



**Syllabus for Ph.D. Entrance Test**  
**Department of Physical Education**

**Section – A**  
**Research Aptitude/ Research Methodology**

Unit	Subject Area	Number of Questions
I	<b>Mathematical Reasoning and Aptitude:</b> Types of reasoning. Number series, Letter series, Codes and Relationships. Mathematical Aptitude (Fraction, Time & Distance, Ratio, Proportion and percentage, Profit and Loss, Interest and Discounting. Averages etc.) Logical Reasoning	09
II	<b>Data Interpretation:</b> Sources, acquisition and classification of Data. Quantitative and Qualitative Data Graphical representation. Data Interpretation. Data and Governance.	09
III	<b>Information and Communication Technology (ICT):</b> ICT: General abbreviations and terminology Basics of Internet, Intranet, E-mail, Audio and Video Conferencing. Digital initiatives in higher education, ICT and Governance	09
IV	<b>Higher Education System:</b> Institutions of higher learning and education in ancient India. Evolution of higher learning and research after Independence. Oriental Conventional and Non-conventional learning programs in India. Professional, technical and skill-based education, Value and environmental education. Policies, Governance and Administration.	08

*Chahal*  
22/04/2024  
अध्यक्ष

शारीरिक शिक्षा विभाग  
दीनदयाल उपाध्याय गोरखपुर विश्वविद्यालय,  
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**Section- B**  
**Subject's Content**

Unit	Subject Area	Number of Questions
I	<b>Research in Physical Education:</b> Scientific principles of research. Steps & stages in research process. Relevance of literature review. Hypothesis Testing. Experimental and Non-experimental research designs. Types of research. Characteristics of Scientific Methods. Ethical and Moral Issues in Research, Plagiarism, tools to avoid plagiarism, Intellectual Property Rights, Patent Rights.	05
II	<b>Test, Measurement and Evaluation in Research:</b> Data and its types, Methods of data collection. Population and sampling techniques. Classification of test. Construction of test and its Standardization. Criteria of test Selection. Tests for general motor ability and Sports Skills.	05
III	<b>Statistical Application:</b> Application of parametric and nonparametric tests in research. Measures of central tendency and variability and their uses. Normal probability curve. Reliability of statistics and test of significance. Correlation techniques. Scaling techniques. Interpretation of research findings.	05
IV	<b>Exercise Physiology:</b> Physiology and physical training, Exercise Physiology, Physiological changes, De-training, retraining and maintenance. Types and structure of muscle fibres. Body size and Body composition, Physiology and altitude training, Physiology of female in sports, Physiological changes in aging, Ergogenic aids, Energy sources, Training and Recovery, Acclimatization.	05
V	<b>Sports Psychology:</b> Psychological Principles and Sports, Cognitive Processes, Motor learning, Motivation, Personality traits of elite athletes, Emotions and Sports performance, Prestart states, Anxiety, Fear, Frustration, Aggression, Conflict and Sports Performance, Psycho-regulatory techniques, Audience and sports.	05
VI	<b>Sports Biomechanics:</b> Principles of Sports Biomechanics / Kinesiology / Biomechanics/ Mechanics. Newton's Laws of motion, Levers, Force, Friction, Air and water resistance, Biomechanical analysis, Sports performance analysis, Analysis of motion, Kinematics analysis, Projectile.	05
VII	<b>Sports Training:</b> Principles of Sports Training, Coaching and Conditioning. Training load, Motor components, Technique and Tactical training, Periodization.	05

*(Signature)*  
अध्यक्ष 22/04/2024

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