sports Medicine and Exercise Physiology

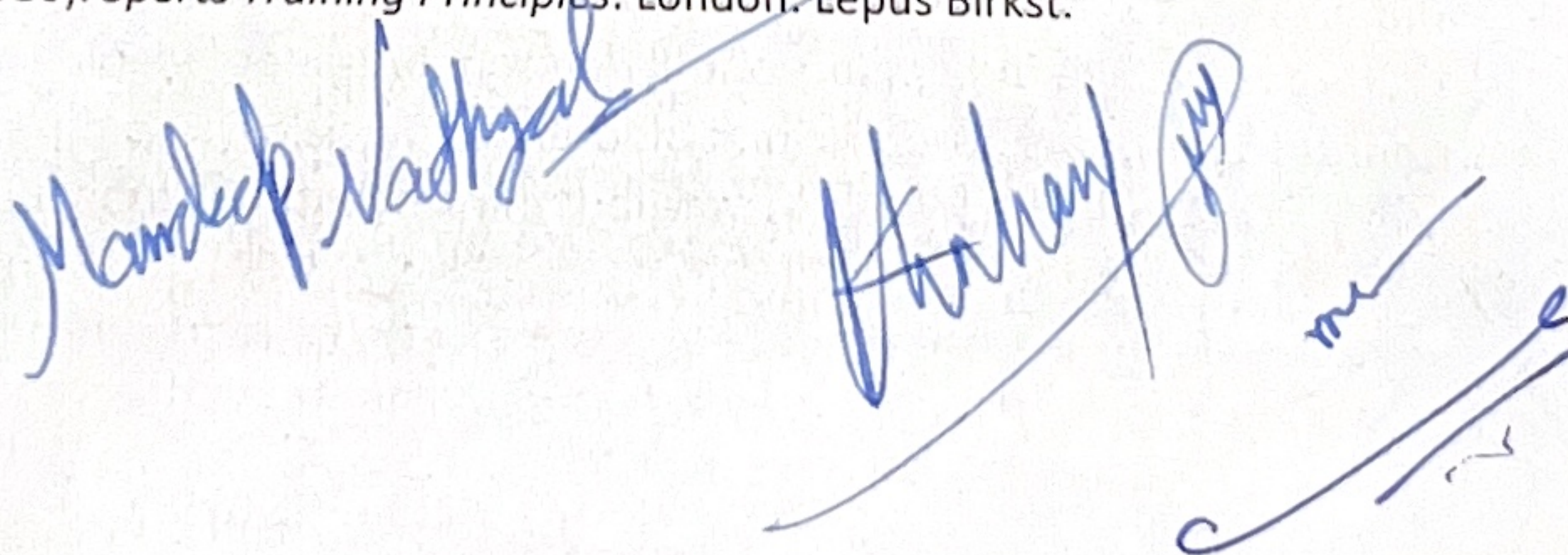
Sports Medicine: Sports Medicine: Definitions, objective, importance & scope. Reaction to Injury: Kubler and Ross model of Athletic reaction to injury. Sports Injuries: Causes, prevention and management. Reproductive changes in the Athlete. Sports Rehabilitation: Principles of strength and stretching rehabilitation of training.

Exercise Physiology: Meaning, Nature, Need and Importance of Exercise Physiology in Games and Sports. Bioenergetics: Adenosine-tri-phosphate (ATP), Sources of ATP (Anaerobic Glycolysis, Aerobic Glycolysis). The Aerobic and Anaerobic systems During Rest and Exercise. Energy Production: Oxidative Metabolism of Carbohydrate, Fat Metabolism & Protein Metabolism.

BOOKS RECOMMENDED

Sports Training, Measurement and Evaluation

- 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.
- 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
- Yobu, A. (2010). *Test, Measurement & Evaluation in physical education and sports*. India: Friends publications.

Sports Psychology

- 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.

Biomechanics

- Rai, R. (2003). *Biomechanics- Mechanical aspect of human motion*. Mohali, Punjab: Agrim Publication.
- Fung, Y.C. (1993). *Biomechanics Mechanical Properties of Living Tissues*
- James, G. & Hay (1978). *The Biomechanics of Sports Techniques* (2nd ed.). Englewood Cliffs, N. J. Prentice Hall.
- J W. Bunn, J.W. (1972). *Scientific Principles of Coaching* (2nd ed.) Englewood Cliffs N. J. Prentice Hall.
- Scott, M.G. (N.D.). *Analysis of Human Motion*. New York: Application Century Craft.

Sports Medicine and Exercise Physiology

- 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.
- Bindal, V.D. (2016). *Therapeutic and Sports Massage*. Agra: Associated Publishing House.
- Johnson, J. C. (2011). *Postural Assessment*. Human Kinetics.
- Kumar, P. (2019). *Management of Obesity Induced Forward Head Posture Deformities Through Sports*. International Journal of Physical Education, Sports and Health.
- Frank, M. C. & Kalas, V. (2005). *Molecular and cellular exercise physiology*. New Zealand: Human Kinetics, Division of sports distributory Nz Ltd.
- Jack, W.H. & Costill L. P. (2004). *Physiology of Sports and Exercise*. USA: Human Kinetics.
- Majumdar, P. (2011). *Physiology of Sports and Exercise*. India: New central Book Agency (P).

Mandeep Nathyal

Chakraborty

ms

NET SURFING REQUIRED:

Students will be highly encouraged to find out the relevant material through NET surfing.

Note for Paper Setting:

The question paper will contain two sections:

Section I: (Weightage 80 marks)

Will consist of eight long answer questions (2 questions from each unit with internal choice within the unit). Each question will be of 20 marks. The candidate will be required to answer one question from each unit. (Total four questions).

Section II: Weightage 20 marks

Will consist of four short answer type questions (attempt any two). The weightage for each question shall be 10 marks. The candidate will be required to answer any two questions.

Mandeep Nathyal

Chakraborty

ms