Roll No. .....
3000 -/40/30/40

N-02

January 2019

Bachelor of Computer Application (BCA) Examination

First Semester

BCA-102 : STATISTICS - I

Time 3 Hours] [Max. Marks 40

Note : Attempt any two parts from each question. All questions carry equal marks.

1. (a) What is Statistics ? How do you think that the knowledge of statistics is essential in managements decisions. Give example.

   (b) What are the different types of charts known to you ? What are their uses.

   (c) Define the terms relative frequency and cumulative frequency. How are these related to a frequency distribution ?

2. (a) What are the different measures of central tendency ? Discuss the essentials of an ideal average.

   (b) The following is the distribution of marks obtained by 254 students of T. D. C. II year commerce in statistics. Determine Mean, Median and Modal Marks :

Marks below	:	10	20	30	40	50	60	70	80
No. of students	:	15	35	60	84	96	127	198	254

   (c) Calculate mean deviation from median and mode from the following distribution :

No. of persons	:	1	2	3	4	5	6	7	8	9
No. of families	:	15	20	16	12	10	9	8	6	4

3. (a) When two events said to be independent in the probability sense ? Give examples of dependent and independent events.

   (b) Explain the terms Skewness, Moments and Kurtosis and throw light on their need of study in Statistics.

   (c) Calculate first four moments about the mean from the following data :

Size	:	2	4	8	10
Frequency	:	10	15	8	7

4. (a) Explain the concept of Regression and point out its importance in business forecasting.

   (b) Define Binomial distribution. Point out its chief characteristics and uses. Under what conditions does it tend to Poisson distribution ?

   (c) Out of 320 families with 5 children each, what percentage would be expected to have (i) 2 boys and 3 girls, (ii) atleast one boy ? Assume equal probability for boys and girls.

5. (a) What is meant by Association of Attributes ? How does it differ from correlation ?

   (b) Obtain the rank correlation coefficient between the variables x and y from the following pairs of observed values :

x	:	50	55	65	50	55	60	50	65	70	75
y	:	110	110	115	125	140	115	130	120	115	160

   (c) The two regression lines obtained in a correlation analysis of 60 observations are :

$$5x = 6y + 24 \text{ and } 1000y = 768x - 3708.$$

   What is the correlation coefficient and what is its probable error ? Show that the ratio of the coefficient of variability of x to that of y is 5/24. What is the ratio of variances of x and y ?