I Semester M.B.A. Degree Examination, July 2022
(CBCS Scheme) (2014 – 15 and Onwards) (Repeaters)
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 correlation and regression techniques are useful in business analysis.

2. Using the Chi-square analysis, find if the medicine given to dogs is effective or not in curing a disease or not from the given data.

Details	Got cured from the disease	Did not get cured from the disease
Given the medicine	87	54
Not given the medicine	63	76

3. A bag has 50 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 3 or 4 (b) a multiple of 6 or 8.

4. Explain how census is different from a survey. How is a survey conducted ?

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

Year	2013	2014	2015	2016	2017	2018	2019	2020
Sales in 00'000 Rs.	56	44	63	67	58	62	77	83

6. Find the standard deviation and the coefficient of variation to determine which of the batsmen is more consistent and reliable.

Batsman A	12	28	15	93	92
Batsman B	33	47	60	54	66

7. What is meant by a Type I and Type II error ? What is meant by the level of significance and level of confidence ?

SECTION – B

Answer **any three** questions. **Each** question carries **ten** marks.   (3×10=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
11	13	11	13
12	14	13	15
9	10	15	17
7	11	11	14
6	8	10	12
22	24	9	14

9. Explain how tables and graphs are useful in presenting data effectively. Illustrate with suitable examples.

10. The following data relates to the price and demand 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.	16	17	13	15	19	20	21	22	24	23
Demand (50 kg.)	34	36	32	38	41	49	53	57	62	68

11. If the weight of 600 students is normally distributed with mean of 70 kgs and standard deviation of 5 inches, how many students have weight

   a) Greater than 74 Kgs ?

   b) Less than or equal to 60 Kgs ?

   c) Between 65 and 76 Kgs, both inclusive.

   d) Equal to 68 Kgs.

   e) Between 67 and 75 inches, both inclusive.

SECTION – C

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

   Using ANOVA test to see whether there is a significant difference in the sales of a product in different zones. You may use a 5 per cent level of significance. Explain the meaning of your answer.

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