NTA UGC

NET/JRF/SET

TEACHING AND RESEARCH APTITUDE

General Paper 1 (Compulsory)

AUTHORS

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CONTENTS

SYLLABUS

UNIT 1   Teaching Aptitude
- Teaching: Concept, Objectives, Levels of Teaching (Memory, Understanding and Reflective), Characteristics and Basic Requirements.
- Learner's Characteristics: Characteristics of Adolescent and Adult Learners (Academic, Social, Emotional and Cognitive), Individual Differences.
- Factors Affecting Teaching Related to: Teacher, Learner, Support Material, Instructional Facilities, Learning Environment and Institution.
- Methods of Teaching in Institutions of Higher Learning: Teacher Centred vs. Learner Centred Methods; Off-line vs. On-line Methods (Swayam, Swayamprabha, MOOCs etc.).
- Teaching Support System: Traditional, Modern and ICT based.
- Evaluation Systems: Elements and Types of Evaluation, Evaluation in Choice Based Credit System in Higher Education, Computer Based Testing, Innovations in Evaluation Systems.

UNIT 2   Research Aptitude
- Research: Meaning, Types and Characteristics, Positivism and Post- Positivistic Approach to Research.
- Methods of Research: Experimental, Descriptive, Historical, Qualitative and Quantitative Methods.
- Steps of Research.
- Thesis and Article Writing: Format and Styles of Referencing.
- Application of ICT in Research.
- Research Ethics.

UNIT 3   Comprehension
- A passage of text be given. Questions be asked from the passage to be answered.

UNIT 4   Communication
- Communication: Meaning, Types and Characteristics of Communication.
- Effective Communication: Verbal and Non-Verbal, Inter-Cultural and Group Communications, Classroom Communication.
- Barriers to Effective Communication.
- Mass-Media and Society.

UNIT 5 Mathematical Reasoning and Aptitude

- Types of Reasoning.
- Number Series, Letter Series, Codes and Relationships.
- Mathematical Aptitude (Fraction, Time and Distance, Ratio, Proportion and Percentage, Profit and Loss, Interest and Discounting, Averages etc.).

UNIT 6 Logical Reasoning

- Understanding the Structure of Arguments: Argument Forms, Structure of Categorical Propositions, Mood and Figure, Formal and Informal Fallacies, Uses of Language, Connotations and Denotations of Terms, Classical Square of Opposition.
- Evaluating and Distinguishing Deductive and Inductive Reasoning.
- Analogies.
- Venn Diagram: Simple and Multiple Use for Establishing Validity of Arguments.
- Indian Logic: Means of Knowledge.
- Pramanas: Pratyaksha (Perception), Anumana (Inference), Upamana (Comparison), Shabda (Verbal Testimony), Arthapatti (Implication) and Anupalabddhi (Non-Apprehension).
- Structure and Kinds of Anumana (Inference), Vyapti (Invariable Relation), Hetvabhasas (Fallacies of Inference).

UNIT 7 Data Interpretation

- Sources, Acquisition and Classification of Data.
- Quantitative and Qualitative Data.
- Graphical Representation (Bar-Chart, Histograms, Pie-chart, Table-Chart and Line-chart) and Mapping of Data.
- Data Interpretation.
- Data and Governance.

UNIT 8 Information and Communication Technology (ICT)

- ICT: General Abbreviations and Terminology.
- Basics of Internet, Intranet, E-mail, Audio and Video-Conferencing.
- Digital Initiatives in Higher Education.
- ICT and Governance.

Unit 9 People, Development and Environment

- Development and Environment: Millennium Development and Sustainable Development Goals.
- Human and Environment Interaction: Anthropogenic Activities and their impacts on Environment.
- Environmental Issues: Local, Regional and Global; Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Waste (Solid, Liquid, Bio-Medical, Hazardous, Electronic), Climate Change and its Socio-Economic and Political Dimensions.
- Impacts of Pollutants on Human Health.
- Natural and Energy Resources: Solar, Wind, Soil, Hydro, Geothermal, Biomass, Nuclear and Forests.
- Natural Hazards and Disasters: Mitigation Strategies.
- Environmental Protection Act (1986), National Action Plan on Climate Change, International Agreements/Efforts -Montreal Protocol, Rio Summit, Convention on Biodiversity, Kyoto Protocol, Paris Agreement, International Solar Alliance.

UNIT 10 Higher Education System

- Institutions of Higher Learning and Education in Ancient India.
- Evolution of Higher Learning and Research in Post Independence India.
- Oriental, Conventional and Non-Conventional Learning Programmes in India.
- Professional, Technical and Skill Based Education.
- Value Education and Environmental Education.
- Policies, Governance and Administration.