

B. COM. DEGREE END SEMESTER EXAMINATION APRIL - 2015
SEMESTER 2: B.COM. (CORE COURSE)
COURSE: U2CRCOM4 - QUANTITATIVE TECHNIQUES FOR
BUSINESS RESEARCH

Time: 3 Hrs

Max. Marks: 75

SECTION A(Answer **all** questions. Each question carries **1** mark)

1. The purpose of _____ research is to acquire an in-depth knowledge about something.
2. _____ are assumptions or assertions about a phenomenon, relationship or situation.
3. _____ denotes complete enumeration/count.
4. A _____ is a research document containing series of questions prepared by the researcher
to ask the respondents.
5. In _____ correlation analysis, analysis involves more than two variables.
6. If the variables move in the opposite direction, there exists _____ correlation.
7. Probable error is 0.6745 times the _____ error of correlation coefficient.
8. Two events are _____ if one of them prevents the occurrence of the other.
9. If the estimated X^2 value is _____ than the table value, alternative hypothesis is accepted.
10. Type _____ error denotes accepting a false null hypothesis
(1 x 10 = 10)

SECTION B(Answer any **eight** questions. Each question carries **2** marks)

11. Two students X and Y were asked to calculate correlation based on some data. Answers
obtained for them were -0.972 and +1.283 respectively. How will you comment on these
answers?
12. How many four digit numbers can be formed with the digits 1,3,5,7 and 9?
13. What do you mean by not mutually events?
14. What do you mean by independent event?
15. Explain the line of best fit in a scatter diagram.
16. Explain multiple regression model.
17. What is cross tabulation?
18. What is meant by empirical research?
19. What is the purpose of including bibliography in a research report?
20. Distinguish between Type I Error and Type II Error.
(2 x 8 = 16)

SECTION C(Answer any **five** questions. Each question carries **5** marks)

21. A husband and wife appeared for a test. Probabilities of qualifying the test by husband and wife are $\frac{3}{7}$ and $\frac{4}{9}$ respectively. What is the probability that (a) Only one of them qualified (b) At least one of them qualified?
22. Regression Coefficient of X on Y is 0.87 and that of Y on X is 0.93. Calculate correlation (r).
23. Estimate the production corresponding to the fertilizer application of 100 kilogram per acre, from the following data.

	Fertiliser application per acre (Kg)	Production per Acre (Tonnes)
Mean	80	47
Standard Deviation	12.5	7.8
Coefficient of correlation	0.236	

24. A die is tossed 120 times with the following results. Can it be concluded that the die used for the experiment is unbiased?

Number turned up	1	2	3	4	5	6	Total
Frequency	30	25	18	10	22	15	120

25. Explain the conditions for applying Chi-square Test.
26. How will you interpret the value of a correlation coefficient?
27. What are the properties of Karl Pearson's coefficient of correlation?

(5 x 5 = 25)

SECTION D

(Answer any **two** questions. Each question carries 12 marks)

28. Box A contains 6 green balls and 8 black balls. Box B contains 9 green balls and 4 black balls. One ball is taken from Box A and put in Box B. Then, a ball is taken from Box B. What is the probability that:
 - a) Selected ball from Box B is black
 - b) Selected ball from Box A is green and from Box B is black
 - c) Selected balls from Box A and from Box B are black
29. A certain drug is claimed to be effective in curing cold. In an experiment on 160 people with

colds, half of them were given the drug and half of them given sugar pills. The patients'

reactions were recorded in the following table.

	Helped	Harmed	No effect	Total
Drug	50	10	20	80
Sugar pills	40	10	30	80
Total	90	20	50	160

On the basis of this data, can it be concluded that there is significant difference in the effect of the drug and sugar pills?

30. Calculate the coefficient of correlation for the following data of marks obtained by 10 students in Hindi and English examinations.

Students	A	B	C	D	E	F	G	H	I	J
Marks in Hindi	2	4	4	3	3	3	4	3	3	33
Marks in English	8	1	0	8	5	3	0	2	6	
	2	3	3	3	3	2	2	3	3	38
	3	4	3	4	0	6	8	1	6	

31. Explain the structure of a research report.

(12 x 2 = 24)
