**33084**

**CF COMMERCE FACTORY**

(Pages : 4)

Name..........................................

Reg. No...................................

## THIRD SEMESTER B.Com. (PVT/SDE) DEGREE EXAMINATION, FEBRUARY 2013

### (U.G.—CCSS)

### BC3 A13—BASIC NUMERICAL SKILLS

### (2011 Admissions)

|  | Time | Weightage |
|---|---|---|
| Part I Descriptive Questions | 2.45 Hours | 27 |
| Part II Multiple Choice Questions | 0.15 Hour | 3 |
| **Maximum** | 3 Hours | 30 Weightage |

## Part I

### PART A

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

1) Find $18^{th}$ term of the AP : –12, –0, 12, ........

2) Solve $(x-2) + 3(x+3) - 16 = x + 12$.

3) Define Universal set.

4) Define venn diagram.

5) Write down all the subsets of the set $A = \{1, 2, 3\}$.

6) Define Geometric mean.

7) Define skewness.

8) Define matrices.

9) Give an example of scalar matrix.

$(9 \times 1 = 9$ weightage)

## PART B

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

10. Using the sets $A = \{1, 2, 3, 4\}$ $B = \{2, 4, 6, 8\}$ $C = \{3, 4, 5, 6\}$. verify that

$$A \cap (B \cap C) = (A \cap B) \cap C.$$

11. Solve $x^2 + 10x + 21 = 0$ by factorization method.

12. Solve the system of equations by elimination method : $2x + 7y = 12$ and $3x - 3y = 18$.

13. Find the total interest amount at the end of $5^{th}$ year for Rs. 8,500 at 12 % p.a. simple interest ?

14. Draw histogram and frequency polygon to present the following data :

| Income | 0—5 | 5—10 | 10—15 | 15—20 | 20—25 | 25—30 | 30—35 |
|---|---|---|---|---|---|---|---|
| No. of students | 10 | 20 | 35 | 45 | 40 | 25 | 15 |

15. Find the $26^{th}$ term of an AP whose $10^{th}$ term is 38 and the $18^{th}$ term is 94.

16. Find AB, if $A = \begin{pmatrix} 4 & 2 & 3 \\ 5 & 1 & 2 \end{pmatrix}$ and $B = \begin{pmatrix} 4 & 6 \\ 2 & 1 \\ 1 & 2 \end{pmatrix}$.

$(5 \times 2 = 10$ weightage$)$

## PART C

Essay (answer *two* out of three)

17. Calculate variance if median = 23, mode = 29 and coefficient of variation = 50 %.

18. The average monthly wage of all workers in a factory is Rs. 444. If the average wages paid to male and female workers are Rs. 480 and Rs. 360 respectively, find the percentage of male and female workers employed by the factory.

19. Three numbers are in GP. Their sum is 21 and product is 216. Find the numbers ?

$(2 \times 4 = 8$ weightage$)$

**Part II**

Multiple Choice Questions.

1. In pie diagram, divisions are shown by means of ————.

   (a) Circle.
   (b) Sector.

   (c) Circle or Sector.
   (d) None.

2. In one dimensional diagram ———— will represent the magnitude of observation.

   (a) Height or width.
   (b) Width.

   (c) Height.
   (d) None.

3. Line diagrams are ———— dimensional diagrams.

   (a) One.
   (b) Two.

   (c) Three.
   (d) Four

4. Pie diagrams are ———— dimensional diagrams.

   (a) One.
   (b) Two.

   (c) Three.
   (d) Four.

5. Frequencies of all the preceding classes are added to the frequency of a class, it is calle ————.

   (a) Frequency.
   (b) Class.

   (c) More than cumulative.
   (d) Less than cumulative.

6. Frequencies of all the class succeeding classes are added to the frequency of a class, it is called :

   (a) Frequency.
   (b) Class.

   (c) More than cumulative.
   (d) Less than cumulative.

7. ———— is the proper scruting of the collected data to avoid various types of errors.

   (a) Tabulation.
   (b) Classification.

   (c) Editing.
   (d) None.

8. ———— data are in the shape of raw material.

   (a) Primary or secondary.
   (b) Primary.

   (c) Secondary.
   (d) None.

9. ———— data are in the shape of raw material.

   (a) Primary.
   (b) Secondary.

   (c) Primary or secondary.
   (d) All.

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10. Collection of ——— data involves large expenses.

    (a) Primary.                       (b) Secondary.

    (c) Primary or secondary.       (d) All.

11. ——— is filled by the enumerator.

    (a) Questionnaire.              (b) Schedule.

    (c) Questionnaire or schedule.    (d) All.

12. ——— filled by the informants.

    (a) Questionnaire.              (b) Schedule.

    (c) Questionnaire or schedule.    (d) All

13. The classification 0—50, 50—100, 100—150 is the example of :

    (a) Inclusive.                  (b) Exclusive.

    (c) Both.                      (d) None.

14. The classification 10—19, 20—29, 30—39 is the example of :

    (a) Inclusive.                  (b) Exclusive.

    (c) Both.                      (d) None.

15. If the mid value of classes are 2.5, 7.5, 12.5, 17.5 the first class is :

    (a) 2.5–7.5                  (b) 2.5–2.5.

    (c) 5–10.                    (d) 0–5.

16. When the upper limit of a class is the lower limit of the next class, the series is known as :

    (a) Individual.                 (b) Discrete.

    (c) Inclusive.                 (d) Exclusive.

17. When the upper limit of a class is not the lower limit of the next class, the series is known as :

    (a) Individual.                 (b) Discrete.

    (c) Inclusive.                 (d) Exclusive.

18. The process of arranging data in group according to similarities is called.

    (a) Tabulation.                 (b) Classification.

    (c) Tabulation or classification.    (d) None.

19. Classification is the process of arranging data in ———.

    (a) Different columns.         (b) Different rows.

    (c) Different groups.          (d) Columns and rows.

20. Tabulation is the presentation data in ———.

    (a) Groups.                   (b) Rows.

    (c) Columns.                (d) Rows and columns.

(3 weightage)