

19U310S

(Pages: 3)

Name:

Reg. No.....

THIRD SEMESTER B.Com./ B.B.A. DEGREE EXAMINATION, NOVEMBER 2020

(CUCBCSS-UG)

CC15U GN3 A11 (2) - BASIC NUMERICAL SKILLS

(Common Course for B.Com./B.B.A.)

(2015 to 2018 Admissions – Supplementary/Improvement)

Time: Three Hours

Maximum: 80 Marks

PART - A

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

I. Choose the correct answer

1. One equation $y=2x+5$ has
(a) No solution (b) One solution
(c) Three solution (d) Infinitely many solution
2. Common difference of A. P. 1, -1, -3, -5 is
(a) 1 (b) -1 (c) -2 (d) 2
3. If A is a matrix of order 4×3 and b is a matrix of order 3×5 then the order of its product will be
(a) 4×3 (b) 3×5 (c) 4×5 (d) 3×3
4. Which of the following is true?
(a) $0 \in \{ \}$ (b) $0 \in \{ \}$ (c) $0 \in \{0 \}$ (d) $0 \in \{0\}$
5. The point (-1, 1) whose co-ordinate lies in quadrant.
(a) I (b) II (c) III (d) IV

II. Fill in the Blanks:

6. If mean = median = mode the distribution is
7. Data regarding income, collected from village office records is adata
8. The set {q,u,e,n} and {n,e,u,q} areset.
9. Co-efficient of Range is
10. If Mean is 100 and standard deviation is 15 then coefficient of variation is

(10 x 1 = 10 Marks)

PART - B

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

11. What are the characteristics of Index number?
12. Is the inverse of the matrix $A = \begin{bmatrix} 2 & -4 \\ -2 & 4 \end{bmatrix}$ exists? Justify your answer.

(1)

Turn Over

13. Distinguish between simple interest and compound interest.
14. Define Venn diagram.
15. Let $A = \begin{bmatrix} 2 & 5 \\ -3 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & -5 \\ 3 & k \end{bmatrix}$, what value of K if any make $AB=BA$
16. Differentiate questionnaire and schedule.
17. The mean annual salary paid to all employees of a company was Rs. 5000. The mean annual salaries paid to male and female employees were Rs. 5200 and Rs. 4200 respectively. Determine the percentage of males and females employed in the company.
18. Find two natural numbers whose sum is 15 and one number is double the other.
19. Define Karl Pearson's co-efficient of Skewness.
20. What is secular trend?

(8 x 2 = 16 Marks)

PART - C

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

21. From the following data calculate the missing value, when its mean is 115.86

Wages	110	112	113	117	----	125	128	130
No. of Workers	25	17	13	15	14	8	6	2

22. Solve the system of equations with the help of Matrices.

$$x + y + z = 7$$

$$x + 2y + 3z = 16$$

$$x + 3y + 4z = 22$$

23. Define statistics. Explain its characteristics.
24. A manufacturer of TV sets produced 600 sets in the third year and 700 sets in the seventh year. Assuming that the production increases uniformly by a fixed number every year, find:
 - a) Production in the first year
 - b) Production in the tenth year
 - c) Total production in first seven years.

25. IF $A = \{1,3,5,7\}$ $B = \{5,9,13,17\}$ $C = \{1,3,9,13\}$.

Find $A \cap B, B \cap A, A \cup B, A - B, B - A, (A - B) - C, A - (A - B)$

26. In what time will a sum of Rs. 1234 amount to Rs. 5678 at 8% p.a. compound interest payable quarterly?

27. Solve $x + \frac{1}{y} = 1$ and $y + \frac{1}{x} = 4$.

(2)

28. A town has total population of 50000. Out of it 28,000 read Patriot and 23,000 read Times of India while 4000 read both the papers. How many read neither Patriot nor Times of India?

(6 x 4 = 24 Marks)

PART - D

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

29. Construct the index number of prices from the following data using

- (a) Laspeyres's
- (b) Paasche's
- (c) Fisher's Ideal index and satisfies the time reversal and factor reversal test.

Commodity	2000		2001	
	Price	Quantity	Price	Quantity
A	6	50	10	56
B	2	100	2	120
C	4	60	6	60
D	10	30	12	24
E	8	40	12	36

30. Draw two Ogives for the following data.

Marks	10-19	20-29	30-39	40-49	50-59
No. Of students	5	10	18	12	5

31. Find the adjoint of the matrix $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{bmatrix}$ and verify that $A (\text{Adj } A) = (\text{Adj } A) A = |A|I$

(2 x 15 = 30 Marks)

(3)