

15U331

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Name: .....

Reg. No.....

**THIRD SEMESTER B.A DEGREE EXAMINATION, NOVEMBER 2016**

(CUCBCSS - UG)

**CC15U ECO3 B03 - QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS I**

Economics - Core Course

(2015 Admission)

Time: Three Hours

Maximum: 80 Marks

**Section A**  
**Objective Type Questions.**  
Answer *all* questions

1. For a positively skewed distribution, the correct inequality is  
a) Median > Mode b) Mode > Mean c) Mean > Median d) Mean > Mode
2.  $\log_a N + \log_a b =$   
a)  $\log_a N$  b)  $\log_b N$  c)  $\log_n b$  d)  $\log_b a$
3. The equation of straight line which cuts both the axes at a distance of 2 units from the origin is-----  
a)  $x + y = 2$  b)  $x - y = 2$   
c)  $-x + y = 2$  d)  $-x - y = 2$
4. Mean Deviation is minimum when deviations are taken from  
a) Mean b) Median c) Mode d) Zero
5. For averaging rates and ratios, the best average to be used is  
a) AM b) GM c) Mode d) none of these
6. Which measure of dispersion ensures highest degree of reliability  
a) Range b) Mean Deviation c) Quartile Deviation d) Standard Deviation
7. Ogives for more than type and less than type distributions intersect at  
a) Mean b) Median c) Mode d) Origin
8. The number of elements of a '2x3' matrix is:  
a) 12 b) 6 c) 5 d) none of these
9. Matrix A is said to be idempotent matrix when :  
a)  $A = A^{-1}$  b)  $A = 0$  c)  $A = A^T$  d)  $A = A^2$
10. A regression model that takes explicit account of random variable is known as:  
a) Stochastic model b) Deterministic model c) Markov model d) Linear model
11. If  $r=0$ , the lines of regression are  
a) Coincident b) Parallel c) Perpendicular d) None of the above
12. In a symmetrical distribution the value of mean, median and mode will  
a) Equal b) Deviate c) Could not be determined d) None of these

(12 x ½ = 6 Marks)

**Section B**

**Very Short Answer Type Questions.**

Answer **any ten** questions not exceeding **one paragraph**

13. Solve the quadratic equation  $x^2 - 3x - 40 = 0$
14. State any four laws of exponents
15. What is an Ogive?
16. If  $A = \begin{bmatrix} 1 & 5 \\ 2 & 6 \end{bmatrix}$        $B = \begin{bmatrix} 3 & 0 \\ 7 & -1 \end{bmatrix}$  Find  $2A + 3B$
17. Define rank of a matrix
18. In a moderately asymmetrical distribution Mean is 24.6 and Median is 25.1. Find the value of Mode.
19. Define Quartile Deviation.
20. What is coefficient of Determination?
21. What are the measures of central tendencies.
22. What are Percentiles?
23. Define Coefficient of variation?
24. What is meant by negative correlation? (10 x 2 = 20 Marks)

**Section C**

**Short Answer Type Questions.**

Answer **any six** questions not exceeding **one page**

25. Write short note on absolute and relative measures of dispersion.
26. Define a) linear Correlation  
b) Non linear Correlation
27. Find the inverse of  $\begin{bmatrix} 4 & 2 & 5 \\ 3 & 1 & 8 \\ 9 & 6 & 7 \end{bmatrix}$
28. Explain the uses of geometric mean.
29. Calculate standard deviation from the following data  
Class Interval : 0-5 5-10 10-15 15-20 20-25 25-30  
Frequency : 4 8 14 6 3 1
30. What is correlation? Interpret correlation coefficient.
31. Find Karl pearsons coefficient of correlation from the following data?  
Age of Husband: 23 27 28 29 30 31 33 35 36  
Age of Wife: 18 20 22 27 21 29 27 28 29
32. Draw two ogives and obtain median from the following  
Wages: 700--- 800    800---900    900--- 1000    1000--- 1100  
No of workers : 4                    6                    10                    16  
1100--- 1200    1200---1300    1200---140  
12                    7                    3  
(6 x 5 = 30 Marks)

**Section D**  
**Essay Type Questions.**

Answer *any two* questions not exceeding *three pages*

33. Solve the equation using Cramer's rule

$$2x + 5y - z - 9 = 0$$

$$3x - 3y + 2z - 7 = 0$$

$$2x - 4y + 3z - 1 = 0$$

34. Find the points at which the function  $f(x) = x^3 - 3x^2 + 5$  attains maximum and minimum values.

35. The following frequency table shows wealth of families in a town. Draw the Lorenz Curve.

No: of persons : 15   12   6   5   2

Wealth in 000's: 78   100   70   80   22

36. From the following data obtain two regression equations

X: 6   2   10   4   8

Y: 9   11   5   8   7

(2 x 12 = 24 Marks)

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