16U450 (Pages: 3) Name: ……

Reg. No……..

FOURTH SEMESTER B.Com. DEGREE EXAMINATION, APRIL 2019

(CUCBCSS-UG)

CC15U BC4 C04 / CC16U BC4 C04 / CC17U BC4 C04 –

QUANTITATIVE TECHNIQUES FOR BUSINESS

Complementary Course

(2015 Admission onwards)

Time: Three Hours Maximum: 80 Marks

Part A

Answer ***all*** questions. Each question carries 1 mark.

I Fill in the blanks:

1. When r = -1, we say there is ---------- correlation.
2. Classical probability is also known as ----------.
3. When two events cannot occur together, they are called ---------- events.
4. A set which contains no element is called as ---------- set.
5. The test applied for large samples is ---------- test.

II Choose the correct answer:

6. For perfect correlation, the coefficient of correlation should be.

   (a) 0 (b) +1 (c) -1 (d) ± 1

7. If b_{yx} is positive then b_{xy} is

   (a) positive (b) negative (c) zero (d) 1

8. $10C_0$ is equal to.

   (a) 10 (b) 0 (c) 1 (d) none of these

9. The odds in favour of A are 5 to 3 then the probability for A is

   (a) 5/8 (b) 3/8 (c) 3/5 (d) 5/31

10. Normal distribution is ----------

    (a) Continuous (b)Discrete (c) Continuous or discrete (d) Skewed

(10 x 1 = 10 Marks)

Part B

Answer any ***eight*** questions. Each question carries 2 marks.

11. What is statistical hypothesis?
12. Four coins are tossed simultaneously. What is the probability of getting 2 heads?
13. What do you mean by probable error?
14. What is standard error of estimate?
15. What do you mean by two tailed test?

16. What are disjoint sets?
17. Define Sample space.
18. What is an 'impossible event'?
19. Define Type I error.
20. What are non-parametric tests?

(8 x 2 = 16 Marks)

Part C

Answer any ***six*** questions. Each question carries 4 marks.

21. Explain the uses of Quantitative Techniques in Business and Industry.
22. Explain the different kinds of correlation.
23. What are the properties of binominal distribution?
24. A bag contains 5 white balls and 7 red balls. One ball is drawn at random from the bag. What is the probability that the ball drawn is red? What are the odds in favour and against the event?
25. The distribution of marks obtained by a group of students is normal with mean 50 marks and standard deviation 15 marks. Estimate the percentage of students with marks below 35.
26. It is found out that the number of accidents occurring in a factory follows a poisson distribution with a mean of 2 accidents per week. Find the probability that
    (i) no accident occurs in a week (ii) number of accidents in a week exceeds 2.
27. Find Karl Pearson's co-efficient of correlation between the values of X and Y given below. Also find probable error and interpret. Assume 69 and 112 as the mean values for X and Y respectively.

X :	78	89	96	69	59	79	68	61
Y :	125	137	156	112	107	136	123	108

28. The probability that a student passes Mathematics is 2/3 , the probability that he passes Statistics is 4/9. If the probability of passing atleast one subject is 4/5,what is the probability that the student will pass both the subjects?

(6 x 4 = 24 Marks)

Part D

Answer any ***two*** questions. Each question carries 15 marks.

29. Achievement test scores of trainees under 3 methods of instruction are given below.

Methods	Scores				
A	82	71	73	68	81
B	90	86	88	76	85
C	85	76	84	71	84

At 5% level of significance verify whether the 3 sample means are the same.

30. In an anti-malaria campaign in a certain area, quinine was administered to 812 persons out of a total population of 3248.The number of fever cases is shown below:

Treatment	Fever	No Fever
Quinine	20	792
No Quinine	220	2216

Discuss the usefulness of quinine in checking malaria.

31. (a) Define and distinguish between Regression and Correlation.
    (b) Price index number of wheat (X) and cereals (Y) at 12 successful seasons (quarters) are given below.

X :	87	84	88	102	101	84	72	84	83	98	97	100
Y :	88	79	83	97	96	90	82	84	88	100	80	102

Find the two regression equations.

(2 x 15 = 30 Marks)

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