

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
Ph.D. COURSE WORK EXAMINATION (REMEDIAL) – WINTER 2025

Subject Code: PHD2301

Date: 12/10/2025

Subject Name: Research Methodology_Engineering & Computer Science

Time: 01.30 PM – 04.30 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Prepare a structured outline for a Ph.D. thesis in engineering, integrating ethical considerations. 10
- (b) Analyze how the evolution of technology has influenced research methodologies in your field. 10
- Q.2** (a) Evaluate the significance of literature review in identifying research direction and methodology. 10
- (b) Prepare the project proposal for a funded research project. Highlight the work plan and impact of research project. 10
- or**
- (a) Design a sampling strategy for a study on student learning outcomes in engineering education. 10
- (b) Explain the concepts of accuracy, reliability, and documentation in experimental setups. 10
- Q.3** (a) What is a research gap? How is it identified? 05
- (b) Define reproducibility and sensitivity in experimental research. 05
- Q.4** (a) Explain the concept of sampling and its significance. 05
- (b) List common ethical issues encountered in research. 05
- Q.5** (a) Define plagiarism and its consequences in academic research. 05
- (b) List common statistical tools used in quantitative research. 05
