Roll No: | | | | | | | | | | | | | |

BPHARM
(SEM VIII) THEORY EXAMINATION 2024-25
BIOSTATISTICS AND RESEARCH METHODOLOGY

TIME: 3 HRS **M.MARKS: 75**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a.	What can you understand from histogram?
b.	Write the outcomes of Pi-chart.
c.	Define type-1 errors.
d.	Define geometric mean.
e.	Differentiate between correlation and regression.
f.	Write the pharmaceutical importance of t-test.
g.	Define kurtosis.
h.	Define plagiarism.
i.	Define cohort studies.
j.	Define cubic graph.

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a.	Find the arithmetic mean of the given data: A B C D E F 78 52 82 38 69 71
b.	Write the principle and applications of factorial design in pharmacy.
c.	Represent the following distribution by a histogram. **Scores** 90-99 80-89 70-79 60-69 50-59 40-49 30-39 **Frequencies** 02 12 22 20 14 03 01

SECTION C

3. Attempt any *five* parts of the following: **7 x 5 = 35**

a.	Find the standard deviation of following data. Cities A B C D E F G H I J Offices 25 34 48 36 42 70 30 60 45 50
b.	What is factorial design? How would you demonstrate 2^2 and 2^3 factorial designs with examples?
c.	Write the need of research; give emphasis on pharmaceutical research and biostatistics.
d.	Calculate the standard deviation and mean deviation of following data: Size of item 6 7 8 9 10 11 12 frequency 3 6 9 13 8 5 4
e.	When do you use binomial distribution? Explain various properties of binomial distribution.
f.	Classify ANOVA; write the role of ANOVA in pharmaceutical research.
g.	Write a note on optimization techniques used in pharmacy.