E 7400   (Pages : 3)   Reg. No...........................

                                                            Name...............................

B.Com. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2019

Second Semester

Core Course IV—QUANTITATIVE TECHNIQUES FOR BUSINESS RESEARCH

(Common for Model I, Model II and U.G.C. Sponsored B.Com. Degree Programmes)

[2013—2016 Admissions]

Time : Three Hours   Maximum Marks : 80

Answers may be written either in English or in Malayalam.

Part A (Short Answer Questions)

Answer all questions.
Each question carries 1 mark.

1. What do you mean by mutually exclusive events ?

2. What do you mean by conditional probability ?

3. Explain Linear correlation.

4. Distinguish between a priori and posterior probability.

5. What do you mean by empirical research ?

6. Explain case study method.

7. What do you mean by Level of Significance ?

8. What is Type II error ?

9. Explain sampling frame.

10. Explain Technical report.

                                                            (10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any eight questions.
Each question carries 2 marks.

11. State ' addition theorem of probability' with an example.

12. Distinguish between simple, partial and multiple correlation.

13. What are the utilities of regression analysis ?

14. Write a short note on systematic and cluster sampling.

15. What are the merits associated with observation method of data collection ?

16. Distinguish between two-tailed and one-tailed tests ?

                                                            Turn over

17. What do you mean by parametric tests ? Give examples.

18. Explain probable error of coefficient of correlation.

19. Distinguish between reference and bibliography.

20. Distinguish between parameter and statistic.

21. In how many ways the letters of the word 'CONSTITUTION' can be arranged ?

22. From a bag containing 9 black and 4 white balls, a ball is drawn at random. What is the Probability that it is white ?

$(8 \times 2 = 16)$

Part C (Short Essay Type Questions)

Answer any six questions.
Each question carries 4 marks.

23. Explain different types of correlation.

24. What are the main issues which should receive the consideration of the researcher while formulating a research problem ?

25. What are the guiding considerations in the construction of questionnaire ?

26. What is the significance of a research report ?

27. From a pack of 52 cards, one card is drawn at random. Find the probability of drawing or not drawing a diamond ?

28. From the following data find out Spearman's rank correlation and interpret the result :

| Marks in accounting | : | 63 | 54 | 71 | 81 | 46 | 51 | 45 | 84 | 91 |
| Marks in costing | : | 58 | 43 | 66 | 80 | 35 | 50 | 43 | 88 | 90 |

29. You are given the following data :

		x	y
Arithmetic mean	:	20	100
Standard deviation	:	5	15

Correlation coefficient between x and y is 0.8. Find the two regression equations.

30. From 6 gentlemen and three ladies a committee of 4 is to be formed. In how many ways this can be done so as to include (i) At least one lady ; and (ii) At least one gentleman.

31. What are the characteristics of a good research hypothesis ?

$(6 \times 4 = 24)$

Part D (Long Essays)

Answer any **two** *questions.*

Each question carries 15 marks.

32. Find the co-efficient of correlation and estimate probable error. Is there any relation between x and y ?

X :	46	56	57	59	61	66	69	71	76	81	86
Y :	57	51	49	61	63	65	66	71	75	83	91

33. The following data gives the age and blood pressure of ten persons :

Age :	57	43	37	48	50	44	61	73	64	56
B.P. :	148	126	120	127	149	145	156	167	132	155

   (a) Determine the lines of regression.

   (b) Determine correlation coefficient.

   (c) Determine the blood pressure of a person whose age is 45.

34. In an experiment conducted to know the efficiency of a new treatment technique, the following results were obtained :

	Favourable response	*No response*
New treatment :	50	30
Conventional treatment :	60	60

   Whether the new treatment is superior to conventional treatment ?

   (5 % value of Chi-square for one degree of freedom = 3.84).

35. 'Report writing is more an art that hinges upon practice and experience.' Discuss.

   $(2 \times 15 = 30)$