CBCS SCHEME

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MBA104

First Semester MBA Degree Examination, Dec.2025/Jan.2026
Business Statistics

Time: 3 hrs. Max. Marks: 100

Note: 1. ***Answer any FOUR full questions from Q.No.1 to Q.No.7.***
2. ***Question No. 8 is compulsory.***
3. ***M : Marks , L: Bloom's level , C: Course outcomes.***

			M	L	C
Q.1	a.	Explain about Mean, Mode and Median.	3	L1	CO2
	b.	In 324 throws of 6 face die, odd number turned up 181 times. Is it reasonable to think that die is unbiased one at 5% level of significance?	7	L5	CO4
	c.	Obtain the lines of regression and hence find the coefficient of correlation for the data. x: 1 2 3 4 5 6 7 y: 9 8 10 12 11 13 14	10	L3	CO2
Q.2	a.	What is a Random Variable? Give the difference between discrete and continuous random variable.	3	L1	CO2
	b.	The average daily wage of all workers in a factory is Rs.444. If the average daily wages paid to male and female workers are Rs.480 and Rs.360 respectively, find the percentage of male and female workers employed by the factory.	7	L3	CO2
	c.	A dice thrown 264 times and the number appearing on the face (x) follows the following frequency (f) distribution. x: 1 2 3 4 5 6 f: 40 32 38 58 54 60 Calculate the value of χ^2	10	L4	CO3
Q.3	a.	What is Correlation? Explain the types of correlation.	3	L1	CO2
	b.	Find the correlation coefficient for the two groups A: 92 89 87 86 83 77 71 63 53 50 B: 86 83 91 77 68 85 52 82 37 57	7	L5	CO4
	c.	In a quiz context of answering yes or no what is the probability of getting i. At least 6 answers out of 10 question asked ii. Also find the probability of same if there are 4 options are correct answer Solve by using binomial distribution.	10	L4	CO3
Q.4	a.	Define Sample and Population.	3	L1	CO2
	b.	The mean of the following frequency distribution is 50. But the frequencies f_1 *and* f_2 in classes 20-40 and 60-80 are missing. Find the missing frequencies. Class: 0-20 | 20-40 | 40-60 | 60-80 | 80-100 Frequency: 17 | ? | 32 | ? | 19	7	L3	CO2

	c.	Using 1991 as origin, obtain a linear trend equation by the method of least squares. Year: 1987 1989 1990 1991 1992 1993 1996 Value: 140 144 160 152 168 176 180 Find the trend value for the missing year 1988.	10	L3	CO2
Q.5	a.	What is Seasonal Variations? Mention the methods for measuring seasonal variation.	3	L1	CO2
	b.	A first urn contains 2 white and 2 black balls and second urn contains 2 white and four black balls. If one ball is drawn at random at each urn what is the probability that they are of the same color.	7	L4	CO3
	c.	Given that 2% of the fuses manufactured by a firm are defective. Find by using Poisson distribution, the probability that a box containing 200 fuses has, i) no defective fuses ii) 3 or more defective fuses iii) at least one defective fuse	10	L4	CO3
Q.6	a.	State the properties of Regression coefficient.	3	L1	CO2
	b.	Mention the various measures of dispersion and Explain.	7	L3	CO2
	c.	The marks of 1000 students in an examination follows normal distribution with mean 70 and SD 5. Find the number of students whose marks will be i. Less than 65 ii. More than 75 iii. Between 65 and 75 [Note: $\emptyset(1) = 0.3413$]	10	L5	CO4
Q.7	a.	What is Central Tendency? Write its measures.	3	L1	CO2
	b.	Find: (i) Inter-quartile range (ii)Quartile Deviation (iii) Coefficient of Quartile Deviation for the following distribution : Interval: 0-15 15-30 30-45 45-60 60-75 75-90 90-105 f: 8 26 30 45 20 17 4	7	L3	CO2
	c.	There are two bags containing 4 white balls and 3 red balls, 3 white and 7 red balls respectively. A bag is chosen at random and a ball from it which is found to be white. What is the probability that it is from the 1st bag.	10	L4	CO3

Compulsory Questions

Q.8	a.	Find the Karl Pearson's co-efficient of correlation for the following data: x: 1 2 3 4 5 6 7 y: 9 8 10 12 11 13 14	10	L3	CO2
	b.	The following data gives the age of Husband(x) and the age of wife(y) in years. Form the two regression lines and calculate the age of husband corresponding to 16 years age of wife. x: 36 23 27 28 28 29 30 31 33 35 y: 29 18 20 22 27 21 29 27 29 28	10	L3	CO2

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