2904E271

Candidate's Seat No :_____

APRIL– 2024
B. Sc. SEMESTER – II
STATISTICS (MULTIDISCIPLINARY)
MDC-STA-124T
Elements of Probability

Time: 1.00 Hours **Marks:25**

Q.1(A)	Short note: Bayes theorem.	(5)
Q.1(B)	State and prove Bonferroni's inequality	(5)
	OR	
Q.1(A)	Define complementary event and union event with diagram.	(5)
Q.1 (B)	State and prove Chebyshev's Inequality.	(5)
Q-2(A)	Let X and Y be random variables with joint probability function f(x,y) then prove that E[X+Y]=E[X]+E[Y]	(5)
Q-2(B)	Discuss about product raw moments and product central moments. [	(5)
	OR	
Q-2(A)	Define distribution function and also state its properties.	(5)
Q-2(B)	Write a note on conditional expectation.	(5)

Q.2 **Attempt any five out of six.** **(05)**

1 Give any two examples of random experiment.

2 Define: Joint Probability Distribution Function.

3 Write the formula for Expected value of Bivariate function for continuous data.

4 Define: Probability Mass function.

5 Define mutually exclusive event.

6 Define sample space.