

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Ph. D. Entrance Test 2020

Syllabus of Paper-II

Subject: Physical Education

Unit No.	Name of the Unit	Detailing
I	Research Process in Physical Education and Sports Sciences	<p>Introduction Meaning and Definition of Research – Need, Nature and Scope of research in Physical Education. Classification of Research, Location of Research Problem, Criteria for selection of a problem, Qualities of a good researcher.</p> <p>Methods of Research Descriptive Methods of Research; Survey Study, Case study, Introduction of Historical Research, Steps in Historical Research, Sources of Historical Research: Primary Data and Secondary Data, Historical Criticism: Internal Criticism and External Criticism.</p> <p>Experimental Research Experimental Research – Meaning, Nature and Importance, Meaning of Variable, Types of Variables. Experimental Design - Single Group Design, Reverse Group Design, Repeated Measure Design, Static Group Comparison Design, Equated Group Design, Factorial Design.</p> <p>Sampling Meaning and Definition of Sample and Population. Types of Sampling; Probability Methods; Systematic Sampling, Cluster sampling, Stratified Sampling. Area Sampling – Multistage Sampling. Non- Probability Methods; Convenience Sample, Judgement Sampling, Quota Sampling.</p> <p>Research Proposal and Report Chapterization of Thesis / Dissertation, Front Materials, Body of Thesis – Back materials. Method of Writing Research proposal, Thesis / Dissertation; Method of writing abstract and full paper for presenting in a conference and to publish in journals ,Mechanics of writing Research Report, Footnote and Bibliography writing.</p>
II	Test, Measurement and Evaluation in Physical Education	<p>Introduction Meaning and Definition of Test, Measurement and Evaluation. Need and Importance of Measurement and Evaluation. Criteria for Test Selection – Scientific Authenticity. Meaning, definition and establishing Validity, Reliability, Objectivity. Norms – Administrative Considerations.</p> <p>Motor Fitness Tests Meaning and Definition of Motor Fitness. Test for Motor Fitness; Indiana Motor Fitness Test(for elementary and high school boys, girls and College Men) Oregon Motor Fitness Test (Separately for boys and girls) - JCR test. Motor Ability; Barrow Motor Ability Test –Newton Motor Ability Test – Muscular Fitness – Kraus Weber Minimum Muscular Fitness Test.</p> <p>Physical Fitness Tests Physical Fitness Test: AAHPERD Health Related Fitness Battery (revised in 1984), ACSM Health Related Physical Fitness Test, Roger’s physical fitness Index. Cardio vascular test;Harvard step test, 12 minutes run / walk test, Multi-stage fitness test (Beep test)</p> <p>Anthropometric and Aerobic-Anaerobic Tests Physiological Testing: Aerobic Capacity: The Bruce Treadmill Test Protocol, 1.5 Mile Run test for college age males and females. Anaerobic Capacity: Margaria-</p>

		<p>Kalamen test, Wingate Anaerobic Test, Anthropometric Measurements: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin folds: Triceps, Sub scapular, Suprailiac.</p> <p>Skill Tests Specific Spots Skill Test: Badminton: Miller Wall Volley Test. Basketball: Johnson Basketball Test, Harrison Basketball Ability Test. Cricket: Sutcliff Cricket test. Hockey: Friendel Field Hockey Test, Harban's Hockey Test, Volleyball, Russel Lange Volleyball Test, Brady Volleyball Test. Football: Mor-Christian General Soccer Ability Skill Test Battery, Johnson Soccer Test, McDonald Volley Soccer Test. Tennis: Dyer Tennis Test.</p>
III	Applied Statistics in Physical Education and Sports	<p>Introduction Meaning and Definition of Statistics. Function, need and importance of Statistics. Types of Statistics. Meaning of the terms, Population, Sample, Data, types of data. Variables; Discrete, Continuous. Parametric and non-parametric statistics.</p> <p>Data Classification, Tabulation and Measures of Central Tendency Meaning, uses and construction of frequency table. Meaning, Purpose, Calculation and advantages of Measures of central tendency – Mean, median and mode.</p> <p>Measures of Dispersions and Scales Meaning, Purpose, Calculation and advances of Range, Quartile, Deviation, Mean Deviation, Standard Deviation, Probable Error. Meaning, Purpose, Calculation and advantages of scoring scales; Sigma scale, Z Scale, Hull scale</p> <p>Probability Distributions and Graphs Normal Curve. Meaning of probability- Principles of normal curve – Properties of normal curve. Divergence form normality – Skewness and Kurtosis. Graphical Representation in Statistics; Line diagram, Bar diagram, Histogram, Frequency Polygon, Ogive Curve.</p> <p>Inferential and Comparative Statistics Tests of significance; Independent “t” test, Dependent “t” test – chi – square test, level of confidence and interpretation of data. Meaning of correlation – co-efficient of correlation – calculation of co-efficient of correlation by the product moment method and rank difference method. Concept of ANOVA and ANCOVA.</p> <p>Note : It is recommended that the theory topics be accompanied with practical, based on computer software of statistics.</p>
IV	Scientific Principles of Sports Training	<p>Introduction Sports training: Definition – Aim, Characteristics, Principles of Sports Training, Over Load: Definition, Causes of Over Load, Symptoms of Overload, Remedial Measures – Super Compensation – Altitude Training – Cross Training</p> <p>Components of Physical Fitness Strength: Methods to improve Strength: Weight Training, Isometric, Isotonic, Circuit Training, Speed: Methods to Develop Speed: Repetition Method, Downhill Run, Parachute Running, Wind Sprints, Endurance, Methods to Improve Endurance: Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training</p> <p>Flexibility Flexibility: Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method, Special Type Training: Plyometric Training. Training for Coordinative abilities: Methods to improve Coordinative abilities: Sensory Method, Variation in Movement Execution Method, Variation in External Condition Method, Combination of Movement Method, Types of Stretching Exercises.</p>

		<p>Training Plan Training Plan: Macro Cycle, Meso-Cycle. Short Term Plan and Long Term Plans - Periodisation: Meaning, Single, Double and Multiple Periodisation, Preparatory Period, Competition Period and Transition Period.</p> <p>Doping Definition of Doping – Side effects of drugs – Dietary supplements – IOC list of doping classes and methods. Blood Doping – The use of erythropoietin in blood boosting – Blood doping control – The testing programmes – Problems in drug detection – Blood testing in doping control – Problems with the supply of medicines Subject to IOC regulations :overthe- counter drugs (OTC) – prescription only medicines (POMs) – Controlled drugs (CDs). Reporting test results – Education</p>
V	<p>Information & Communication Technology (ICT) in Physical Education</p>	<p>Communication & Classroom Interaction Concept, Elements, Process & Types of Communication, Communication Barriers & Facilitators of communication Communicative skills of English - Listening, Speaking, Reading & Writing Concept & Importance of ICT Need of ICT in Education Scope of ICT: Teaching Learning Process, Publication Evaluation, Research and Administration Challenges in Integrating ICT in Physical Education</p> <p>Fundamentals of Computers Characteristics, Types & Applications of Computers Hardware of Computer: Input, Output & Storage Devices Software of Computer: Concept & Types Computer Memory: Concept & Types Viruses & its Management Concept, Types & Functions of Computer Networks Internet and its Applications Web Browsers & Search Engines Legal & Ethical Issues</p> <p>MS Office Applications MS Word: Main Features & its Uses in Physical Education MS Excel: Main Features & its Applications in Physical Education MS Access: Creating a Database, Creating a Table, Queries, Forms & Reports on Tables and its Uses in Physical Education MS Power Point: Preparation of Slides with Multimedia Effects MS Publisher: Newsletter & Brochure</p> <p>ICT Integration in Teaching Learning Process Approaches to Integrating ICT in Teaching Learning Process Project Based Learning (PBL) Co-Operative Learning Collaborative Learning ICT and Constructivism: A Pedagogical Dimension</p> <p>E-Learning & Web Based Learning E-Learning Web Based Learning Visual Classroom</p>

Reference Books:

Unit: I

Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc

Clarke David. H & Clarke H, Harrison (1984) Research processes in Physical Education, New Jersey; Prentice Hall Inc.

Craig Williams and Chris Wragg (2006) Data Analysis and Research for Sport and Exercise

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Unit: II

Authors Guide (2013) *ACSM's Health Related Physical Fitness Assessment Manual*, USA: ACSM Publications

Collins, R.D., & Hodges P.B. (2001) *A Comprehensive Guide to Sports Skills Tests and Measurement* (2nd edition) Lanham: Scarecrow Press

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Unit: IV

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Cart, E. Klafs&Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosphy Company

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David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moore University

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Rebecca Bridges Altman Peach pit Press, Power point for window, 1999

Sanjay Saxena, Vikas Publication House, Pvt. Ltd. Microsoft Office for ever one, Second Edition-2006

Name & Signatures of Syllabus Committee:

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Dr. Mohd. Ataulla
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Dr. Deepak Mane
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Date: 07/07/2020

Place: Aurangabad