E 2137

B.Com. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2015

Second Semester

Core Course IV—QUANTITATIVE TECHNIQUES FOR BUSINESS RESEARCH

(Common for Model I, Model II (Vocational) and UGC Sponsored B.Com. Degree Programmes)

[2013 Admission onwards]

Time : Three Hours   Maximum : 80 Marks

Answers may be written **either** *in English* **or** *in Malayalam.*

Part A (Short Answer Questions)

Answer **all** *questions.*
1 mark each.

1. What is business research ?

2. Define Poisson distribution.

3. What is a random variable ?

4. Discuss the properties of Normal Distribution.

5. What do you mean by Exhaustive cases ?

6. What is coding ?

7. What is tabulation ?

8. What are secondary data ?

9. What is critical region ?

10. What is type II error ?

$(10 \times 1 = 10)$

Part B (Brief Answer Questions)

Answer any **eight** *questions.*
2 marks each.

11. Explain the terms 'population and sample'.

12. What is meant by probability sampling ?

13. What is popular report ?

14. What do you mean by bibliography ?

15. What do you mean by rank correlation ?

Turn over

16. Explain Regression analysis.

17. From a bag containing 5 white, 8 black and 17 red balls, a ball is drawn at random. What is the probability that it is white and it is not white ?

18. How do you take a decision on Chi-square test ?

19. How many 3 digit numbers can be formed with the digits '2, 3, 5, 6, 7' Repetitions are not allowed ?

20. What is meant by research design ?

21. What do you mean by linear correlation ?

22. How do you test the significance of correlation ?

$(8 \times 2 = 16)$

Part C (Short Essay Type Questions)

Answer any six questions.
4 marks each.

23. Discuss the characteristics of Poisson distribution.

24. What are simple and composite hypothesis ?

25. Explain the various steps in report writing.

26. What are the properties of correlation coefficient ?

27. Distinguish between standard error and standard deviation.

28. Calculate χ^2 for the following data :—

Class		A	B	C
Observed frequency	...	36	45	19
Expected frequency	...	30	39	28

29. Find the probability of drawing a Queen, a King and an Ace in that order from a pack of cards in three consecutive draws, the cards drawn not being replaced.

30. Calculate probable error from the following information : $r = 0.82, n = 11$.

31. Estimate the most likely price of Mumbai (X) corresponding to the price of Rs. 70 at Kolcutta (Y) from the following data :—

$\bar{X} = 65, \bar{Y} = 67, \sigma X = 2.5, \sigma Y = 3.5, r = 0.25$.

$(6 \times 4 = 24)$

Part D (Long Essays)

Answer any **two** *questions.*
15 marks each.

32. Three judges ranked the ten beauty contestants and the results are as follows :—

Serial No. of the contestant ...	1	2	3	4	5	6	7	8	9	10
Rank given by Judge A ...	9	3	7	5	1	6	2	4	10	8
Rank given by Judge B ...	9	1	10	4	3	8	5	2	7	6
Rank given by Judge C ...	6	3	8	7	2	4	1	5	9	10

Use the correlation coefficient to discuss which pair of judges has nearest approach to common taste of beauty ?

33. Calculate regression line of X on Y and Y on X from the following data and obtain the value of 'X' if 'Y' is 15.

X :	1	2	3	4	5	6
Y :	4	5	6	7	8	9

34. A coin is tossed six times. What is the probability of obtaining (a) 4 Heads ; (b) 5 Heads ; (c) 6 Heads ; and (d) getting 4 or more heads.

35. What is research design ? What are the components of a good research design ?

$(2 \times 15 = 30)$