

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_Management & Humanity-English

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) Explain the importance of research in advancing knowledge and innovation in management. Illustrate with examples how different types of research (basic, applied, exploratory, descriptive) are used by researchers. **10**
- (b) Discuss various qualitative designs (grounded theory, ethnography, case study, etc.) and quantitative designs (descriptive, correlational, experimental). For one research problem (of your choice), suggest the most suitable design and explain your rationale. **10**
- Q.2** (a) Explain under what circumstances each of the following statistical tests should be applied in research: Chi-Square test, t-test, ANOVA, Regression. Provide an example for each test that illustrates its appropriate use. **10**
- (b) Explain, with examples, the four main levels of measurement—Nominal, Ordinal, Interval, and Ratio—commonly used for variables in research. Discuss how the choice of measurement level can influence analysis approaches and interpretation of research results. **10**
- OR**
- Q.2** (a) Enumerate and describe different types of data (nominal, ordinal, interval, ratio). Design a questionnaire to collect data for a customer satisfaction study, justifying your choices in scaling. **10**
- (b) Discuss hypothesis formulation, types of errors, significance levels, and p-values. **10**
- Q.3** A company wants to introduce an innovative food item with multiple flavours and unique selling propositions. As a researcher, answer the following:
- (a) Which research design would you select, and why? **05**
- (b) Which sampling technique would you employ, and why? **05**

- Q.4 (a) If you want your sample to represent students proportionally from all four faculties (Management, Engineering, Pharmacy, Design), how will you implement stratified sampling in this scenario? Describe the steps you would follow and explain why stratification might be useful for this research. 05
- (b) List common types of graphs and charts used for data interpretation. 05
- Q.5 (a) Outline the structure and components of a research report, thesis, or dissertation, citing recommended best practices for each part. 05
- (b) How can research gaps be identified from literature? 05
