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Name.....10.....

Reg. No.....

**THIRD SEMESTER B.Com./B.B.A. DEGREE EXAMINATION
NOVEMBER 2015**

(CUCBCSS—UG)

Common Course

A 11—BASIC NUMERICAL SKILLS

Time : Three Hours

Maximum : 80 Marks

Part A

Answer all questions.

Each question carries 1 mark.

I. Choose the correct answer :

1 The middle most item of a distribution is :

- (a) Mean. (b) Mode.
(c) Median. (d) None of these.

2 Reciprocal of X values is related with :

- (a) Harmonic Mean. (c) Linear equation.
(b) Mean deviation. (d) All of the above.

3 Which of the following is a measure of central tendency ?

- (a) Standard deviation. (b) Range.
(c) Median. (d) Kurtosis.

4 The median of 35, 23, 45, 50, 80, 61, 92, 40, 52, 61 :

- (a) 51. (b) 80.
(c) 50. (d) 40.

5 The compound interest for Rs. 7,000 for 4 years ,interest payable half yearly at 6 % is :

- (a) 1,867. (b) 1,000.
(c) 300. (d) 2,000.

II. Fill in the blanks :—

6 A set which contains no elements is _____.

7 _____ ignores + or - sign while computing measure of dispersion.

Turn over

- 8 If $A = \{1, 2, 3\}$ $B = \{2, 5\}$ then $A \cup B$ is _____.
- 9 _____ is considered as the ideal index number.
- 10 The second term of G P series is 9 and the fifth term is 243, the fourth term of series is _____.

(10 × 1 = 10 marks)

Part B (Short Answer Questions)

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

- 11 The sum of three continuous terms in G P is 35 and their product is 1000. Find the terms.
- 12 What do you mean by harmonic Mean ?
- 13 What is an index number ?
- 14 If $U = \{1, 2, 3, 4, 5\}$ and $A = \{2, 4, 5\}$, Find A^c .
- 15 If $A = \begin{bmatrix} 1 & -3 & 2 \\ 0 & 3 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 5 & 6 \\ 1 & 1 & -2 \end{bmatrix}$ find $2A - 3B$.
- 16 Represent, $A \cup B$, $A \cap B$, and $A - B$ by means of venn diagram.
- 17 Solve $5x^2 - 125 = 0$.
- 18 Of the 100 borders of a hostel 80 drink tea, 40 drink coffee and 20 drink tea and coffee. How many of them drink neither tea nor coffee ?
- 19 Explain the limitations of statistics.
- 20 Explain the uses of index numbers.

(8 × 2 = 16 marks)

Part C

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

- 21 Find an appropriate index from the following data :—

Items	Price 2004	Price 2007	Quantity consumed
A	2	4	3
B	8	9	5
C	7	8	8
D	5	6	2

- 22 If $A \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B \begin{bmatrix} 5 & 6 \\ 0 & -2 \end{bmatrix}$ verify whether $AB = BA$.
- 23 Draw a histogram to the frequency distribution showing the ages of people :
- | | | | | | | | | |
|-----------|---|---------|---------|---------|---------|---------|---------|----------|
| Ages | : | 10 - 15 | 15 - 20 | 20 - 30 | 30 - 40 | 40 - 50 | 50 - 75 | 75 - 100 |
| Frequency | : | 4 | 12 | 20 | 18 | 14 | 25 | 10 |
- 24 By means of Venn diagram, prove that $(A \cap B)' = A' \cup B'$ (Demorgan's law).
- 25 Find the standard deviation and co-efficient of variation of the values
10, 12, 80, 70, 60, 100, 0, 4.
- 26 What are the main types bar diagram ?
- 27 The population of a country increases every year by 2.4 % of the population at the beginning of that year. In what time will the population double itself ? Answer to the nearest year.
- 28 What are the functions of statistics

(6 × 4 = 24 marks)

Part D (Essay Questions)*Answer any two questions.**Each question carries 15 marks.*

- 29 With median as the base calculate the mean deviation and compare the variability of the two series A and B :
- | | | | | | | | | |
|------------|------|------|------|------|------|------|------|------|
| Series A : | 3484 | 4572 | 4124 | 3682 | 5624 | 4388 | 3680 | 4308 |
| Series B : | 487 | 508 | 620 | 382 | 408 | 266 | 186 | 218 |
- 30 Find the two numbers whose sum is 18 and product is 72.
- 31 Explain in detail the steps in statistical investigation.

(2 × 15 = 30 marks)