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Total No. of Printed Pages: 2

Total No. of Questions: [10]

MBA (Semester – 1st)
BUSINESS STATISTICS AND ANALYTICS FOR DECISION MAKING
Subject Code: MBADS1124
Paper ID: [20260104]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A consists of 10 compulsory short notes of two marks each.
2. Section B consists of Four Units (Unit – I, II, III & IV). Each unit contains two questions of 8 marks each. Student has to attempt one question from each unit.
3. Section C (8 Marks): A short Case Study related to the syllabus.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Define limitation of Statistics.
- b. The mean marks of 100 students were found to be 40. Later on it was discovered that a score of 53 was misread as 83. Find the correct mean.
- c. Write a note on merits and demerits of median.
- d. Discuss types of correlation.
- e. Obtain two Regression equations for the data

x	8	6	4	7	5	3
y	9	8	5	6	2	6

- f. Explain the uses and limitations of index numbers.
- g. What is time series? What is the need for analysis of time series?
- h. A card is drawn from a pack of 52 cards. What is the probability of getting heart or queen of spade?
- i. State Bayes' theorem.
- j. Explain mutually exclusive event with the help of an example.

Section – B

(8 marks each)

UNIT-I

Q2. Find the missing frequency from the data for which mean is 52

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No of Students	5	3	4	-	2	6	13

Q3. Find mode from the following data

Class	155-157	157-159	159-161	161-163	163-165
f	4	8	26	53	81

UNIT-II

Q4. Two ladies were asked to rank 10 different types of lipsticks. The rank given by them are given below:

Lipsticks	A	B	C	D	E	F	G	H	I	J
Neelu	1	6	3	9	5	2	7	10	8	4
Reena	6	8	3	7	2	1	5	9	4	10

Calculate spearman's rank correlation coefficient.

Q5. Write a note on types of regression analysis.

UNIT-III

Q6. Construct Price Index Number for 1990 based on 1981

Commodity	Price in 1981 (in Rs.)	Price in 1981 (in Rs.)
A	50	80
B	40	60
C	10	20
D	5	10
E	2	8

Q7. Explain the components of time series.

UNIT-IV

Q8. A candidate Mr. Arun is interviewed for 3 posts. For the first post there are 3 candidates, for second post there are 4 and for third there are 2. What are the chances of Mr. Arun being selected?

Q9. In a bolt factory machine A, B and C manufacture respectively 25%, 35% and 40% of the total of their output 5, 4, 2 percent are defective bolts. A bolt is drawn at random from the product and is found to be defective. What is the probability that it was manufactured by machine C?

Section – C

(8 marks)

Q10. Case Study

Electricity energy consumption is the form of energy consumption that uses electric energy. Global electricity consumption continue to increase faster than world population, leading to an increase in the average amount of electricity consumed per person and per capita. A survey is conducted for 56 families of a colony A. The following tables gives the weekly consumption of electricity of these families.

Weekly Consumption in units	0-10	10-20	20-30	30-40	40-50	50-60
No. of Families	16	12	18	6	4	0

Similarly survey is conducted for 80 families of colony B and data is recorded as below:

Weekly Consumption in units	0-10	10-20	20-30	30-40	40-50	50-60
No. of Families	0	5	10	20	40	5

Calculate on the bases of data:

- (1) Median weekly consumption of colony A
- (2) Mean weekly consumption of colony A
- (3) Modal class of colony B
- (4) Mean weekly consumption of colony B
- (5) Compare behavior of electricity consumption of both colonies.