I Semester M.B.A. Degree Examination, August/September 2021
(CBCS Scheme)
(2014 – 15 and Onwards)
MANAGEMENT
Paper – 1.4 : Statistics for Management

Time : 3 Hours

Max. Marks : 70

SECTION – A

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

1. Explain how statistical techniques aid in managerial decision making.

2. Find the straight line trend from the following data using the method of least squares. Forecast the sales for the next two years.

Year	2013	2014	2015	2016	2017	2018	2019	2020
Sales in 00'000 Rs.	45	47	48	50	56	64	68	72

3. From the given data and using the Chi-square analysis, find if the vaccine given to poultry is effective or not in controlling. You may use a 5 per cent level of significance.

Details	Got the disease	Did not get the disease
Given the vaccine	64	78
Not given the vaccine	56	52

4. What are non-parametric test and parametric tests ? Explain giving examples for each and their uses in business.

5. Find the standard deviation and the coefficient of variation to determine which of the following shares has a more consistent and reliable market value.

Share A	15	20	10	95	90
Share B	35	45	55	50	60

6. A bag has 40 coins, each numbered from 1 to 40. If a coin is picked at random, what is the chance that it will be a) a multiple of 4 or 6, b) a multiple of 5 or 7.

7. What is meant by a hypothesis ? How will you test a hypothesis ?

SECTION – B

Answer **any three** questions. **Each** question carries **ten** marks.   **(10×3=30)**

8. Prove that the Fischers ideal index satisfies the Factor Reversal test and the Time Reversal test, using the following data :

P_0	P_1	Q_0	Q_1
12	14	10	11
13	15	11	13
10	11	12	14
9	12	10	12
8	10	9	10
12	14	8	11

9. Using ANOVA, test to see whether there is a significant difference in the sales of a shampoo in different cities. You may use a 5 per cent level of significance.

Sales in City A	Sales in City B	Sales in City C	Sales in City D	Sales in City E
52	56	45	34	49
64	64	55	56	61
66	60	65	45	57
70	70	75	65	63

10. If the height of 800 students is normally distributed with mean of 68 inches and standard deviation of 2 inches, how many students have height
   a) Greater than 73 inches ?
   b) Less than or equal to 66 inches ?
   c) Between 65 and 69 inches, both inclusive.
   d) Equal to 71 inches
   e) Between 64 and 70 inches, both inclusive ?

11. Explain the different techniques of statistics that are useful in business forecasting.

SECTION – C

12. This question is **compulsory**. It carries **fifteen** marks.   **(1×15=15)**

The following data relates to the price and supply of a commodity for ten years. Calculate the coefficient of correlation between the two series and explain its significance with the probable error. Also calculate the two regression equations and explain how much the price fluctuates with the supply for different values.

Price per Kg.	12	15	14	16	18	20	21	22	25	27
Supply (100 Kg.)	30	35	34	36	37	43	50	52	48	55