

MMS/M08  
Business Statistics  
Paper Cp -102

Time : 3 Hours

MM:70

Note:- Attempt Five questions in all, Question No. 1 is compulsory. All questions carry equal marks.

- 1 A sample of 50 cars each of two makes X and Y is taken and average running life in year recorded:

Life, No of yrs.	No. of Cars	
	X	Y
0-5	8	6
5-10	12	10
10-15	17	20
15-20	10	12
20-25	3	2

Which make of car would you recommend to purchase? Why?

- 2(a) Describe the properties of Normal Distribution.  
 (b) In a process where probability of defective is 0.2, a sample of 5 is chosen. What is the probability that the sample will not contain more than 1 defective unit?
- 3 Describe briefly the various methods of sampling.  
 4(a) Explain the properties of an "Ideal Index Number".  
 (b) Calculate Fisher's Index from the following data:

Commodity	Base Year		Current Year	
	Price	Qty.	Price	Qty.
A	6.5	500	10.8	560
B	2.8	124	2.9	148
C	4.7	69	8.2	78
D	10.9	38	13.4	24
E	8.6	49	10.8	27

- 5 Perform chi-square test on the following data:

Level of Education	Adjustment Score				
		Very Low	Low	High	Very High
	I	24	97	62	58
	II	22	28	30	41
	III	32	10	11	20

Chi-square value at 5 percent and 6 d.f. =12.59.

- 6 Explain:
- (a) Type 1, Type 2 errors
  - (b) Properties of a good estimator
  - (c) Power of Test, and Level of Significance
- 7 Find the two lines of regression from the following data:
- X:            2        4        6        8  
Y:            10      20      25      30
- Compute the value of Y when X=10.
- 8 Explain:
- (a) Single and Double Acceptance sampling plans.
  - (b) O.C. Curve
  - (c) Producers' Risk and Consumers' risk.