D3BCM1701 (S4)   (PAGES 2)   Reg. No.............................

                                                              Name: ....

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2022

(Supplementary - 2017 & 18 Admissions)

COMMON COURSE FOR B.Com, BBA, B.Sc CS & BCA

ABCM3A01T: BASIC NUMERICAL SKILLS

Time: 3 Hours   Maximum Marks: 80

PART A: Answer all the questions. Each question carries 1 mark.

Choose the correct answer.

1. The 14th term of the series 13,17,21,...is.............................
   A) 52   B) 65   C) 61   D) None of these
2. A square matrix of which the value of determinant is 0.
   A) Non Singular matrix   B) Null matrix   C) Scalar matrix   D) Singular matrix
3. If A is a set of students who got first class in the examination of Maths and B is the set of students who passed the same examination, then B is .... of A.
   A) Super set   B) Sub set   C) Power Set   D) Proper subset
4. The average that is unduly affected by the extreme values.
   A) Median   B) Mode   C) Mean   D) None of these
5. Karl Pearson's coefficient of skewness does not depend on............
   A) Mode   B) Median   C) Mean   D) First quartile

Fill in the Blanks.

6. Define variance
7. Give the formula for finding harmonic mean of a discrete series
8. What is cost of living index?
9. What is orthogonal matrix?
10. What is discriminant of a quadratic equation?

                                                              (10 x 1 = 10 Marks)

PART B: Answer any eight questions. Each carries 2 marks.

11. How do you find the trace of a square matrix?
12. Define geometric progression.
13. What is an ogive?
14. List any two sources of secondary data.
15. What is meant by chronological classification?
16. Define standard deviation.
17. State De Morgan's law
18. Give one example of raw matrix.
19. Which term of the progression 84,80,76,.......is 0?
20. What principal will amount to Rs 6000 at 6% p.a. simple interest in 5 years?

                                                              (8 x 2 = 16 Marks)
                                                              (PTO)

PART C: Answer any six questions. Each carries 4 marks.

21. Solve $x - 1/x = 3$

22. Express 4.5222…as a rational fraction.

23. A is six times as old as B. Fifteen years hence A will be three times old as B. Find the ages of A and B.

24. Three numbers in ascending order are in GP such that their product is 512. Find the middle number.

25. If A={1,2,3} B={3,4,5} C={1,3,5} find (A-B)∩(A-C)

26. Calculate the geometric mean of the following
    57. 5,87.75,53.5,73.5,81.75

27. Calculate mean deviation about mean of the following values
    21,29,35,10,42,75,50,30,18,80

28. What are the uses of index numbers?

(6 x 4 = 24 Marks)

PART D: Answer any two questions. Each carries 15 marks.

29. What is statistical enquiry? Explain the steps involved in planning a statistical enquiry.

30. Calculate Karl Pearson's coefficient of skewness from the following data.

Income (Rs)	400 - 500	500 - 600	600 - 700	700 -800	800 - 900
	8	16	20	17	3

31. Using Cramer's rule, solve the following systems of equations.
    $x+y+=6$, $2x-y+z=3$, $x-2y+3z=6$

(2 x 15 = 30 Marks)