G 433 (Pages 3) Reg. No...................................

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

B.Com. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2010

Second Semester

Core Course IV—QUANTITATIVE TECHNIQUES FOR BUSINESS RESEARCH

(Common for Model-I Model-II (Vocational) and UGC Sponsored Programmes)

Time : Three Hours   Maximum Weight : 25

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

Section A

This section consists of 4 bunches of **four** *questions each.*
Each bunch carries a weight of 1.
Answer **all** *questions.*

I. Choose the correct answer from the choices given :

1 Research aims at :

    (a) solution to a problem.   (b) quantitative results.

    (c) discovering the truth.   (d) theoretical knowledge.

2 Correlation of two variables is zero it indicates :

    (a) positive correlation.   (b) negative correlation.

    (c) no correlation.   (d) none of these.

3 An event in probability is :

    (a) actual outcome.   (b) expected outcome.

    (c) random outcome.   (d) possible outcome.

4 If $bxy = -1.34$ and $byx = -0.55$ then r :

    (a) -0.737.   (b) -0.3685.

    (c) -0.8584.   (d) 0.8485.

II. Fill in the blanks :

5 ———— data is in the shape of raw materials.

6 If both regression coefficients are negative, then the correlation coefficient would be ————.

7 In a normal distribution mean, median and mode are ————.

8 Type two error means ————.

III. State whether the following statements are True *or* False : —

    9 The study of relationship between only two variable is called simple correlation.

    10 Binomial distribution is an extended form of Bernoulli Trial.

    11 Chi-square value range from 0 to infinity.

    12 Enumerators carry the schedule personally to the informants.

IV. Match the following : —

13	*Chi*-square	(a)	number of sample is lessthan 30.
14	*t*-test	(b)	number of sample is lessthan 100.
15	Level of significance	(c)	5% or 10%.
16	Degree of freedom	(d)	goodness of fit test.
		(e)	$(n - k)$
		(f)	$(k - n)$
		(g)	1% *or* 5%.

$(4 \times 1 = 4)$

Section B

Answer any **five** *questions.*
Each question carries a weight of 1.

17. What is Pure Research ?

18. What is law of Inertia of large number ?

19. What is quota sampling ?

20. What is partial correlation ?

21. What is Spearman's coefficient of correlation ?

22. What is Exhaustive events ?

23. What is random sampling ?

24. What is applied research ?

$(5 \times 1 = 5)$

Section C

Answer any **four** *questions.*
Each question carries a weight of 2.

25. Distinguish between primary data and secondary data.

26. What are the differences between correlation and regression ?

27. What are the essentials of research process ?

28. 200 patients were examined in a clinic of which 100 had heart complaint, 60 diabetic and 50 had both. What percentage of patients had both heart and diabetic complaints ?

29. The Value of $r = 0.7$ when the number of items is 25. Find the limits in which r lies.

30. Three percentage of given lot of manufactured parts are defective. What is the probability that in a sample of four items none will be defective ?

$(4 \times 2 = 8)$

Section D

Answer any two question.

Each question carries a weight of 4.

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

Age	65	42	36	47	49	42	60	72	63	55
Blood pressure	147	125	118	128	145	140	155	180	149	150

   (i) Determine regression equation of x on y and y on x.

   (ii) Determine the blood pressure of a person who age is 45.

   (iii) Determine the age when the B.P is 170.

32. Test whether the accidents occur *uniformly* over week days on the basis of following information : —

Days of the week	Sun	Mon	Tue	Wed	Thu	Fri	Sat
No. of accidents	11	12	14	12	15	14	18

33. A box contains 5 white, 7 red and 4 black balls what is the probability that if three balls are drawn :

   (i) All the three are white.

   (ii) All are red.

   (iii) All are black.

   (iv) One is red, one is white and one is black.

   (v) Two white and one black.

   (vi) Two red and one black.

$(2 \times 4 = 8)$