Reg. No.

I Semester M.B.A. (Day) Degree Examination, August- 2021
MANAGEMENT
STATISTICS FOR MANAGEMENT
(CBCS Scheme 2014-15)
Paper : 1.4

Time : 3 Hours   Maximum Marks : 70

SECTION - A
(Statistics)

Answer any **Five** questions. Each question carries **Five** marks.   (5×5=25)

1. Find out the Mean, Median, and the Mode in the following series.

Size(below)	5	10	15	20	25	30	35
Frequency	1	3	13	17	27	36	38

2. Explain the concepts of skewness and kurtosis with suitable illustrations.

3. What is meant by sampling? Express different methods of sampling.

4. Fit a straight-line trend by the method of least square from the following data and find the trend values. Also estimate the production for the year 1999.

Year	1990	1992	1994	1996	1998
Production(in'000 units	18	21	23	27	16

5. Is gender independent of education level? A random sample of 395 people were surveyed, and each person was asked to report the highest education level they obtained. The data that resulted from the survey is summarized in the following table:

	High School	Bachelors	Masters	Ph.d.	Total
Female	60	54	46	41	201
Male	40	44	53	57	194
Total	100	98	99	98	395

Are gender and education level dependent at 5% level of significance? In other words, given the data collected above, is there a relationship between the gender of an individual and the level of education that they have obtained?

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6. What are no parametric tests? Discuss with suitable examples the different types of non-parametric tests and state their relevance.

7. City residents were surveyed recently to determine the readership of newspapers available. 50% of the residents read the morning newspaper, 60% read the evening paper, and 20% read both newspapers. Find the probability that a resident selected reads either the morning or evening papers.

SECTION - B

Answer any **Three** of the following questions. Each question carries **Ten** marks.(3×10=30)

8. Given the following values of x and y.

X	3	5	6	8	9	11
Y	2	3	4	6	5	8

Find the equation of regression of (i) y on x and (ii) x on y.

9. a) What is an Index Number? Briefly describe the uses of Index Numbers.

   b) Calculate Fisher's Ideal Index from the following data:

Commodity	Base Year		Current Year	
	Quantity	Price	Quantity	Price
A	15	4	10	6
B	20	3	25	4
C	10	6	20	5
D	30	5	25	5

10. A study was carried out on the advertising methods of a brand of product the unit sales achieved by 5 stores were recorded as under:

	Store-A	Store-B	Store-C	Store-D	Store-E
Method-I	78	85	82	88	79
Method-II	93	87	85	85	85
Method-III	81	92	77	83	81
Method-IV	79	83	71	78	78

Calculate the F-ratio, using Anova and 5% level of significance establish whether

a) Four methods of advertisement produce different effects on the sales volume and

b) There is a significant difference between the same in the different stores.

11. The weekly wages of 2000 workers are normally distributed with mean and standard deviation are Rs. From 40 and Rs. 20 respectively estimate the number of workers whose weekly wages will be

    a)   Between Rs.120 and Rs.130

    b)   More than Rs.170

    c)   Less than Rs.165

    d)   Between Rs.135 and Rs.145

    e)   Between Rs.138 and Rs.150

SECTION - C

12. **Compulsory:**   (1×15=15)

From the data given below find:

    a)   The two regression coefficients.

    b)   The two regression equations.

    c)   The coefficient of correlation between the marks in Economics and Statistics.

    d)   The most likely marks in Statistics when marks in Economics are 30.

Marks in Economics	25	28	35	32	31	36	29	38	34	32
Marks in Statistics	43	46	49	41	36	32	31	30	33	39

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