2013

(5th Semester)

EDUCATION

SIXTH PAPER

(Statistics in Education)

Full Marks : 75
Time : 3 hours

(PART : B—DESCRIPTIVE)

(*Marks* : 50)

The figures in the margin indicate full marks for the questions

Answer **all** questions

1. *(a)* Explain the concepts of descriptive and inferential statistics. 2+2=4

(b) The following scores were obtained from a group of thirty students on an achievement test in English. Tabulate the scores into a frequency distribution with size of class interval of 5 : 6

11, 38, 42, 23, 18, 12, 3, 52, 7, 28,
56, 27, 14, 38, 19, 46, 18, 43, 27, 33,
35, 43, 22, 16, 8, 35, 40, 46, 52, 54

Or

(a) Explain the importance of graphical presentation of data. 4

(b) The performance of a student in four school subjects are as follows :

English	55%
Mathematics	45%
Social Science	60%
Science	40%

Draw a piegram to represent his/her performance. 6

2. (a) Mention the uses of all measures of central tendency. 3

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

Scores	*f*
195–199	1
190–194	2
185–189	4
180–184	5
175–179	8
170–174	10
165–169	6
160–164	4
155–159	4
150–154	2
145–149	3
140–144	1
	$N = 50$

Or

(a) Compute the mean, median and mode of the following ten scores : 2+2+1=5

13, 8, 12, 7, 11, 6, 10, 5, 12, 9

(b) Calculate the median of the distribution of scores given below : 5

Scores	
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
	$N = 50$

3. (a) Explain the concept of measures of variability. 4

(b) Compute the average deviation of the data given in Question No. **2** *(b)* above. 6

Or

(a) Mention the uses of all the measures of variability. 4

(b) Calculate the standard deviation of the following data : 6

Class interval	*f*
91–95	2
86–90	3
81–85	4
76–80	7
71–75	5
66–70	2
61–65	3
56–60	3
51–55	1
	$N = 30$

4. (a) Explain the concept and characteristics of normal distribution curve with suitable diagram. 6

(b) Mention the applications of normal distribution curve in the field of education. 4

Or

(a) Explain the concepts of skewness and kurtosis with suitable diagrams. 6

(b) Mention the applications of normal distribution curve in the field of education. 4

5. *(a)* Explain the concept of correlation. 2

(b) Compute the correlation coefficient between Test–1 and Test–2 scores of ten students given below by rank difference method and interpret the result : 6+2=8

Students	*Scores in Test–1*	*Scores in Test–2*
A	50	61
B	26	31
C	35	46
D	76	51
E	38	56
F	42	44
G	51	58
H	63	39
I	37	42
J	78	56

Or

(a) Explain the concept of correlation. 2

(b) Compute the correlation coefficient between Test–1 and Test–2 scores of ten students given above in Question No. **5** *(b)* by product moment method and interpret the result. 6+2=8

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2013

(5th Semester)

EDUCATION

SIXTH PAPER

(Statistics in Education)

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks* : 10)

Choose the most appropriate answer to the following by putting a Tick (✓) mark against it in the brackets provided : 1×10=10

1. One advantage of statistics is to draw inferences about

(a) the sample accurately ( )

(b) the population accurately ( )

(c) the sample with certain probability ( )

(d) the population with certain probability ( )

2. Frequency distribution is for

(a) determining the range of scores ( )

(b) determining the deviation of scores ( )

(c) grouping of scores into classes ( )

(d) counting the number of scores ( )

3. The measure of central tendency which divides a group into two subgroups of equal number is

(a) mean ( )

(b) median ( )

(c) mode ( )

(d) central tendency ( )

4. When a quick and approximate measure of central tendency is wanted, use

(a) mean ( )

(b) median ( )

(c) mode ( )

(d) percentile ( )

5. Measures of variability are used to find out

(a) how scores are scattered around the measures of central tendency ( )

(b) the difference between the highest and lowest scores of a distribution of scores ( )

(c) the percentile ranks ( )

(d) the difference between two sets of scores ( )

6. The square root of the average of the squared deviations of each score from the mean of a distribution of scores is known as

(a) range ( )

(b) average deviation ( )

(c) quartile deviation ( )

(d) standard deviation ( )

7. When a set of scores is graphically projected and found that it is more inclined towards right, it is called

(a) positively skewed ( )

(b) negatively skewed ( )

(c) leptokurtic ( )

(d) platykurtic ( )

8. The cases in a normal distribution between the mean ± ISD is

(a) 68·66% ( )

(b) 68·56% ( )

(c) 68·46% ( )

(d) 68·26% ( )

9. When the relationship between two variables can be represented in a straight line, it is known as

(a) linear relationship ( )

(b) zero relationship ( )

(c) negative relationship ( )

(d) positive relationship ( )

10. Coefficient of correlation ranges from

(a) –3·00 through 0·00 to 3·00 ( )

(b) –1·00 through 0·00 to 1·00 ( )

(c) –1·00 through 0·00 to 3·00 ( )

(d) –3·00 through 0·00 to 1·00 ( )

SECTION—B

(*Marks* : 15)

Write briefly on the following : 3×5=15

1. Limitations of statistics

2. Measures of central tendency

3. Uses of standard deviation

4. Characteristics of normal distribution

5. Interpretation of coefficients of correlation

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