

# **MASTER GUIDE**

## **NTA-UGC-NET & WB-SET**

### **NET / SET / JRF / PhD / JET**

**Paper-1**

**Bilingual : Bengali-English**

**জেনারেল পেপার : টিচিং ও রিসার্চ অ্যাপটিটিউড**

**Jahiruddin Shaikh**

*Assistant Professor of Economics*

Sonamukhi College, Bankura, West Bengal

Former Assistant Professor, Swami Niswambalananda Girls' College, Hooghly

Former Guest Faculty, Shyamsundar College, Burdwan, West Bengal

**PRAGYA BIKASH**

9/3, RAMANATH MAJUMDER STREET, KOLKATA - 700 009

Mob. : 9830849348 ■ Website : [www.pragyabikash.com](http://www.pragyabikash.com)



# SYLLABUS of UGC NET & WB-SET

## ■ Paper-1 ■

### Subject : General Paper on Teaching & Research Aptitude

Code : 00

The main objective is to assess the teaching and research capabilities of the candidates. The test aims at assessing the teaching and research aptitude as well. Candidates are expected to possess and exhibit cognitive abilities, which include comprehension, analysis, evaluation, understanding the structure of arguments, deductive and inductive reasoning. The candidates are also expected to have a general awareness about teaching and learning processes in higher education system. Further, they should be aware of interaction between people, environment, natural resources and their impact on the quality of life.

The details of syllabi are as follows :

#### Unit-I 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-II 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-III Comprehension

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

#### Unit-IV 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-V Mathematical Reasoning and Aptitude

- 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.).

#### Unit-VI 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 Anupalabdhi (Non-apprehension).
- Structure and kinds of Anumana (inference), Vyapti (invariable relation), Hetvabhasas (fallacies of inference).

#### Unit-VII 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-VIII 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-IX 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, biomedical, 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-X 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.

#### **NOTE :**

- Five questions each carrying 2 marks are to be set from each Module.
- Whenever graphical/pictorial question(s) are set for sighted candidates, a passage followed by equal number of questions and weightage be set for visually impaired candidates.

	<i>Link for Syllabus</i>
NTA-UGC NET	<a href="https://www.ugcnetonline.in/syllabus-new.php">https://www.ugcnetonline.in/syllabus-new.php</a>
WB-SET	<a href="https://wbcs.org.in/wbcs/SETSYllabus.aspx">https://wbcs.org.in/wbcs/SETSYllabus.aspx</a>



## *Guidelines to Crack NET Exam on the First Attempt*

### *How to Prepare*

1. **Solve Previous Year Papers:** Regularly practice past question papers to understand patterns.
2. **Identify Strengths & Weaknesses:** Make a list of your strong and weak areas, and plan your study strategy accordingly.
3. **Time Management:** Split your time equally-50% for knowledge development and 50% for revision, speed, and accuracy improvement.
4. **Set Deadlines:** Fix timelines for revisions and mock tests using practice sets.
5. **Stay Updated:** Regularly follow current affairs, especially in areas like the Communication, environment, higher education, NEP, and digital initiatives.
6. **Prepare Notes:** Write your own concise notes for quick revisions.
7. **Focus on Paper 1:** Don't overlook Paper 1; it's crucial for your success.
8. **Be Confident:** Trust your preparation process and stay confident throughout the journey.

### *How to Attempt Questions in the Exam Hall*

1. **Begin with Your Strengths:** Start by answering questions from areas you're most confident in.
2. **Stay Calm:** Maintain a calm and focused mindset throughout the exam.
3. **Answer Every Question:** Since there is no negative marking (unless rules change), make sure not to leave any question unanswered-each carries 2 marks.
4. **Focus on Sure Answers First:** Initially tackle the questions you're absolutely certain about.
5. **Manage Time Wisely:** Time management is key-don't spend too long on any one question.
6. **Don't Get Stuck:** Move on from tricky questions and return to them later if time permits.
7. **Read Carefully:** Thoroughly read and understand each question before answering, as the current patterns are more conceptual.
8. **Use Elimination:** Narrow down choices by eliminating incorrect options, especially in match-the-list questions.
9. **Apply Logic:** If unsure, use logical reasoning to arrive at the best answer.

Best of Luck!—Author

Make 50 photocopies (Xerox) of the provided OMR sheet then practice.

### *Guidelines to Follow This Book*

- Study the book by following the content sections / chronological order. First study theory then practice PYQ 2004-2018 and then revise theory then Practice Unit test
- Make 50 photocopies (Xerox) of the provided OMR sheet and practice on it try to maintain time.
- After practicing, evaluate your performance by checking the answers, explanations.
- Don't worry if your score isn't high at first. Focus on improving with each practice.
- Use the OMR sheet to identify your weak areas and strong zones, helping you fine-tune your preparation.

### *Example of a 5-month study plan (120 concrete days): Make your own routine*

- Total Units: 10
- Theory Study: 4-7 days per unit
- PYQ Practice: Weekly (30-50 questions)
- Unit Test: End of each week
- Pure Practice: Reading Comprehension, Data Interpretation, Math and Reasoning should practice 2-3 days every week (rotating)
- Revision Weeks: After every 2 units (every 15 days)
- Mock Tests with Revision: Last 4 weeks

“জ্ঞানের আরম্ভ আছে, শেষ নেই, দান আছে, ক্ষয় নেই”। —রবীন্দ্রনাথ ঠাকুর



# CONTENTS

Unit	Contents	Page No
<b>I. Teaching Aptitude</b>		<b>1-55</b>
	✧ Concept, Objectives, Levels & Characteristics	1
	✧ Learner's characteristics & Individual differences.	3
	✧ Factors affecting teaching	5
	✧ Methods of teaching in Institutions of higher learning	6
	✧ Teaching Support System	8
	✧ Evaluation Systems	9
	✧ Teaching-Learning Theories	14
	✧ Models of Curriculum Development	21
	✧ Philosophy and Views	23
	✧ PYQ Practice	25
	✧ Unit Test: Self-Assessment	32
<b>II. Research Aptitude</b>		<b>56-123</b>
	✧ Meaning, Types, Characteristics, and Positivism	56
	✧ Methods of Research	62
	✧ Steps of Research	63
	✧ Thesis and Article writing	85
	✧ Research ethics.	90
	✧ Application of ICT in research.	93
	✧ PYQ Practice	93
	✧ Unit Test: Self-Assessment	101
<b>III. Comprehension</b>		<b>124-175</b>
	✧ How to solve: Examples	124
	✧ Try yourself: Exercise	127
	✧ PYQ Practice	133
	✧ Unit Test: Self-Assessment	151
<b>IV. Communication</b>		<b>176-220</b>
	✧ Communication: Meaning, types and characteristics	176
	✧ Effective communication: Verbal and Non-verbal,	178
	✧ Barriers to effective communication	184
	✧ The models of communication	187
	✧ Mass-Media and Society	191

✧ PYQ Practice	193
✧ Unit Test: Self-Assessment	199

## **V. *Mathematical Reasoning and Aptitude*** **221–296**

✧ Problem on Numbers	221
✧ Average	226
✧ Fraction	229
✧ Ratio-Proportion	232
✧ Percentage: Profit & Loss	234
✧ Problem on Ages	236
✧ Simple and Compound Interest	238
✧ Speed-Distance-Time	241
✧ Time-Work	245
✧ Pipe-Cistern	246
✧ PYQ Practice	247
✧ Series	254
✧ Coding-Decoding	256
✧ Analogy & Classification	258
✧ Blood Relation	258
✧ Direction-Distance	261
✧ Puzzles	262
✧ Venn Diagram	264
✧ Missing Number/Figure	265
✧ Clock & Callender	266
✧ PYQ Practice	268
✧ Unit Test: Self-Assessment	283

## **VI. *Logical Reasoning*** **297–358**

✧ Evaluating deductive and inductive reasoning	297
✧ Understanding the structure of arguments	300
✧ Classical square of opposition	306
✧ Uses of language, Connotations and denotations	309
✧ Venn diagram: Simple and multiple use	310
✧ Analogies	314
✧ Indian Logic: Means of knowledge: Pramanas	315
✧ Structure and kinds of Anumana (inference)	319
✧ PYQ Practice	323
✧ Unit Test: Self-Assessment	335



<b>VII. <i>Data Interpretation</i></b>	<b>359–440</b>
✧ Concept	359
✧ How to Solve	360
✧ PYQ Practice	368
✧ Unit Test: Self-Assessment	388
<b>VIII. <i>Information and Communication Technology</i></b>	<b>411–469</b>
✧ ICT: General abbreviations and terminology	411
✧ The Number System	412
✧ The computer: Hardware	414
✧ Software	426
✧ Basics of Internet	429
✧ ICT and Governance	435
✧ PYQ Practice	439
✧ Unit Test: Self-Assessment	446
<b>IX. <i>People, Development and Environment</i></b>	<b>470–546</b>
✧ Environment: Component & Ecosystem	470
✧ Human and environment interaction	480
✧ Natural and energy resources	483
✧ Environmental issues: Pollution	489
✧ Natural Hazards and Mitigation	500
✧ Biosphere	505
✧ Environmental Act, Plan, Agreements & Convention	509
✧ Development and environment: MDG & SDG	513
✧ International Environmental Days	515
✧ PYQ Practice	517
✧ Unit Test: Self-Assessment	525
<b>X. <i>Higher Education System</i></b>	<b>547–608</b>
✧ Institutions of higher learning and education in ancient India	547
✧ Evolution of higher learning and research	552
✧ Higher education Body & Structure	560
✧ Oriental, Conventional and Non-conventional learning	566
✧ Professional, Technical and Skill Based education	567
✧ Value education and environmental education	576
✧ Policies, Governance, and Administration	579
✧ PYQ Practice	581
✧ Unit Test: Self-Assessment	586
<b><i>Annexure</i></b>	<b>609–610</b>
✧ Current Affairs	609