

D 51182

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Name.....

Reg. No.....

THIRD SEMESTER B.Com./B.B.A. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

BCM 3A 11—BASIC NUMERIC SKILLS

[2014 Admissions]

Time : Three Hours

Maximum : 80 Marks

Part I

Answer all questions.

Each question carries 1 mark.

1. $ax^2 + 8 = 0$ is a ———.
(a) Quadratic Equation. (c) Linear equations.
(b) Linear Inequality. (d) None of these.
2. Given the term in the sequence 1, 3, 7, 15, 31, next term is :
(a) 60. (c) 61.
(b) 62. (d) 63.
3. If A is a matrix of order 4×4 and B is a matrix of order 4×5 , then the order product AB is :
(a) 4×4 . (c) 4×5 .
(b) 5×4 . (d) 5×5 .
4. Lorenz Curve is used to study :
(a) Skewness. (c) Correlation.
(b) Kurtosis. (d) Dispersion.
5. Bar Diagram is a :
(a) One dimensional diagram. (c) Cartograms.
(b) Two dimensional diagram. (d) Three dimensional.
6. A set with no element is called ———.
(a) Singleton set. (c) Finite set.
(b) Null set. (d) Infinite set.

Turn over

7. $\begin{vmatrix} a & 0 \\ b & -a \end{vmatrix}$ is _____.
- (a) 0. (c) ab .
 (b) a . (d) a^2 .
8. $3x^2 - 4x + 1 = 0$, one of the solution to the equation is _____.
- (a) 1. (c) -1 .
 (b) 2. (d) -2 .
9. Which term of the sequence 72, 70, 68, 66,.....is 40 ?
- (a) 15. (c) 17.
 (b) 16. (d) 18.
10. Skewness refers to _____.
- (a) Flatness. (c) Symmetry.
 (b) Peakedness. (d) Asymmetry.

(10 × 1 = 10 marks)

Part II

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

11. What are disjoint sets ?
12. What is unit matrix ?
13. Solve :
- $$4x + 2y = 6$$
- $$5x + y = 6$$
14. Find the 10th term of the GP $-\frac{3}{4}, \frac{1}{2}, -\frac{1}{3}, \frac{2}{9}, \dots$
15. What is frequency distribution ?
16. Calculate mean deviation about mean of the following values :—
- 21, 29, 35, 10, 42, 75, 50, 30, 18, 80.
17. What is secular trend ?
18. What do you mean by cartogram ?

19. $A = \{x : x \text{ is a positive prime number that divides } 8\}$

$B = \{x : x \in \mathbb{N} \text{ and } x < 4\}$.

Write A and B in roster form.

20. n^{th} term of a sequence is given by $a_n = 4n + 7$. List the first four terms of the sequence.

(8 × 2 = 16 marks)

Part III (Short Essays)

Answer any **six** questions.

Each question carries 4 marks.

21. What is bar diagram? Distinguish between multiple and subdivided bar diagram.

22. Draw a histogram.

Mid Value	:	15	25	35	45	55	65	75
Frequency	:	10	24	40	32	20	14	4

23. Given that $A + B = \begin{bmatrix} 2 & 5 \\ 7 & 8 \end{bmatrix}$ $A - B = \begin{bmatrix} 6 & 8 \\ 4 & 3 \end{bmatrix}$ Find 2A.

24. Solve $X^2 - 4x = -3$.

25. Draw appropriate venn diagram for each of the following :—

$$(A \cup B)^c, A \cap B^c \cap C^c.$$

26. A bank offers 5 % compound interest calculated on half-yearly basis. A customer deposits Rs. 1,600 each on 1st January and 1st July of a year. Find the interest he would have gained at the end of the year.

27. For the following data calculate standard deviation and its coefficient of variation :—

Marks	:	2	4	6	8	10
Number of students	:	8	10	16	9	7

28. Find the sum of 8 terms of the GP 1, 3, 9, 27,

(6 × 4 = 24 marks)

Part IV

Answer any **two** questions.

Each question carries 15 marks.

29. Find out Mode from the following series :—

Size of the item	:	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
Frequency	:	10	14	16	14	11	13	17	13

Turn over

30. Find Fisher's Index Number from the following data :—

Commodity	2005		2008	
	Price	Quantity	Price	Quantity
A	2	74	3	82
B	5	125	4	140
C	7	40	6	33

31. Solve the following equations by using matrix :—

$$3x + 2y + z = 6$$

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

$$x + y + z = 3$$

(2 × 15 = 30 marks)