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E—33—2019

FACULTY OF SCIENCE

B.Sc. (First Year) (First Semester) EXAMINATION

MARCH/APRIL, 2019

(CBCS Pattern)

COMPUTER SCIENCE

(S1.4)

(Statistical Techniques in Computer Science)

(Wednesday, 24-4-2019)

Time : 10.00 a.m. to 1.00 p.m.

Time—3 Hours

Maximum Marks—75

- N.B. :—** (i) All questions are compulsory.
(ii) Figures to the right indicate full marks.
(iii) Assume suitable data, if necessary.
(iv) Use only non-programmable calculator.

1. Attempt any *five* of the following : 15
- (a) Write definition of Statistics according to Webster and Bowley.
 - (b) Write advantages of A.M.
 - (c) Write only *three* axioms of probability.
 - (d) Define :
 - (i) Array
 - (ii) Variable
 - (iii) Frequency.
 - (e) Define dispersion. Which are the measures of dispersion.
 - (f) Define positive and negative correlation.
 - (g) Write the uses of standard deviation.
2. Attempt any *two* of the following : 10
- (a) Write importance and scope of Statistics in computer field.
 - (b) Write limitations of Statistics.
 - (c) Give introduction to Statistics.

P.T.O.

3. Attempt any *two* of the following : 10

- (a) Write a note on graphic and diagrammatic representation of data.
- (b) The distribution of rent of 150 residential houses surveyed in a locality is as follows :

Rent (in Rs.)	No. of Houses
151–200	18
201–250	27
251–300	35
301–350	16
351–400	8
401–450	6

- (c) Draw a pie diagram to represent the following data of proposed expenditure by a State Government for the year 1997-98 :

Items	Agriculture & Rural Development	Industries & Urban Development	Health & education	Miscellaneous
Proposed expenditure (in million Rs.)	4,200	1,500	1,000	500

4. Attempt any *two* of the following : 10

- (a) Which are the requisites for an ideal measure of central tendency.
- (b) For the following frequency distribution mean is 88.40 and total frequency is 50 then find the missing term :

Salary	Frequency
40–60	6
60–80	—
80–100	17
100–120	—
120–140	5

- (c) For the following frequency distribution estimate the median :

Class	Frequency
0–9	8
10–19	32
20–29	142
30–39	216
40–49	240
50–59	206
60–69	143
70–79	13

5. Attempt any *two* of the following : 10
- (a) Define range and write advantages and disadvantages of range.
- (b) Define standard deviation, variance and coefficient of variation.
- (c) Calculate the mean and standard deviation for the following data :

Wages	No. of Persons
20–30	5
30–40	10
40–50	12
50–60	18
60–70	6
70–80	4

6. Attempt any *two* of the following : 10
- (a) Prove Addition theorem of probability.
- (b) Explain any *five* types of events with example.
- (c) Four cards are drawn at random from a well shuffled pack of 52 cards. Find the probability that :
- (i) Two cards are red and two are black.
- (ii) One is king.

P.T.O.

7. Attempt any *two* of the following :

10

- (a) Write a note on correlation and causation.
- (b) Explain the term 'Regression' by giving example.
- (c) Two random variables have the regression equation :

$$3x + 2y - 26 = 0$$

$$6x + y - 31 = 0$$

Find the mean values.