

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
Ph.D. COURSE WORK EXAMINATION – 2024 (REMEDIAL)

Subject Code: PHD2001

Date: 01/09/2024

Subject Name: Research Methodology_ Engineering & Computer Science

Time: 01:30 PM – 03.00 PM

Total Marks: 35

Instructions:

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

- Q.1 (a)** Select any five research papers related to your research work and write a summary of each paper which must cover three main points: why the research was done, what happened in the experiment/study, and what conclusions were drawn by the author(s). Also mention the research gaps identified from the review. **10**
- (b)** Why is defining the research objectives important. Explain common research verbs which should ideally be used to begin a research objective. What are smart objectives and how one can write smart objectives? **05**
- Q.2 (a)** With the help of specific research problem in your domain, explain the various phases of research. **05**
- (b)** Discuss the options, advantages and limitations of various qualitative data collection types. **05**
- Q.3 (a)** During an experiment, following observations are taken for pressure in kPa. 331, 332, 330, 345, 336, 333, 334, 327, 328, 326. Using Chauvenet's criterion, calculate the % reduction in standard deviation. **05**
- (b)** Calculate the uncertainty in the measurement of volume of a cuboid of the size 5 cm × 6 cm × 8 cm if uncertainty in measurement of each dimension is ± 1 mm. **05**
