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(Pre-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)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The word statistics refers to

- (a) percentile ()
- (b) numerical facts ()
- (c) grouping of students ()
- (d) average score ()

- 2.** The surface area of a pie diagram of a circle is known to cover
- (a) 360° ()
 - (b) 180° ()
 - (c) 90° ()
 - (d) 45° ()
- 3.** When we want the measures of central tendency having the greatest stability, we compute
- (a) mode ()
 - (b) mean ()
 - (c) median ()
 - (d) percentage ()
- 4.** The measure of central tendency that divides the series into two equal parts is
- (a) mean ()
 - (b) median ()
 - (c) mode ()
 - (d) range ()
- 5.** The simplest but a very rough measure of variability of a series is known as
- (a) average deviation ()
 - (b) standard deviation ()
 - (c) quartile deviation ()
 - (d) range ()
- 6.** The most stable and reliable measure of variability is
- (a) standard deviation ()
 - (b) average deviation ()
 - (c) quartile deviation ()
 - (d) range ()
- 7.** The skewness value of a normal distribution curve is
- (a) 0 ()
 - (b) 1 ()
 - (c) +1 ()
 - (d) -1 ()

8. The normal distribution is known as
- (a) kurtosis ()
 - (b) platykurtic ()
 - (c) leptokurtic ()
 - (d) mesokurtic ()
9. If relationship between two sets of scores can be represented graphically by a straight line, it is known as
- (a) linear correlation ()
 - (b) multiple correlation ()
 - (c) partial correlation ()
 - (d) tetrachoric correlation ()
10. Coefficient of correlation ranges from
- (a) -1.00 through 0.00 to 1.00 ()
 - (b) -2.00 through 0.00 to 2.00 ()
 - (c) -2.00 through 0.00 to 1.00 ()
 - (d) -3.00 through 0.00 to 1.00 ()

SECTION—B

(Marks : 15)

Write on the following :

3×5=15

1. Types of statistics
2. Concept of mean
3. Uses of range
4. Concept of platykurtic curve
5. Types of correlation

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. (a) Define statistics. Mention the disadvantages of statistics. 2+2=4
(b) Tabulate the following 40 scores into a frequency distribution with a size of interval of 5 : 6

32	45	25	56	62	72	53	48	40	53
30	47	58	69	48	39	41	70	59	47
25	29	33	42	47	50	49	54	61	46
55	40	51	48	37	62	27	45	49	57

OR

- (c) Differentiate between inferential and descriptive statistics. 4
(d) Construct the histogram from the following distribution of scores : 6

Scores	<i>f</i>
65-69	1
60-64	3
55-59	4
50-54	7
45-49	9
40-44	11
35-39	8
30-34	4
25-29	2
20-24	1
	N = 50

2. (a) Define median and state its uses.

2+2=4

(b) Calculate the mean from the following distribution of scores :

6

Scores	f
47-49	1
44-46	3
41-43	4
38-40	7
35-37	10
32-34	8
29-31	7
26-28	5
23-25	3
20-22	$\frac{2}{N = 50}$

OR

(c) Compute the mean, median and mode of the following scores : 1+2+1=4
20, 15, 17, 26, 35, 30, 17, 44, 23, 17.

(d) Calculate the median from the distribution of scores given in
Question No. 1 (d).

6

3. (a) Mention the uses of standard deviation. 3
- (b) Compute the standard deviation from the following distribution of scores : 7

<i>Scores</i>	<i>f</i>
75-79	1
70-74	2
65-69	5
60-64	8
55-59	9
50-54	6
45-49	5
40-44	4
35-39	3
30-34	<u>2</u>
	<i>N</i> = 45

OR

- (c) Explain the concept of measures of variability. 3
- (d) Compute the average deviation for the distribution of scores given in Question No. 2 (b). 7

4. (a) What is normal distribution? Explain the characteristics of normal curve with suitable diagram. 3+7=10

OR

- (b) Mention the applications of normal distribution curve in the field of education. 4
- (c) Explain the concept of skewness and kurtosis with suitable diagrams. 6

5. (a) Explain the concept of correlation. 2
 (b) Compute the correlation coefficient between Test-1 and Test-2 scores of 10 students given below by product moment method and interpret the result : 6+2=8

<i>Students</i>	<i>Test-1</i>	<i>Test-2</i>
<i>A</i>	24	13
<i>B</i>	20	9
<i>C</i>	18	14
<i>D</i>	17	20
<i>E</i>	20	13
<i>F</i>	16	11
<i>G</i>	12	17
<i>H</i>	14	17
<i>I</i>	20	12
<i>J</i>	16	13

OR

- (c) Mention the uses of correlation. 2
 (d) Compute the coefficient of correlation from the scores given above in Question No. 5 (b) by rank difference method and interpret the result. 6+2=8
