19P1058

Reg. No ..... Name .....

M. COM DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER 1 : COMMERCE

COURSE : **16P1COMT05 : QUANTITATIVE TECHNIQUES**

(For Regular - 2019 Admission and Supplementary - 2016/2017/2018 Admissions)

Time : Three Hours Max. Marks: 75

Section A

Answer any 10 (2 marks each)

1. Mention two uses of Quantitative Techniques to Businessmen.
2. Mention two methods of classifying of Quantitative Techniques.
3. What is normal distribution?
4. Define Independent and Dependent events.
5. A box contains slips with numbers from 1 to 50 written on them. A slip is drawn and replaced. Then another slip is drawn and after replacing another slip is drawn. What is the probability that an even number appears on the first draw, an odd number on the second draw and a number divisible by 3 on the third draw?
6. Write a short note on F test.
7. Explain the uses of analysis of variance.
8. Explain population and sample with suitable illustration.
9. What do you mean by two-tailed test?
10. What are non-parametric tests?
11. What do you mean by Contingency table?
12. Write notes on consistency of data.

(2 x 10 = 20)

Section B

Answer any 5 (5 marks each)

13. Give the importance of quantitative techniques for decision-making.
14. A bag contains 30 balls numbered from 1 to 30. One ball is taken at random. Find the probability that the number of ball taken will be multiple of:
    (i) 5 or 7
    (ii) 3 or 7
15. Explain in brief the Additional Theorem and Multiplication Theorem of probability.
16. Write short notes on the following:
    (1) Chi-Square test.
    (2) F test.
17. 2000 articles from a factory were examined and found to be 6% defective. Among 3000 similar articles from a second factory are found to be only 4% defective. Can it reasonably be concluded that the product of the first factor is inferior to the second?
18. What is purposive sampling?

19. The following are the numbers of tickets issued by two sales men on 11 days.

Salesman I	7	10	14	12	6	9	11	13	7	6	10
Salesman II	10	13	14	11	10	7	15	11	10	9	8

Use the sign test at 1% level of significance to test the null hypothesis that on the average the two salesmen issue equal number of tickets.

20. Investigate the association between darkness of eye colour in father and son from the following data.
Father's with dark eyes and sons' with dark eyes = 50
Father's with dark eyes and sons' with no dark eyes = 79
Father's with no dark eyes and sons with dark eyes = 89
Neither son nor father having dark eyes = 782

(5 x 5 = 25)

Section C
Answer any 3 (10 marks each)

21. What do you mean by Quantitative Techniques? Explain the application of quantitative techniques in business management. Give examples in support of your answer.

22. The mean weight of 500 male students in a certain college is 151 lb and the standard deviation is 15 lb. Assuming the weights are normally distributed, find how many students weigh
a) Between 120 and 155 lb
b) More than 185 lb.

23. In a distribution exactly normal, 7 percentage of the items are under 35, and 89 percentage are under 63. Find the mean and standard deviation for the same distribution.

24. A doctor believes that the proportions of births in this country on each day of the week are equal. A simple random sample of 700 births from a recent year is selected, and the results are below. At a significance level of 0.05, is there enough evidence to support the doctor's claim?

Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Frequency	65	103	114	116	115	112	75

25. Use the Kruskal-Wallis test at 1% level of significance to test whether the four salesman have performed equally in their sales drive.

	Sales figures ('000 Rs.)				
Salesman A	171	182	157	148	162
Salesman B	152	175	202	168	176
Salesman C	160	155	139	146	166
Salesman D	179	142	197	170	158

(10 x 3 = 30)