E 1368 (Pages : 3) Reg. No.....

Name.....

C.B.C.S.S. – B.Com. DEGREE EXAMINATION, APRIL 2011

Second Semester

Core Course IV—QUANTITATIVE TECHNIQUES FOR BUSINESS RESEARCH

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

Time : Three Hours Maximum Weight : 25

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

Section A

This section consists of **four** *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 A scientific study is always :

(a) Subjective. (b) Objective.

(c) Subjective and objective. (d) Descriptive.

2 The process by which data are organised into classes and numerals or symbols is called :

(a) Editing. (b) Coding.

(c) Categorization. (d) Classification.

3 When a hypothesis relates to the cause and effect relationship of a phenomenon is called ?

(a) Descriptive hypothesis. (b) Tentative hypothesis.

(c) Null hypothesis. (d) Alternative hypothesis.

4 What is the probability of selecting a boy from a class containing 4 boys and 3 girls.

(a) $\frac{4}{7}$. (b) $\frac{7}{4}$.

(c) $\frac{1}{2}$. (d) None of these.

II. Fill in the blanks :

5 Research is directed towards the solution of a ————.

6 ———— is a plan of action which is to be carried out in connection with a proposed research.

7 ———— is a method of collecting data from every individual of the population.

8 A set of all possible outcomes from an experiment is called ————.

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

9 The objective of the researcher is to formulate basic theories thereby advancing systematic knowledge.

10 Research methods are part of research methodology.

Turn over

11 If the coefficient of correlation is more than six times its probable error, it is not all significant.

12 In the case of dependent events the chance of one event depends on the happing of the other event.

IV. Match the following :—

13 Research design	(a) Reliability.
14 Scientific method	(b) Stratified sampling.
15 Non-probability sampling	(c) Plan of action.
16 Degree of freedom	(d) Simulation approach.
	(e) Purposive sampling.
	(f) Constraints.

(4 × 1 = 4)

Section B

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

17 Define Research and mention any *two* objectives of it.

18 What is Research Report ?

19 Distinguish between fundamental and applied research.

20 What are the characteristics of a good hypothesis ?

21 Distinguish between Random and Deliberate sampling.

22 How do you use χ^2-test, for testing the goodness of fit ?

23 What is meant by perfect correlation ?

24 State Addition theorem of probability.

(5 × 1 = 5)

Section C

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

25 Bring out the difference between regression and correlation.

26 What is a research problem ? Explain the techniques of defining a research problem.

27 What are the essential qualities of a good sample ?

28 List out various methods used for collection of primary data.

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 4 white, 2 black, 3 yellow and 3 red balls. What is the probability of getting a white or a red ball at random in a single draw of one.

(4 × 2 = 8)

Section D

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

31 The height of father and son are given in the following table :

Height of Father (inches) : 65, 56, 67, 67, 68, 69, 71, 73

Height of Son (inches) : 67, 68, 64, 68, 72, 70, 69, 70

From the lines of regression and calculate the expected average height of the son when the height of the father is 67.5 inches.

32 From the data given below about the treatment of 500 patients suffering from a disease. State whether the new treatment is superior to the conventional treatment.

		No. of patients		
		Favourable	*Not favourable*	*Total*
New	...	280	60	340
Conventional	...	120	40	160
Total		400	100	500

(Given for V = 1 χ^2 0.05 = 3.84.)

33 Three persons A, B and C are simultaneously shooting a target, probability of A hitting the target is $\frac{1}{4}$. that of B is $\frac{1}{2}$. and that of C is $\frac{2}{3}$. Find the probability

(i) exactly one of them will hit the target.

(ii) at least one of them will hit the target.

$(2 \times 4 = 8)$