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SEAT No. :

P1387

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[5623]-1007

F.Y. B.Sc. (Computer Science)

STATISTICS

CSST - 111 : Descriptive Statistics

(Semester - I) (2019 Pattern) (Paper - I)

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Use of non-programmable, scientific calculator is allowed.
- 4) Symbols have their usual meaning unless otherwise stated.

Q1) a) Select the most appropriate option for each of the following: [1 each]

i) The limits for Bowley's coefficient of skewness are :

- 1) ± 3
- 2) 0 to 3
- 3) ± 1
- 4) $\pm \infty$

ii) If each observation in a data set is multiplied by a positive constant, the arithmetic mean of the resultant variable _____.

- 1) is unaltered
- 2) increases
- 3) decreases
- 4) is not known

iii) Attributes A and B are said to be independent if _____.

- 1) $(AB) > \frac{(A) \times (B)}{N}$
- 2) $(AB) = \frac{(A) \times (B)}{N}$
- 3) $(AB) < \frac{(A) \times (B)}{N}$
- 4) $(AB) = 0$

b) State whether the following statements are true or false : [1 each]

- i) If the data is given in centimeters then its mean and standard deviation are also expressed in centimeters.
- ii) The limitations of Statistics say that statistical laws are exact.

P.T.O.

Q2) Attempt any two of the following : **[5 each]**

- a) Define Statistics. Discuss the scope of Statistics with an example.
- b) Explain the concept of central tendency. Write any three requisites of good measures of central tendency.
- c) The mean weight of 150 students in a certain class is 60 kilograms. The mean weight of boys in the class is 70 kilograms and that of the girls is 55 kilograms. Find the number of boys and number of girls in the class.

Q3) Attempt any two of the following : **[5 each]**

- a) The arithmetic mean (A.M.), median and the coefficient of variation of the weekly wages of a group of workers are respectively Rs. 45, Rs. 42 and 40%. Find mode, standard deviation (S.D.) and Karl Pearson's coefficient of skewness.
- b) Define the terms :
 - i) Positive class.
 - ii) Order of a class.
 - iii) Continuous variable.
 - iv) Primary Data.
 - v) Median.
- c) Find the missing frequencies of the following data, given that the AM of heights of students is 67.45 inches:

Height (inches)	60-62	63-65	66-68	69-71	72-74	Total
No. of students	5	18	?	?	8	100

Q4) Attempt any one of the following :

- a)
 - i) The first four raw moments of a distribution are 2, 10, 40, 218 respectively. Find the values of β_1 and β_2 . Interpret it. **[6]**
 - ii) Explain the term 'Skewness'. Discuss types of skewness with the help of a diagram. **[4]**
- b)
 - i) Explain the following terms with example. **[6]**
 - 1) Variable.
 - 2) Quartiles.
 - 3) Standard Deviation.
 - ii) In a village, there are 500 adults. Out of these 100 adults are literate and 150 are employed. There are 150 adults who are literate as well as employed. Check whether the information is consistent or not. **[4]**

