## 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, II and UGC Sponsored B.Com. Degree Programmes)

[2012 Admissions only]

Time : Three Hours          Maximum Weight : 25

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

### Part A

*Answer **all** questions.*
*Each bunch of four questions carries a weight of 1.*

I. Choose the correct answer from the choices given below :

  1 Which of the following is the characteristics of a good research :

    (a) Systematics.          (b) Logical.

    (c) Empirical.           (d) All of these.

  2 Probability sampling is also known as :

    (a) Random sampling.          (b) Stratified sampling.

    (c) Systematic sampling.        (d) Judgment sampling.

  3 The variable predicted on the basis of the other variable is known as :

    (a) Dependent variable.        (b) Independent variable.

    (c) Inter-dependent variable.     (d) None of these.

  4 52 men can do a piece of work in 12 days 28 men will do it in :

    (a) 65 days.            (b) 60 days.

    (c) 56 days.            (d) 67 days.

II. Fill in the blanks :

  5 A hypothesis is a ———— conclusion logically drawn.

  6 Coefficient correlation is a pure number lying between ————.

  7 Karl Pearson's coefficient of correlation measures ————.

  8 A sample space may be discrete or ————.

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

  9  The mean deviation of a sampling distribution is called standard error.

  10 Mean and variance of Poisson distribution are equal to $m$.

  11 In a random experiment all the possible outcome are known in advance.

  12 In the case of independent events the chance of one event depends on the happening of the other event.

IV. Match the following :—

  13 Hypothesis                — Parametric test.

  14 F-test                    — Positive or Negative.

  15 Perfect correlation       — Tentative question.

  16 Line of best fit          — Non-parametric test.

                              — Positive only.

                              — Regression analysis.

                                                    $(4 \times 1 = 4)$

### Part B

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

  17 Define the concept of regression.

  18 Explain the linear correlation.

  19 Define conditional probability.

  20 Define Poisson distribution.

  21 What is a Social Research ?

  22 What is a research design ?

  23 What do you mean by sampling errors ?

  24 What is meant by Type I error ?

                                                    $(5 \times 1 = 5)$

### Part C

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

  25 Explain the various steps in a report writing.

  26 List out the qualities of a good research problem.

  27 Discuss how samples can be selected.

  28 What are the properties of regression coefficients ?

  29 Is there any correlation between X and Y :

  X :   200   270   340   310   400
  Y :   150   162   170   180   180

  30 A bag contains 10 items of which 4 are defective. Three items are drawn one after another without replacement. What is the probability that both are defective ?

                                                    $(4 \times 2 = 8)$

### Part D

*Answer any* **two** *questions.*
*Each question carries a weight of* 4.

  31 There are 4 men and 3 women. Find the probability of selecting 3 of which (i) exactly two are women ; (ii) no women ; (iii) at least one woman ; (iv) at least two women ; (v) at the most two women.

  32 The following table gives the relative values of two variables :

  X :   42   44   58   55   89   98   66
  Y :   56   49   53   58   65   76   58

  Determine the regression equations.

  33 What are the essential qualities of a good sample ?

                                                    $(2 \times 4 = 8)$