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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Compare the law of multiplication and conditional probability.	K4	CO1
		(OR)		
	11.b.	A bag contains 4 red balls, 3 blue balls, and 2 green balls. If one ball is drawn at random, identify the complement of the event that the ball is red. Utilize the complement rule to solve for the probability of this complementary event.		
2	12.a.	Identify the differences between discrete and continuous random variables.	K3	CO2
		(OR)		
	12.b.	Solve the expected value of X with the PDF $f(x) = 2x, 0 \leq x \leq 1$.		
3	13.a.	Compare two means: $\bar{x}_1 = 75 (n = 40)$ and $\bar{x}_2 = 80 (n = 35)$. Choose the appropriate test and interpret the results.	K4	CO3
		(OR)		
	13.b.	Describe the process of constructing a confidence interval for a population proportion.		
4	14.a.	Describe how ANOVA can be used to compare means across multiple groups.	K2	CO4
		(OR)		
	14.b.	Explain how to perform an F-test for comparing the variances of two samples.		
5	15.a.	Identify the roles of independent and dependent variables in a regression model.	K3	CO5
		(OR)		
	15.b.	Apply the least squares method to construct a linear regression model.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Distinguish between simple and compound events with examples.	K4	CO1
2	17	List the assumptions of binomial and Poisson distributions.	K4	CO2
3	18	Distinguish confidence intervals for a population mean with known and unknown standard deviation.	K4	CO3
4	19	Compare the chi-square tests for independence and goodness-of-fit.	K4	CO4
5	20	Analyze the concept of linear regression using the least squares method.	K4	CO5

Z-Z-Z

END