2019

(CBCS)

(5th Semester)

EDUCATION

SIXTH PAPER

(Statistics in Education)

Full Marks : 75

Time : 3 hours

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 10)

(Simple calculator may be used)

Tick (✓) the correct answer in the brackets provided : 1×10=10

1. Statistics classifies and tabulates data to present them briefly for

(a) analysis ( )

(b) raw scores ( )

(c) hypothesis ( )

(d) tabulation ( )

2. Which of the following is ***not*** a graphic representation?

(a) Piegram ( )

(b) Bar chart ( )

(c) Polygon ( )

(d) Table ( )

3. The most useful measure of central tendency is

(a) median ( )

(b) mean ( )

(c) mode ( )

(d) range ( )

4. The most frequently occurring number in a set of series is called

(a) mean ( )

(b) mode ( )

(c) range ( )

(d) median ( )

5. Quartile deviation is also called

(a) positive interquartile range ( )

(b) negative interquartile range ( )

(c) semi interquartile range ( )

(d) crude mode ( )

6. The most rarely used measure of variability is

(a) range ( )

(b) standard deviation ( )

(c) average deviation ( )

(d) quartile ( )

7. The skewness value of a normal distribution is

(a) zero ( ) *(b)* 2·5 ( )

(c) 1 ( ) *(d)* 5 ( )

8. In the cases in a normal distribution between the mean 3 to 3, standard deviation is

(a) 64·26% ( ) *(b)* 72·56% ( )

(c) 94·55% ( ) *(d)* 99·74% ( )

9. When increase in one variable leads to simultaneous increase in another variable in any manner, then it is called

(a) zero correlation ( )

(b) positive correlation ( )

(c) negative correlation ( )

(d) kurtosis ( )

10. Product-moment method of correlation is developed by

(a) Piaget ( )

(b) Charles Spearman ( )

(c) Karl Pearson ( )

(d) Elizabeth Hullock ( )

SECTION—B

(*Marks* : 15)

Write on the following : 3×5=15

1. Inferential statistics

OR

Meaning of graphical representation of data

2. Uses of mean

OR

Concept of central tendency

3. Meaning of quartile deviation

OR

Concept of measure of variability

4. Types of kurtosis

OR

Concept of normal distribution

5. Uses of correlation

OR

Zero correlation

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

The figures in the margin indicate full marks for the questions

1. *(a)* What is statistics? Mention its advantages. 2+2=4

(b) Tabulate the following scores into frequency distribution with size of class interval of 5 : 6

76	40	60	62	63	69	71	59
78	44	64	61	60	69	72	50
79	45	62	67	87	68	73	51
80	47	65	68	85	65	55	52
82	49	66	68	70	66	57	53

OR

(c) What is frequency polygon? Mention the importance of graphical representation of data. 2+2=4

(d) The score of a student in a class test is given below :

Subject	*Marks*
English	30
Science	20
Mathematics	25
Hindi	20
Social Science	15
Total	110

Draw a pie-gram to display the data. 6

2. *(a)* Compute the mean, median and mode of the following scores : 1+2+1=4

40, 25, 15, 10, 50, 30, 25, 37

(b) Calculate the mean from the following data : 6

Scores	*Frequency*
90–94	7
85–89	4
80–84	8
75–79	10
70–74	12
65–69	9
60–64	4
55–59	2
50–54	6
45–49	2

OR

(c) What is mode? Mention the limitations of median. 2+2=4

(d) Calculate the median from the data given in Question No. **2***(b).* 6

3. *(a)* Mention the uses of quartile deviation. 3

(b) Calculate the standard deviation from the following distribution of scores : 7

Scores	*Frequency*
70–74	3
65–69	5
60–64	10
55–59	10
50–54	20
45–49	8
40–44	7
35–39	5
30–34	2

OR

(c) Mention the uses of average deviation. 3

(d) Calculate average deviation from the distribution of scores given in Question No. **3***(b).* 7

4. Discuss the characteristics of normal distribution curve. Mention the applications of normal distribution curve in the field on education. 6+4=10

OR

(a) Explain the terms skewness and kurtosis with suitable diagram. 3+3=6

(b) What are the different types of skewness? Illustrate with diagrams. 4

5. *(a)* Explain correlation. 3

(b) Compute the coefficient of correlation between Test–I and Test–II scores of students as given below by rank difference method and interpret your result : 5+2=7

Scores in Test–I	*Scores in Test–II*
60	89
60	92
77	60
78	68
65	70
41	64
66	64
38	72
45	51
65	62

OR

(c) Define negative correlation. 3

(d) Calculate correlation using product moment method from the data given in Question No. **5***(b)* and interpret the result. 5+2=7

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