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Syllabus for Ph.D. Entrance Examination

PAPER-I

(RESEARCH METHODOLOGY)

1. Basic concept of research problem

- Rationale of research
- Identification of research problem
- Research objective
- Types of research- fundamentals/applied/action/quantitative/qualitative

2. Review of literatures

- Primary source
- Secondary source
- Searching e-resources, using research engines
- Searching database
- Writing literature review

3. Methods of research

- Concept and formulation of hypothesis
- Survey method
- Experimental method (variable, designs)
- Historical methods
- Content analysis

4. Sampling of data

- Concept of sampling
- Probability sampling techniques
- Non probability sampling techniques
- Sampling error

5. Collection of data

- Primary data generation
- Secondary data collection
- Methods of data generation/collection- by experiments, questionnaire, interview schedule, focus groups etc.

6. Analysis of data

- Statistical analysis techniques
- Qualitative analysis techniques
- Application of computer in research data analysis

7. Reports preparation

- Structure and component of research report
- Organization of data
- Indexing of journal and research output
- Citation, reference, bibliography
- Copyright, plagiarism, originality of research work

8. Research ethics

- Ethics in research
- National and International regulations/law/ethics related to research on human, Animals and Environments

PAPER-II

RURAL TECHNOLOGY

Unit 1: Holistic Understanding of Rural Systems and Technology

- Rural Area, Problems, Social Structure, Sanitation, Infrastructure, Information, and Communication
- Rural Development Schemes
- Rural Technology: Definition, Types, and Importance in Cottage Industries
- Appropriate Technology for Rural Areas

Unit 2: Rural Energy and Allied Sectors

- Energy Sources, Classification, Demand, and Conservation
- Bio-gas, Biofuel, Solar, and Wind Energy
- Allied Sector Production Techniques: Vermiculture, Mushroom Production, Beekeeping, etc.
- Aquaculture: Ichthyology, Fish Culture, and Processing

Unit 3: Art, Statistics, and Computer Application

- Chhattisgarhi Arts: Making, Designing, and Management
- Statistical Analysis: Variables, Tabulation, Central Tendencies, Hypothesis Testing
- Computer Application in Rural Development

Unit 4: Medicinal Plants and Remote Sensing

- Plant Taxonomy, Classification, Propagation, and Conservation
- Medicinal Plant Legislation, Policy, and National Board
- Remote Sensing: Concept, Fundamentals, EMR, and Spectral Reflectance
- GIS Application in Natural Resources Management

Unit 5: Rural Infrastructure and Food Science

- Rural Infrastructural Engineering: Building, Roads, and Sanitation
- Food Science: Chemistry, Processing, Preservation, and Microbiology
- Food Packaging, Storage, Safety, and Hygiene
- Special Foods of Bastar

IMPORTANT NOTE

There will be a total of 50 multiple choice questions (MCQs) for each of the two papers. Paper-I will focus on Research Methodology and Paper-II will cover specific Subject.

Each question in both papers carries 1 mark and will have a total of 50 marks for each paper. The duration for solving each paper is 1 hour. Students must appear for both Paper-I and Paper-II as specifies for the entrance. After completion and submission of Paper-I, the question Paper-II will be provided to the students.

Scheme:

Paper-I Research Methodology

Number of questions- 50 MCQs covering whole syllabus

Maximum Marks- 50

Duration- 1 hr

Paper-II Rural Technology

Number of questions- 50 MCQs covering whole syllabus

Maximum Marks- 50

Duration- 1 hr