

Exam. Code : 225801

Subject Code : 104906

M.Com. 1st Semester (Batch 2024-26) (CBGS)

STATISTICAL ANALYSIS FOR BUSINESS

Paper : MCO01002T

Time Allowed—3 Hours]

[Maximum Marks—75

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The fifth question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. (a) What do you understand by Probability Distribution ? Explain the characteristics and applications of Normal Distribution.
- (b) The average test marks in a particular class is 79. The standard deviation is 5. If the marks are distributed normally, how many students, in a class of 200 did not receive marks between 75 and 82 ? Given :

$$P_r (0 \leq Z \leq 0.7) = 0.2580$$

$$P_r (0 \leq Z \leq 0.8) = 0.288$$

$$P_r (0 \leq Z \leq 0.6) = 0.2257.$$

when Z is standard normal variate.

6,9

2. (a) Define Probability. Discuss and differentiate between Classical, Relative and Subjective Probability.
 (b) The following table gives the details of the consumer preference for a new product to be introduced in the market :

	Number of consumers		
	Like	Dislike	Neutral
Male	500	250	125
Female	200	350	75

What is the probability that a consumer selected at random from the group will be :

- (i) A male who disliked the product.
 (ii) One who liked the product, given that the person is a female.
 (iii) Either male one who dislike the product. 6,9

SECTION—B

3. What do you understand by Sampling? Elaborate various methods of Probability and Non-Probability Sampling.
 4. Explain Primary Data. Discuss the various sources of Primary Data. Differentiate between Primary and Secondary Data.

SECTION—C

5. Explain Questionnaire. Explain the steps involved in constructing questionnaire.

6. (a) Define the term 'Hypothesis'. Explain in detail the procedure of testing a Hypothesis.
 (b) Differentiate Null and Alternate hypothesis giving examples. 8,7

SECTION—D

7. (a) Find the co-efficient of correlation between age and playing habits of the following students and also comment on the results :

Age of Players:	16	17	18	19	20	21	22
No of Students:	2,500	2,000	1,800	1,500	1,200	1,000	400
Regular Player:	2,250	1,700	1,260	900	480	180	60

- (b) You are given the following :

X_1 = Job satisfaction level, X_2 = Salary and X_3 = Working conditions

Co-efficient of correlation between X_1 and X_2 = 0.65

Co-efficient of correlation between X_1 and X_3 = 0.80

Co-efficient of correlation between X_2 and X_3 = 0.70

Calculate the co-efficient of correlation between X_1 and X_3 eliminating the effect of X_2 . 10,5

8. Fifteen students undergoing training are randomly assigned to three different types of instruction modules. At the end of training period their test scores are as follows : weeklypoetry.com

Instruction Module	Test scores				
	Test 1	Test 2	Test 3	Test 4	Test 5
A	86	79	81	70	84
B	90	76	88	82	89
C	82	68	73	71	81

Use analysis of variance to test that there is no significant difference in the mean scores of the three instruction modules, using 5% significance level.

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