D 91605   (Pages : 2)   Name...

                                                               Reg. No...

FIRST SEMESTER M.B.A. DEGREE EXAMINATION, JANUARY 2021

(CUCSS)

M.B.A.

BUS 1C 07—QUANTITATIVE TECHNIQUES

(2016 Admissions)

Time : Three Hours   Maximum : 36 Weightage

Part A

Answer all questions.
Each question carries 1 weightage.

1. Brief the concept of statistical inference.

2. What is conditional probability ?

3. What do you mean by discrete and continuous functions ?

4. What do you mean by standard error ?

5. What do you mean by degrees of freedom ?

6. What do you mean by correlation ?

                                                               (6 × 1 = 6 weightage)

Part B

Answer any four questions.
Each question carries 3 weightage.

7. You are planning to conduct a sample survey among the drivers passing through a bridge to study their opinion on toll for the bridge. Which is the best sampling method you can use ? Why ?

8. A book contains 100 misprints distributed randomly throughout its 100 pages. What is the probability that a page observed at random contains at least two misprints ?

9. Explain various probability sampling methods.

10. Explain how sign test is conducted.

11. A bag contains 4 white, 6 black and 2 yellow balls. A ball is drawn. Find the probability that it is a white or black.

                                                               Turn over

12. Mean life of 100 fluorescent light tubes produced by a company is computed to br 1570 hours with standard deviation of 120 hours. The company claims that the average life of the tubes produced by the company is 1600 hours. Using the level of significance of 0.05, test whether the claim is valid.

(4 × 3 = 12 weightage)

Part C

*Answer any **three** questions.*
Each question carries 4 weightage.

13. A company has two plants to manufacture scooters. Plant I manufactures 80% and plant II manufactures 20% of the scooters. At plant I, 75 out of 100 scooters are rated standard quality or better. At plant II, only 65 out of 100 scooters are rated standard quality or better. What is the probability that a scooter selected at random came from plant I, if it is known that : (a) the scooter is of standard quality ; (b) the scooter is of inferior quality.

14. Brief the various probability distributions.

15. Explain the applications and procedure of ANOVA.

16. 10 pairs of value of X and Y variables have correlation coefficient of 0.5. Can you believe that this sample is drawn from a population with coefficient of correlation of 0.6 ? (Level of significance is 0.05).

17. The following are the number of tickets issued by two salesmen on 11 days. Use Sign Test at 1% level of significance to test whether the two salesmen sold equal number of tickets :

Salesman		1	2	3	4	5	6	7	8	9	10	11
1	:	7	10	14	12	6	9	11	13	7	6	10
2	:	10	13	14	00	10	7	15	11	10	9	8

(3 × 4 = 12 weightage)

Part D

*Answer the **compulsory** question.*
The question carries 6 weightage.

18. Data on sales and net profit of 10 companies is given. Calculate the correlation co-efficient :

Company	:	1	2	3	4	5	6	7	8	9	10
Sales	:	37.72	168.13	17.69	45.21	159.52	151.79	23.27	442.84	191.54	149.16
Net Profit	:	0.19	1.60	1.30	2.62	5.32	6.52	1.05	10.31	16.68	6.78

(1 × 6 = 6 weightage)