

**B.C.A. (2010 COURSE SEM- II : WINTER - 2017**

**SUBJECT : MATHEMATICS – II  
(NUMERICAL & STATISTICAL METHODS)**

Day : **Saturday**  
Date : **18/11/2017**

**W-2017-1635**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : 70

**N.B.:**

- 1) **Q.No.1** is **COMPULSORY**.
- 2) Attempt **ANY FOUR** questions from **Q.No.2** to **Q.No.7**.
- 3) Figures to the right indicate **FULL** marks.
- 4) Use of non-programmable **CALCULATOR** is allowed.

**Q.1** What are the advantages of data classification? State the primary rules to be observed in classification. [14]

**Q.2 a)** Define the term “Statistics”. Discuss its functions and limitations. [07]

**b)** Find real roots of the equation  $x^3 - 4x - 9 = 0$  by using Bisection Method. [07]

**Q.3** By using the following data, find out two lines of regression: [14]  
 $\sum x = 250, \sum y = 300, \sum xy = 7900, \sum x^2 = 6500, \sum y^2 = 10,000$  and  $N = 10$ .

**Q.4** The following data related to the marks obtained by 9 students of a class in Statistics and Accountancy: [14]

Marks in Statistics	30	38	28	27	28	23	30	33	28
Marks in Accountancy	29	27	22	29	20	29	18	21	27

Calculate correlation coefficient between marks of Statistics and Accountancy.

**Q.5** Write short notes on **ANY TWO** of the following: [14]

- a) Scatter Diagram
- b) Absolute and Relative Errors in Computing
- c) Forward and Backward Interpolation

**Q.6** Calculate mean (By Step Deviation Method) and median from the following data series: [14]

Class	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency	4	12	40	41	27	13

**Q.7** Discuss benefits of graphical representation of data and construct frequency polygon for the data given below: [14]

Weekly wages '00 ₹	10 – 15	15 – 20	20 – 25	25 – 30	30 – 40	40 – 60	60 – 80
No. of workers	7	19	27	15	12	12	8

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