FIRST SEMESTER B.Com. PROFESSIONAL DEGREE EXAMINATION, NOV. 2024
(CUCBCSS-UG)
CC17U BCP1 B03 – NUMERICAL SKILLS
(Core Course)
(2017 to 2022 Admissions – Supplementary)

Time: Three Hours   Maximum: 80 Marks

PART- A
Answer *all* questions. Each question carries 1 mark.

Choose the correct answer:

1. If a person borrows ₹12,000 at a rate of 5% per annum for 3 years, what will be the total interest paid?

    a) ₹1,800   b) ₹2,000   c) ₹1,200   d) ₹2,500

2. Solve for X in the equation: $2x+3=11$.

    a) 3   b) 4   c) 5   d) 2

3. A set contains no elements is called ------------

    a) Singleton set   b) Null set   c) Power set   d) None of these

4. A matrix in which all elements are zero is called:

    a) Identity Matrix   b) Null Matrix   c) Diagonal Matrix   d) Square Matrix

5. In a set of scores: 4, 5, 6, 6, 7, 8, 9, the mode is:

    a) 4   b) 6   c) 7   d) 8

Fill in the blanks:

6. If the nth term of an A.P is $4n - 1$, then the common difference is -----------

7. Find X, if the number x, 7, 28 forms a G.P.

8. The graphical representation of a cumulative frequency distribution is called -----------

9. Arithmetic mean between a and b is -----------

10. If the mean, median, and mode of a data set are all equal, the data distribution is -------

(10 × 1 = 10 Marks)

Part B
Answer any *eight* questions. Each question carries 2 marks.

11. Define statistics.

12. Write a short note on Venn Diagram.

13. For a frequency distribution Median=132.8, Mode=141.3. Find mean.

14. Insert 4 Arithmetic means between 5 and 20.

15. Calculate the interquartile range for the data set: 3, 7, 8, 12, 13, 14, 18.

16. Distinguish between diagrams and graphs.

17. If A= {1,2,3} B= {3,4,5,6} C= {6,7,8}, Compute A U B U C and A ∩ C.

18. Find the compound interest for Rs. 7000 for 4 years if interest is payable half yearly at 6% p.a.

19. Given the series 2, 6, 18, 54, …….. Find 1) 12th term 2) n^{th} term.

20. Construct the price index number from the following group.

	A	B	C	D	E
Index	350	200	240	150	250
Weight	5	2	3	1	2

(8 × 2 = 16 Marks)

Part C

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

21. Explain the scope of statistics.

22. Find two natural numbers whose sum is 18 and whose product is 72.

23. Solve Y = 3(X+1), 4X = Y + 1

24. If xy/ x+y = 1 and x not equal to y. Find x in terms of y.

25. Compute median from the following data

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	8	12	20	23	18	7	2

26. If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \\ 5 & 6 \end{bmatrix}$ $B = \begin{bmatrix} -1 & -2 \\ 0 & 4 \\ 3 & 1 \end{bmatrix}$ Find the matrix X such that $A + B - X = 0$.

27. Among 60 people, 35 can speak in English, 40 in Malayalam and 20 can speak in both the languages. Find the number of people who can speak in at least one of the languages. How many can't speak in any of these languages?

28. Calculate (i) Laspeyer's (ii) Paasche's (iii) Fischer's Index numbers from the following data.

Commodity	Price		Quantity consumed	
	2009	2010	2009	2010
A	0.80	0.70	10	11.0
B	0.85	0.90	8	9.0
C	1.30	0.80	5	5.5

(6 × 4 = 24 Marks)

PART D

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

29. Explain in detail about the functions and limitations of statistics.

30. Solve the following equations using matrices:

   $2x + 3y + z = 5,$ $2x + 2y - 3z = 3,$ $3x + y + z = 4$

31. Find mean and median of the following frequency distribution.

Class	0-2	2-4	4-6	6-8	8-10
Frequency	2	3	3	1	1

(2 × 15 = 30 Marks)

****

(3)