CODE: 17CE00104

MBA I Year I Semester Supplementary Examinations, March 2018

BUSINESS STATISTICS

Time : 3 hours Max Marks : 60

Answer all **five** units. (5 x 12 = 60 Marks)

PART-A

Answer all **five** units (05 × 10 = 50 Marks)

UNIT-I

1. (a) Why Arithmetic Mean is considered as an Ideal Average ?Explain

(b) For the following data calculate the appropriate Average

Class Interval	≤ 20	20-30	30-40	40-50	50-60	≥60
Frequency	10	18	25	26	17	4

OR

2. (a) What is coefficient of variation? How is it useful for managerial decision making?

(b) The following data provides sales at three cities of a product. Which City is more consistent in sales?

Quarter	City A	City B	City C
I	100	110	90
II	120	100	120
III	125	140	130
IV	155	150	160

UNIT-II

3. (a) What is a scatter plot ? How it is used to track bivariate correlation?

(b) Suppose you are given ratings on the quality of seven products by two experts. Examine whether they are in agreement or not.

Expert A	2	4	3	5	1	6	7
Expert B	4	3	1	7	2	5	6

OR

4. (a) Distinguish between Correlation and Regression.

(b) For the following data estimate the regression equation of demand on price given that correlation coefficient is 0.8.

	Price (Rs)	Demand (in '000 units)
Arithmetic Mean	10	35
Standard Deviation	2	5

UNIT-III

5. A problem can be solved independently by three students, A, B and C with respective probabilities: 1/2, 1/3 , and 1/4 . What is the probability that the problem is solved?

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OR

6. In a software company there are 500 employees of which 300 are males and 200 are females. Of these, 100 males and 60 females plan to travel by car. An employee selected at random from the software company found to be planning to travel by car. What is the probability that the selected employee is a male?

UNIT-IV

7. Assume that a random variable ' X ' follows normal distribution with mean 70 and variance 36. Then what is the probability that ' x ' is

i) > 75 ii)< 64 iii) > 85 iv) 75 < X < 85.

OR

8. A sample of 400 male students is found to have a mean height of 67.47 inches. Can it be reasonably regarded as a sample from a large population with mean height of 67.39 inches and SD of 1.3 inches. Test at 5% level. Establish 95% confidence limits for population mean.

UNIT-V

9. A die is thrown 132 time with the following results. Test whether the dies is unbiased at 5% level of significance.

Number :	1	2	3	4	5	6
Frequency :	16	20	25	14	29	28

OR

10 The table below shows the data obtained during the training program: Test the effectiveness of the training program at 5% level.

	Improved	Not Improved	Total
Trained	469	31	500
Not-Trained	1315	185	1500
Total	1784	216	2000

PART-B

Compulsory Question. (01 × 10 = 10 Marks)

11. Case Study:

Set up ANOVA Table for the following per acre production data for three varieties of wheat each of which is grown on four plots and state whether the Variety difference is significant.

Plot	**A**	**B**	**C**
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

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