

D 14575

(Pages : 4 + 2 = 6)

Name.....

Reg. No.....

**THIRD SEMESTER B.Com. DEGREE (UG—CCSS) EXAMINATION
NOVEMBER 2016**

(SDE)

BC 3A 13—BASIC NUMERICAL SKILLS

Part A

	DD	MM	YEAR		
Date of Examination :	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	FN/AN
Time : 15 Minutes	Total No. of Questions : 20				

INSTRUCTIONS TO THE CANDIDATE

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. Immediately after the commencement of the examination, the candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Write the Name, Register Number and the Date of Examination in the space provided.
4. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer book.
5. Candidate should handover this Question paper to the invigilator after 15 minutes and before receiving the question paper for Part B Examination.

BC 3A 13—BASIC NUMERICAL SKILLS

Part A

Multiple Choice Questions :

1. Commutative Law $A \cap B =$

(A) $A \cap B$.

(B) $B \cap A$.

(C) $A - B$.

(D) $B - A$.

2. If $A = \{ 1, 2, 3, 4, 5 \}$; $B = \{ 2, 4, 5, 6, 7 \}$ then $A - B$ is :

(A) $\{ 1 \}$.

(B) $\{ 3 \}$.

(C) $\{ 1, 3 \}$.

(D) $\{ 6, 7 \}$.

3. $A = \{ x : x \text{ is a natural number} \}$.

(A) Tabular method .

(B) Rule method.

(C) Roster method.

(D) None.

4. A set contains of a specific number of different element is called _____ set.

(A) Infinite.

(B) Finite.

(C) Infinite or finite.

(D) None.

5. The value of the determinant $\begin{vmatrix} 2 & 8 \\ 2 & 9 \end{vmatrix}$.

(A) 2.

(B) - 2.

(C) - 68.

(D) None.

6. For open end classes, one best measure of central tendency is :

(A) A.M.

(B) Median.

(C) Mode.

(D) G.M.

7. What is the median for the following 1, 3, 5, 2, 6, 4, 7 ?

(A) 2.

(B) 5.

(C) 6.

(D) 4.

8. Which is the best measure of dispersion ?
- (A) S.D. (B) Range.
(C) Variance. (D) C.V.
9. The measure of dispersion based on all the observations of the series is :
- (A) Q.D. (B) Range.
(C) S.D. (D) All.
10. Index numbers are :
- (A) Special type of average. (B) Measure the economic change.
(C) To measure relative changes. (D) All of these.
11. In simple aggregative method, index is :
- (A) $\frac{\sum P_1}{\sum P_0} \times 100.$ (B) $\frac{\sum P_0}{\sum P_1} \times 100.$
(C) $\frac{\sum P_1}{\sum P_1} \times 100.$ (D) None of these.
12. Consumer price index reflects on the price changes experienced by :
- (A) An individual. (B) A particular-family.
(C) All families of a population. (D) None.
13. If mean is 100 and SD is 15 then c.v. is _____.
- (A) 66.67. (B) 100.
(C) 15. (D) None.
14. Which measure ensures highest degree of reliability ?
- (A) Range. (B) MD.
(C) SD. (D) QD.
15. The best average to analyse speed is :
- (A) GM. (B) AM.
(C) Mode. (D) HM.

Turn over

16. _____ refers to the column headings.

- (A) Caption. (B) Stub.
(C) Body. (D) None.

17. Weighted Arithmetic mean =

- (A) $\frac{\Sigma W}{\Sigma X}$. (B) $\frac{\Sigma W}{\Sigma N}$.
(C) $\frac{\Sigma W}{\Sigma W}$. (D) $\frac{\Sigma W}{N}$.

18. Coefficient of Range =

- (A) $\frac{L-s}{2}$. (B) $\frac{L-s}{L}$.
(C) $\frac{L-s}{S}$. (D) $\frac{L-s}{L+s}$.

19. _____ tells about the direction of the variation.

- (A) Skewness. (B) Kurtosis.
(C) Dispersion. (D) None.

20. In moderately skewed distribution the relationship of average is :-

- (A) Mode = 2 mean - 3 median. (B) Mode = 3 median - 2 mean.
(C) All are equal. (D) None of these.

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NOVEMBER 2016

(SDE)

BC 3A 13—BASIC NUMERICAL SKILLS

Time : Two Hours and Forty-Five Minutes

Maximum : 27 Weightage

Part B

Answers should be written in **English**.

SECTION A

I. Short answer type questions. Answer all *nine* questions :

- 1 What is Venn diagram ?
- 2 Represent the $A \cup B$ by means of Venn Diagram.
- 3 What is diagonal matrix ?
- 4 What is symmetric matrix ?
- 5 Solve $4 = \frac{2}{3}x$.
- 6 Find the rate of interest per annum if the simple interest on a principal of Rs. 5,000 is 800 for 4 years.
- 7 Define Geometric Progression.
- 8 Find the 10th term of the GP $-\frac{3}{4}, \frac{1}{2}, -\frac{1}{3}, \frac{2}{9}, \dots$.
- 9 What is histogram ?

(9 × 1 = 9 weightage)

SECTION B

II. Short essay or paragraph questions. Answer any *five* questions out of seven :

- 10 Find the transpose of AB, if :

$$A = \begin{bmatrix} 2 & 3 & 4 \\ 5 & 7 & 9 \\ -2 & 1 & 1 \end{bmatrix}$$

$$B = \begin{bmatrix} 4 & 0 & 5 \\ 1 & 2 & 0 \\ 0 & 3 & 1 \end{bmatrix}$$

Turn over

11 If $A = \{1, 4, 7, 10\}$ $B = \{2, 4, 5, 8\}$ $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Find $A^c \cap B$.

12 Solve $7/x + 3/y = 11/5$

$$5/y - 15/x = 1.$$

13 Solve the equation $X^2 - 4X + 3 = 0$.

14 Define time series. Explain various components of time series.

15 Insert 4 geometric means between 4 and 972.

16 Find the compound interest on Rs. 10,000 for 4 years if interest is payable half yearly for the first 3 years at the rate of 8% p.a. and for the fourth year, the interest is payable quarterly at the rate of 6% p.a.

(5 × 2 = 10 weightage)

SECTION C

III. Essay (answer any two out of three) :

17 Calculate standard deviation of the following two series and state which one is more variable

Marks	Number of students	
	Section A	Section B
20-30	5	7
30-40	10	15
40-50	25	30
50-60	5	15
60-70	5	8

18 Solve the following equations by using matrices :

$$2x - 3y = 3$$

$$4x - y = 11.$$

19 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 cannot speak in anyone of these languages ?

(2 × 4 = 8 weightage)