



Deemed to be University under  
Distinct Category

**NATIONAL INSTITUTE OF TECHNICAL TEACHERS'  
TRAINING AND RESEARCH (NITTTR), BHOPAL**  
Deemed to be University under Distinct Category  
**Ministry of Education, Government of India**

**Syllabus for Ph.D. Entrance Test for Category-2 Candidates for admission in Ph.D. (July-2025)**

**Subject - Research Methodology**

**Maximum Marks: 50**

**1. Introduction to Research and Research Problem:**

Types of research, objectives of research, characteristics of a good research, scope, and objectives of research, research problem, techniques involved in defining a problem.

**2. Research Design and Literature Review:**

Research design concept and importance, features of a good research design, types of research designs, literature survey, need, objectives and sources of literature review, identification of research gaps.

**3. Sampling and Data Collection:**

Sampling, sample size, sampling and non-sampling errors, sampling design and its types, Classification of data, collection of primary and secondary data, selection of appropriate method for data collection.

**4. Data Analysis:**

Hypothesis, Definition of null and alternative hypothesis, testing the hypothesis, student 't' distribution, chi-square distribution, ANOVA, Regression analysis, simple linear regression, validation and parametric study.

**5. Report Writing and publication:**

Types of reports, steps and layout of report writing, writing research paper, ethical practices.