

## **Annexure-I: PET syllabus**

### **Paper: Research Aptitude**

- **Fundamentals of Research:**

Meaning and Objectives of Research, different types of research, characteristics of good research, framing research problem, various fundamental steps in research process, Need of research proposal and Content of research proposal.

- **Research Design:**

Need of research design, criteria for good research design, various types of sampling, Various types of research designs: Descriptive research design, Experimental research design, Exploratory research design, what is Hypothesis, framing different types of Hypothesis.

- **Research data collection:**

Types of Data (Primary Data & Secondary Data), Methods of collecting different types of data, Concept of Scale, Rating Scales: Likert Scales, Semantic Differential Scales, Constant Sum Scales, Graphic Rating Scales. Ranking Scales: Paired Comparison & Forced Ranking, normality of data.

- **Sampling Techniques:**

Specifying the concept of Sampling Universe, Concept of Statistical Population, Sample, and Good Sample Characteristics. Sampling Frame, Sampling Errors, Non-Sampling Errors, and Error Reduction Techniques.

Non-probability sampling: Judgement sampling, convenience sampling, purposive sampling, and quota sampling. Sampling and snowballing techniques.

probability sampling: Simple random sampling, systematic sampling, stratified random sample, area sampling, and cluster sampling.

- **Analysis of Data & Interpretation:**

Importance of data analysis & Interpretation, statistical tools available for data analysis, measurement of central tendency, graphical presentation of data, concept of hypothesis testing, parametric tests, non-parametric tests.

- **Preparing research report:**

Concept of referencing, various styles of referencing, difference between reference and bibliography. Concept of plagiarism, plagiarism testing tools, research report ethics, structure of research report, citation and report writing.