

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – VIII EXAMINATION – WINTER-2025

Subject Code: BP801TT

Date:13-11-2025

Subject Name: Biostatistics and Research Methodology

Time: 02:30 PM TO 05:30 PM

Total Marks: 80

Instructions:

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

- | | | |
|-------------|--------------------------------------------------------------------------------------------------------------------|-----------|
| Q.1 | (a) Discuss measures of central tendency with pharmaceutical example of your choice. | 06 |
| | (b) Describe Karl Pearson's correlation Coefficient. | 05 |
| | (c) Explain in brief: SPSS and its applications in pharmacy. | 05 |
| Q.2 | (a) Discuss with examples: Method of least square. | 06 |
| | (b) Write a note on factorial design. | 05 |
| | (c) Explain in brief: Wilcoxon Rank test. | 05 |
| Q.3 | (a) Describe any three types of graphs with relevant examples. | 06 |
| | (b) Write a note on cohort study with example. | 05 |
| | (c) Discuss in detail: Phases of Clinical Trials in India. | 05 |
| Q.4 | (a) Discuss significance of probability in pharmacy. | 06 |
| | (b) Elaborate rationale for DoE- Design of Experiments. | 05 |
| | (c) Describe blocking and confounding in 2^3 factorial design. | 05 |
| Q.5 | (a) Discuss consequences and penalties for plagiarism in India. | 06 |
| | (b) Write a note : Central composite design. | 05 |
| | (c) What do you mean by parametric and non parametric tests? Explain. | 05 |
| Q. 6 | (a) Define the terms. 1) Biostatistics 2) Hypothesis 3) Variables 4) Dispersion 5) Population 6) Factorial design. | 06 |
| | (b) Discuss pros and cons of R Programming for clinical data analysis. | 05 |
| | (c) Write a note on methods and essence of sampling. | 05 |
| Q.7 | (a) Explain one way and two way ANOVA with assumptions. | 06 |
| | (b) Enlist and explain: Types of Research. | 05 |
| | (c) Explain hypothesis testing in simple and multiple regression models. | 05 |
