April 2018

Bachelor of Computer Application (BCA) Examination

1 Semester

(**Statistical Methods**)

Time 3 Hours]   [Max. Marks 40

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

1. (a) "Statistical methods are most dangerous tools in the hands of the inexpert." Elucidate.

   (b) What is classification of Statistical Data ? Explain the method of classification by class–intervals with reference to (i) number of classes (ii) length of class–interval.

   (c) Explain briefly how you will interpret the graphs drawn on a semi–logarithmic scale?

2. (a) Find tho 7th docile and 60th porcentile for the following data :

Wages (Rs.)	30–40	40–50	50–60	60–70	70–80	80–90	90–100
No. of Workers :	1	3	11	21	43	32	09

   (b) What is co–efficient of variation ? Distinguish between 'variance' and 'coefficient of variation'.

   (c) Calculate the standard deviation of the following distribution :

Age	20–25	25–30	30–35	35–40	40–45	45–50
No. of Persons :	170	110	80	45	40	35

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

   (b) What do you understand by the terms Skewness and Kurtosis ? Point out their role in analysing a frequency distribution.

   (c) The first four central moments of a distribution are 0, 2.5, 0.7 and 18.75, test the skewness and kurtosis of the distribution.

4. (a) Assume that the probability that a bomb dropped from an aeroplane will strike a target is 1/5. If six bombs are dropped Find the probability that (i) exactly two will strike tho target, (ii) at least two strike the target.

   (b) What is a normal probability distribution ? What are the salient fetures of a normal curve ?

   (c) The incidence of occupational disease in an industry is such that the workers have 20% chance of suffering from it. What is the probability that out of six workers 4 or more will come in contact of the disease ?

5. (a) Find Karl Pearson's coefficient of correlation between sales and expenses of the following ten firms :

Sales ('000)	:	50	50	55	60	65
Expenses ('000)	:	11	13	14	16	16
Sales ('000)	:	65	65	60	60	50
Expenses ('000)	:	15	15	14	13	13

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

(c) Obtain the equation of the two lines of regression for the data giving below :

X	:	1	2	3	4	5	6	7	8	9
Y	:	9	8	10	12	11	13	14	16	15

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