

Seat No.: _____

Enrolment No. _____

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

Subject Code: PHD2401

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) Outline key attributes of research and elaborate on how systematic research has historically advanced management practices, contributed to organizational progress, influenced policy development, and enriched knowledge domains. Illustrate your points with at least two relevant examples from the field. **10**

(b) Critically evaluate grounded theory, case study, ethnography, and phenomenology as qualitative research approaches. **10**

Q.2 (a) Using deductive reasoning, explain how you would test an existing theory such as “Flexible working hours improve employee productivity.” Outline the hypothesis you would formulate, the type of data you would collect, and the approach to analyze the data to confirm or reject the hypothesis. **10**

(b) Define a research problem statement and explain its significance in research. How does a well-defined problem statement contribute to the overall research process? Answer this in context of your areas of interest/ doctoral research topic. **10**

OR

Q.2 (a) You are studying consumer preferences and behaviour for a new line of beverages. Identify and explain which variables among the following would be classified as categorical data (nominal and ordinal) and which as numerical data (discrete, continuous, ratio, interval): **10**

1. Consumer gender: Male, Female, Other
2. Customer satisfaction rating on a 5-point scale from Extremely Dissatisfied (1) to Extremely Satisfied (5)
3. Number of beverages purchased in the last month
4. Age of consumer in years
5. Beverage preferred (e.g., Tea, Coffee, Lemonade, Soda)
6. Temperature of beverage consumed (in Celsius)

(b) Define experimental research design. What are the key features that distinguish it from other research designs? Illustrate with an example involving a randomized controlled trial. **10**

Q.3 (a) Explain the significance of report and thesis writing in academic research. Outline the major steps involved in preparing a research report or thesis. **05**

(b) Explain various types of graphs and charts used in research. Provide examples of when to use bar charts, pie charts, line graphs, and scatter plots. **05**

- Q.4 (a)** Describe Type I and Type II errors in the context of hypothesis testing. Illustrate both with practical examples. **05**
- (b)** In an experiment comparing two teaching methods, if the p-value obtained is 0.03 and the level of significance is set at 0.05, how would you interpret this result? Discuss the implications of this p-value for the null hypothesis and explain the decision-making process in this context. **05**
- Q.5 (a)** What is the purpose of the COREQ checklist in qualitative research reporting? Describe how it enhances the transparency and quality of studies using interviews and focus groups. **05**
- (b)** Outline the major conditions that must be satisfied by an invention to be eligible for a patent. **05**
