15U440 (Pages:3) Name: ………………………

Reg.No………………………

FOURTH SEMESTER B.Com.DEGREE EXAMINATION, MAY 2017
(CUCBCSS-UG)

CC15U BC4 C04 - QUANTITATIVE TECHNIQUES FOR BUSINESS
(Complementary Course)

(2015 Admission)

Time: Three Hours   Maximum: 80 Marks

Part A
(Answer all questions ,each questions carries 1 Mark)

I. Fill in the blanks

1. Non-linear correlation is also called----------------------

2. In----regression, only one independent variable is used to explain the dependant variable

3. Sample point is also called----------------

4. Binomial distribution is also called----------------------

5. Poisson distribution is originated by---------------

II. Choose the correct answer

6. In Poisson distribution, mean is denoted by -------------

    (a) npq   (b) np   (c) m   (d)e

7. npq is the variance of -------------------

    (a) Binomial Distrution   (b)Poisson Distribution

    (c)Normal Distribution   (d)None of these

8. Normal Distribution is-----------------

    (a) Mesokurtic   (b) Leptokurtic   (c) Platykurtic   (d) None of these

9. ---------is the original Hypothesis.

    (a)Null Hypothesis   (b) Alternative Hypothesis

    (c) Statistical Analysis   (d)None of these

10. The probability level of rejecting a true null hypothesis is called ----------

    (a)Degree of freedom   (b)Level of Significance(c)Level of acceptance(d)None of these

(10x1=10 Marks)

Part B
(Answer any 8 questions, each question carries 2 marks)

11. What are the properties of Correlation Coefficient?

12. Distinguish between Correlation and Regression.

13. What is the classical definition of probability?

14. State the Multiplication Theorem of probability.

15. What are the properties of Binomial Distribution?

(1)   **Turn Over**

16. How does Poisson distribution arise in Practice? Explain with suitable examples.

17. What are the uses of the Normal Distribution?

18. What are the procedures for testing hypothesis?

19. What are Type I and Type II errors?

20. What are the Assumptions of Non Parametric Test?   **(8x2=16 Marks)**

Part C
(Answer any 6 questions, each questions carry 4 marks)

21. What do you mean by Chi-Square Test? What are the applications of Chi-Square Test?

22. Discuss the Scope and limitations of Quantitative Techniques.

23. In a bolt factory Machines A,B and C manufacture respectively 25%,35% and 40%.Of the total of their Output 5,4 and 2 per cent are defective bolts. A bolt is drawn at random from the product and is found to be defective. What are the probabilities that it was manufactured by Machines A, B and C?

24. In a normal distribution, 7% of the observations are under 35 and 89% are under 63. What are the mean and standard deviation of distribution?

25. E-mail messages are received by a General Manager of a company at an average rate of 1 per hour. Find the probability that in a day the manager receives 24 messages or more.

26. Suppose that life of a gas cylinder is normally distributed with mean of 40 days and S.D of 5 days If, at a time, 10,000 cylinders are issued to customers, how many will need replacement after 35 days?

27. Two horses A and B were tested according to time (in seconds) to run a particular race with the following results:

Horse A:	28	30	32	33	33	29	34
Horse B:	29	30	30	24	27	29	

Test whether you can discriminate between the two horses.

28. Two independent samples of 8 and 7 items respectively had the following values of the variable (Weight in ounces)

Sample I:	9	11	13	11	15	9	12	14
Sample II:	10	12	10	14	9	8	10	

Is the difference between the means of the sample significant?   **(6x4=24 Marks)**

Part D
(Answer any 2 questions, each questions carry 15 Marks)

29. The following table gives the yield of three varieties

Varieties	Yields				
1	30	27	42		
2	51	47	37	48	42
3	44	35	41	36	

Perform an analysis of variance on this data

30. From the adult population of four large cities, random samples were selected and the number of married and unmarried men were recorded

	Cities				
	A	B	C	D	Total
Married	137	164	152	147	600
Single	32	57	56	35	180
Total	169	221	208	182	780

Is there significant variation among the cities in the tendency of men to marry?

31. From the following data of the age of Husband and age of wife, form two regression equations calculate husbands age when wife age is 20, also find out the age of wife when husband age is 30.

Husband's age:	36	23	27	28	28	29	30	31	33	35
Wife's age:	29	18	20	22	27	21	29	27	29	28

(2x15=30 Marks)

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