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# THIRD SEMESTER B.B.A. DEGREE EXAMINATION, NOVEMBER 2017 

(Regular/Supplementary/Improvement)
(CUCBCSS - UG)
CC16U BB3 C03/ CC15U BB3 C03
QUANTITATIVE TECHNIQUES FOR BUSINESS MANAGEMENT
(Complementary Course)
(2015 Admission Onwards)
Time: Three Hours
Maximum: 80 Marks

## Part A

Answer all questions. Each question carries 1 mark.

1. Accepting a null hypothesis, when it is false is called $\qquad$ error
2. Analysis of variance utilizes. $\qquad$ test.
3. Normal distribution is $\qquad$
(a) mesokurtic
(b) leptokurtic
(c) platykurtic
(d) none of these
4. ..........is used as a test of goodness of fit.
5. Non -linear correlation is also called $\qquad$
6. When $P(A U B)=P(A)+P(B)$, then $A$ and $B$ are $\qquad$
(a) Dependent
(b) Independent
(c) Mutually exclusive
(d) None of these
7. $\qquad$ .refers to the totality of all the elementary outcomes of a random experiment.
8. The regression coefficient and correlation coefficient of two variables will be the same, if their $\qquad$ are same.
9. Mean of binomial distribution is $\qquad$ (a) np
(b) $\mathrm{n}+\mathrm{p}$
(c) $n / p$
(d) npq
10. $\qquad$ is used as a test of goodness of fit.
( $\mathbf{1 0 \times 1} \mathbf{= 1 0}$ Marks)

## Part B

Answer any eight questions. Each question carries 2 marks
11. Explain linear and Non-linear correlation.
12. What do you mean by probable error?
13. Give three examples which conform to Poisson distribution.
14. Define Quantitative Techniques.
15. What do you mean by Normal Distribution?
16. What is meant by Analysis of Variance?
17. Distinguish between one tailed and two tailed test.
18. What is Type I and Type II error?
19. Define Degree of Freedom.
20. Define a random variable.

## Part C <br> Answer any six questions. Each question carries 4 marks

21. Explain the uses of quantitative techniques to businessmen.
22. Find the coefficient of correlation between X and Y and interpret the result.

| $\mathrm{X}:$ | 1.2 | 1.1 | 1.9 | 1.8 | 1.0 | 0.9 |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: |
| $\mathrm{Y}:$ | 15 | 10 | 20 | 10 | 10 | 5 |

23. Distinguish between correlation and regression.
24. 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 colour.
25. Out of 500 items selected for inspection, $0.2 \%$ is found to be effective. Find how many lots will contain exactly no defective if there are 1000 lots. (Use poisson distribution).
26. What are the merits and demerits of Normal Distribution?
27. What is hypothesis testing? Enumerate the steps in testing of hypothesis?
28. How do you use chi square test for testing the goodness of fit.

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\text { ( } 6 \times 4=24 \text { Marks) }
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## Part D

Answer any two questions. Each question carries 15 marks
29. Explain the various methods of classifying quantitative techniques.
30. Consider families with 4 children each. What percentage of families would you expect to have (a) two boys and two girls (b) At least one boy
(c) No girls
and
(d) At the most two girls
31. The following data present the number of units of production per day turned out by different workers using 4 different types of machines.

Worker

|  | 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.
(2x15 = 30 Marks)

