15U308 (Pages:2) Name: .....

Reg. No.....

THIRD SEMESTER B.Sc./B.C.A/B.B.A./B.Com DEGREE EXAMINATION, NOV. 2016

(CUCBCSS - UG)

CC15U GN3 A11 - BASIC NUMERICAL SKILL

(General)

(2015 Admission)

Time: Three Hours Maximum: 80 Marks

Part A

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

Fill in the Blanks

1. The collection of all subsets of a set is called-------
2. If A is a matrix of order 3 x 4 and B is a matrix of order 4 x 5, then the order of the product AB is -----
3. The sum of first 'n' terms of an AP is ------
4. The quadratic equation of $ax^2 + bx + c = 0$ has equal roots if $b^2 - 4ac$ ------
5. Rs.1000 become Rs.1331 at 10% per annum compounded annually in----- years
6. ----- is the ideal measure of dispersion
7. Bar diagrams are ---- dimensional diagrams
8. Amount of deviation present in the data 10,10,10,10,10 is
9. In a moderately asymmetrical distribution, M.D is ----- of S.D
10. The value of first central moment shall always be -----

(10 x 1 = 10 Marks)

Part B

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

11. What is meant by relative measure of dispersion?
12. Write any two uses of Geometric Mean
13. Find mode when mean is 30 and median is 32
14. Solve the equation $25x^2 - 125x+150=0$
15. Find the 20^{th} term of the AP series 8, 4, 0, -4
16. If a, b, c are in G.P, show that $b = \sqrt{ac}$
17. If U={1,2,3,4,5,6} A={2,4,6,8} find A^C
18. Define Time series Analysis.
19. The present ages of Rama and Krishna are in the ratio 5:6. After 5 years, the ratio of ages will be in 6:7. Find their present age.
20. Compute the Trace of the matrix $\begin{bmatrix} 5 & 0 \\ -1 & 5 \end{bmatrix}$

(8 x 2 = 16 Marks)

Part C

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

21. Write a brief note on probability sampling method.
22. Using ogive curves find out the median of the following data:

Marks:	0-20	20-40	40-60	60-80	80-100
Frequency:	12	10	8	15	5

23. If $A = \begin{bmatrix} 6 & -6 & 8 \\ 4 & -6 & 8 \\ 0 & -2 & 2 \end{bmatrix}$ Find A^{-1}
24. A sum of money becomes Rs 672 in 2 years and Rs 714 in 3 years, at the rate of compound interest. Find the rate of compound interest.
25. Discuss the different stages in statistical investigation.
26. Describe the time reversal and factor reversal tests of Index numbers.
27. Solve $20x + 140 = 40y$

    $30x + 60 = 5y$
28. Find the two consecutive numbers in AP whose sum is 36 and their product is 288.

(6 x 4 = 24 Marks)

Part D

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

29. Solve the following system of equations by using matrices:

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

    $4x - 2y + z = 9$

    $3x + 5y - 2z = 5$
30. Discuss various uses and applications of index numbers in business. Also, explain different methods of constructing price index numbers.
31. The following data relates to the performance of two sales executives in terms of sales (in 000's) they have made during the last 6 months.

Executive A:	25	24	30	32	26	23
Executive B:	20	22	21	25	30	22

Comment on: a. who is the better performer? b. Who is more consistent?

(2 x 15 = 30 Marks)

****