SET-A *Roll No:* _____

JAMIA HAMDARD

Department of Biochemistry
School of Chemical and Life Sciences

M.Sc. BIOCHEMISTRY EVEN-SEMESTER (II) EXAMINATION, MAY 2025

Paper Code: MBC 208
(BIOSTATISTICS)

Time: **1½ h** Max Marks: **30**

Note: *This paper has 3 Sections, A, B, and C. Attempt all three sections. Section A: Answer all the questions; Section B: Answer any one; Section C: Answer all the questions, each question in this section has an internal choice .*

Abbreviations Used: *CLO- Course Learning Outcome, PLO- Program Learning Outcome, BTL- Bloom Taxonomy Level: BT level 1- Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create.*

SECTION A

Attempt All Questions
(5x 1 = 5 Marks)

Q No. 1	OBJECTIVE QUESTIONS (Do as directed)	BTL	CLO	PLO
i.	What is the most used measure of the center of data?	1	2	3
ii.	What is the positive and negative correlation?	3	3	2
iii.	Write formula of root mean square deviation.	2	1	3
iv.	The median of a series is 10. Two additional observations 7 and 20 are added to the series. The median of the new series will be_____.	3	2	3
v.	What is Null hypothesis?	1	3	2

SECTION B

Answer ANY ONE of the following questions
(1 x 10 = 10 Marks)

Q. No 2	LONG ANSWER QUESTIONS	BTL	CLO	PLO
a)	Define correlation & its types. Compute Karl Pearson's coefficient of correlation from the following data. X -10 -5 0 5 10 Y 5 9 7 11 13	3	1	2

b)	A group of 5 patients treated with medicine A is of weights 42, 39, 38, 60, and 41 kg. The second group of 7 patients from the same hospital treated with medicine B is of weight 38, 42, 56, 64, 68, 69 and 62 kgs. Test whether there is any difference between medicines at 5% level of significance with table value 2.228.	1	2	3

SECTION C

Attempt ALL questions

(each question has an internal choice)

(3 x 5= 15 Marks)

Q No. 3	SHORT ANSWER QUESTIONS **(Write Short Notes)**	BTL	CLO	PLO
a)	What are important measures used for central tendency and write its equations and terms/ **OR** Find mean, mean deviation and standard deviation of incubation period of COVID-19 in 9 patients where it was found to be 14, 13, 11, 15, 10, 7, 9, 12, and 10 days.	1	3	2
b)	Draw positive and negative skewed frequency curves and mark the position of mean, median and mode on each curve/ **OR** From the following data obtain the regression equation of Y on X using least square method. X 3 2 7 4 8 Y 6 1 8 5 9	3	2	3
c)	Define Dispersion? Describe briefly about the various measures of dispersion. Find the Mean and Standard Deviation for the following data: Class Internal: 2-4 | 4-6 | 6-8 | 8-10 Frequency: 3 | 4 | 2 | 1 **OR** Define the coefficient of variation. An analysis of monthly wages paid to the workers of two firm, A and B belonging to the same industry gives the following results: No. of workers: Firm A 500, Firm B 600 Average daily wages: Firm A Rs. 186.00, Firm B Rs. 175.00 Variance of distribution of wages: Firm A 81, Firm B 100 (i) Which firm, A or B has a lager wage bill? (ii) In which firm, A or B, is there greater variability in individual wage?	2	1	2

END OF THE QUESTION PAPER