21U352S (Pages: 2) Name: ……

Reg. No: ……

THIRD SEMESTER B.B.A. DEGREE EXAMINATION, NOVEMBER 2022

(CUCBCSS-UG)

CC16U BB3 C03 – QUANTITATIVE TECHNIQUES FOR BUSINESS MANAGEMENT

(Complementary Course)

(2016 to 2018 Admissions – Supplementary/Improvement)

Time: Three Hours Maximum: 80 Marks

Part A

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

1. Rejecting a null hypothesis, when it is true is called ..... error.
2. When the values of two variables move in the same direction, correlation is said to be .....
3. Binomial distribution is originated by .....
4. The Yates correction is generally applied when the number of degrees of freedom is .....
5. The regression coefficient and correlation coefficient of two variables will be the same, if their ..... are same.
6. ..... refers to the chance of happening or not happening of an event.
7. The level of probability of accepting a true null hypothesis is called .....
   (a) Degree of freedom (b) Level of significance
   (c) Level of acceptance (d) None of these
8. Normal distribution is .....
   (a) mesokurtic (b) leptokurtic (c) platykurtic (d) none of these
9. When P (AUB) = P (A) + P (B), then A and B are .....
   (a) Dependent (b) Independent
   (c) Mutually exclusive (d) None of these
10. Mean of binomial distribution is .....
    (a) np (b) n+p (c) n/p (d) npq

(10 × 1 = 10 Marks)

Part B

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

11. Define Quantitative Techniques.
12. Define a random variable.
13. Write a short note on scatter diagram
14. Explain linear and Non-linear correlation.
15. What do you mean by probable error?
16. 'Sampling is a necessity under certain conditions' Explain.

17. What is chi-square test?
18. What is meant by Analysis of Variance?
19. Distinguish between one tailed and two tailed tests.
20. State the addition and multiplication theorem on probability.

(8 × 2 = 16 Marks)

Part C

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

21. Explain the limitations of quantitative techniques.
22. Explain the different approaches to the Theory of Probability.
23. Distinguish between correlation and regression.
24. What are the properties of Normal distribution?
25. What is hypothesis testing? Enumerate the steps in testing of hypothesis?
26. Find the coefficient of correlation between X and Y and interpret the result.

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

27. For a Binomial Distribution, mean is 6 and Standard Deviation is $\sqrt{2}$. Find the parameters.
28. One bag contains 5 white and 3 black balls. Another contains 4 white and 6 black balls. One ball is drawn from each bag. Find the probability that both are of same colour.

(6 × 4 = 24 Marks)

Part D

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

29. The average life of 26 electric bulbs was found to be 1200 hours with a standard deviation of 150 hours. Test whether these bulbs could be considered as a random sample from a normal population with mean 1300 hours.
30. Explain the various methods of classifying quantitative techniques.
31. The following data present the number of units of production per day turned out bydifferent workers using 4 different types of machines.

Worker	Machine Type			
	A	B	C	D
1	44	38	47	36
2	46	40	52	43
3	34	36	44	32
4	43	38	46	33
5	38	42	49	39

Test whether the mean productivity is the same for different machine types and also test whether 5 men differ with respect to mean productivity.

(2 × 15 = 30 Marks)

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