Sessional I (Even) Semester Examination March 2025

Roll no.............................

Name of the Course: B.pharm
Semester: VIII Semester
Name of the Paper: Biostatistics and Research Methodology
Paper Code: BP 801 T
Time: 1.5-hour   **Maximum Marks: 30**
Note:
(i) This question paper contains three sections
(ii) All the sections are compulsory

Section-A

MULTIPLE CHOICE QUESTION   **10 X 1 = 10 MARKS**

S.no	CONTENTS	Cos
1.	What is Biostatistics? a) The application of statistics to biological data b) The study of physics in living organisms c) The study of chemical reactions in cells d) The study of statistical methods in engineering	CO1
2.	Which of the following is NOT a measure of central tendency? a) Mean b) Median c) Mode d) Range	
3.	The measure that describes how spread out the data is, is called: a) Central tendency b) Dispersion c) Mean d) Probability	
4.	The arithmetic mean of the numbers 5, 10, 15, 20, and 25 is: a) 10 b) 15 c) 20 d) 25	
5.	The mode of the data set {4, 8, 6, 4, 9, 4, 7, 8, 6, 6} is: a) 4 b) 6 c) 8 d) 9	
6.	In the regression equation $Y= a +bX$ 'b' represents: a) The Y-intercept b) The slope of the regression line c) The dependent variable d) The independent variable	CO2
7.	A method where every member of the population has an equal chance of being selected is called: a) Stratified sampling b) Cluster sampling c) Random sampling d) Convenience sampling	

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8.	If a researcher randomly selects entire groups instead of individuals, this method is called: a) Cluster sampling b) Stratified sampling c) Simple random sampling d) Systematic sampling	
9.	The null hypothesis (H_0) is defined as: a) A statement that assumes no effect or no difference b) A statement that there is a significant effect c) A prediction based on prior knowledge d) Always accepted in hypothesis testing	
10.	A Type I error occurs when: a) The null hypothesis is incorrectly rejected b) The null hypothesis is incorrectly accepted c) The sample size is too small d) The alternative hypothesis is incorrect	

Section B

Short Questions: Attempt any two $\qquad$ 2x5 = 10

S.no	QUESTIONS	CO's
1.	Define the term biostatistics and give its applications in pharmaceutical research.	CO1
2.	Define correlation and methods of studying correlation.	CO1
3.	What are the types of errors in biostatistics? Explain with the help pharmaceutical examples.	CO2

Section C

Long questions: Attempt any one $\qquad$ 1x10 = 10

S.no	QUESTIONS	CO's
1	The following table shows the marks obtained by students in a test. Find the mean, median and mode of the following data: | Class Interval	Frequency
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0 - 10	4
10 - 20	6
20 - 30	10
30 - 40	8
40 - 50	7		CO1
2	Describe the concepts of sampling. What is the importance of sampling in pharmacy research? Provide examples of different types of sampling methods.	CO2