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# THIRD SEMESTER B.B.A. DEGREE EXAMINATION, NOVEMBER 2021 

 (CUCBCSS-UG)CC15U BB3 C03/CC16U BB3 C03 - QUANTITATIVE TECHNIQUES FOR BUSINESS MANAGEMENT
(BBA - Complementary Course)
(2015 to 2018 Admissions - Supplementary/Improvement)
Time: Three Hours
Maximum: 80 Marks

## Part - I

Answer all questions. Each question carries 1 mark.

1. The techniques which provide the decision - maker a systematic and powerful means of analysis to explore policies for achieving predetermined goals are called $\qquad$
2. Analysis of variance utilizes $\qquad$ test.
3. Non - linear correlation is also called--------
4. ------------ is used as a test of goodness of fit.
5. ------------ is the original hypothesis.
6. Accepting a null hypothesis, when it is false is called ------------ error.
7. When the values of two variables move in the same direction, correlation is said to be --------a.
Positive
b. Negative
c. Linear
d. Non-linear
8. An event whose occurrence is impossible, is called $\qquad$
a. Sure event
b. Impossible event
c. Uncertain event
d. None of these
9. Let ' S ' denote the sample space, then $\mathrm{p}(\mathrm{S})=$-------------
a. 0
b. 1
c. Infinity
d. None of these
10. Mean of Binomial distribution is $\qquad$
a. np
b. $\mathrm{n}+\mathrm{p}$
c. $\mathrm{n} / \mathrm{p}$
d. $n p q$
( $10 \times 1=10$ Marks)

## Part - B

Answer any eight questions. Each question carries 2 marks.
11. Define quantitative technique.
12. What is scatter diagram?
13. Define probability.
14. Explain linear and non - linear correlation.
15. What do you mean by probable error?
16. Two coins are tossed. What is the probability of getting at least one head?
17. What do you mean by ANOVA?
18. Define degree of freedom.
19. Find out the value of $8 \mathrm{C}_{3}$.
20. What is Type I and Type II error?
( $8 \times 2=16$ Marks )

## Part - C

Answer any six questions. Each question carries 4 marks.
21. Explain the uses of quantitative technique to businessmen.
22. Distinguish between correlation and regression.
23. What are the merits and demerits of Normal distribution?
24. What is hypothesis testing? Explain its steps.
25. You are given the following data.

|  | X | Y |
| :--- | :---: | ---: |
| Arithmetic mean | 36 | 85 |
| Standard deviation | 11 | 8 |

Correlation coefficient between x and $\mathrm{y}=0.66$. 1) Find the regression equations
2) Estimate the value of $x$ when $y=75$.
26. One bag contains 4 white and 2 black balls. Another contains 3 white and 5 black balls. One ball is drawn from each bag. Find the probability that both are of same color.
27. Explain Bay's theorem.
28. In a box contains 500 apples, 50 are found to be defective. The wholesaler of the apple claims that only $6 \%$ of the apples supplied by him will be defective. Test the claim of the wholesaler.
( $6 \times 4=24$ Marks)

## Part - D

Answer any two questions. Each question carries 15 marks.
29. Explain the various methods of classifying quantitative techniques.
30. The following table gives the yield of three varieties. Preform an analysis of variance.

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

31. Consider families with 4 children each. What percentage of families would you expect to have (1) 2 boys and 2 girls (2) at least 1 by (3) no girls and (4) at the most 2 girls.

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(2 \times 15=30 \text { Marks })
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