

**2 0 2 2**  
( CBCS )  
( 5th Semester )

**EDUCATION**

SIXTH PAPER

**( Statistics in Education )**

*Full Marks : 75*

*Time : 3 hours*

*The figures in the margin indicate full marks for the questions*

**( SECTION : A—OBJECTIVE )**

( Marks : 10 )

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

1×10=10

1. Statistics that aim at learning characteristics of the population from a sample is

(a) descriptive ( )

(b) inferential ( )

(c) estimation ( )

(d) hypothesis ( )

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

- (a) Table ( )
- (b) Polygon ( )
- (c) Pie diagram ( )
- (d) Bar chart ( )

**3.** The most popular measure of central tendency is

- (a) median ( )
- (b) range ( )
- (c) mean ( )
- (d) mode ( )

**4.** Median is a point on a scale such that half the scores falls above

- (a) 80% ( )
- (b) 70% ( )
- (c) 60% ( )
- (d) 50% ( )

**5.** Measures of variability are also known as

- (a) measures of dispersion ( )
- (b) measures of standard value ( )
- (c) measures of equal value ( )
- (d) measures of error value ( )

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) standard deviation ( )
  - (c) average deviation ( )
  - (d) quartile deviation ( )
7. In a normal distribution, mean  $\pm$  1 standard deviation includes
- (a) 64.26% of cases ( )
  - (b) 68.26% of cases ( )
  - (c) 72.36% of cases ( )
  - (d) 94.44% of cases ( )
8. Frequency distribution having the same kurtosis as the normal distribution positive is
- (a) kurtosis ( )
  - (b) platykurtic ( )
  - (c) leptokurtic ( )
  - (d) mesokurtic ( )
9. Product moment method of correlation is developed by
- (a) Charles Spearman ( )
  - (b) William Stern ( )
  - (c) Karl Pearson ( )
  - (d) Skinner ( )
10. Coefficient of correlation ranges from
- (a) -1 through 0 to +1 ( )
  - (b) 1 through 0 to +3 ( )
  - (c) 3 through 0 to +3 ( )
  - (d) 3 through 0 to +1 ( )

**( SECTION : B—SHORT ANSWER )**

( Marks : 15 )

Write briefly on the following :

3×5=15

UNIT—I

1. Meaning of descriptive statistics

**OR**

2. Meaning of graphical representation of data

UNIT—II

3. Concept of central tendency

**OR**

4. Uses of mode

UNIT—III

5. Meaning of standard deviation

**OR**

6. Concept of average deviation

UNIT—IV

7. Meaning of kurtosis

**OR**

8. Concept of NPC

UNIT—V

9. Interpretations of coefficient of correlation

**OR**

10. Types of correlation

**( SECTION : C—DESCRIPTIVE )**

( Marks : 50 )

Answer the following :

10×5=50

UNIT—I

1. (a) Define Statistics. Mention its advantages. 2+2=4

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

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

**OR**

2. (a) What is Statistics? Mention any two limitations of statistics. 2+2=4

(b) The scores of a student in a class is given below :

<i>Subject</i>	<i>Marks</i>
Languages	55%
Mathematics	45%
Science	40%
Social Science	60%

Draw a pie diagram to represent his/her performance. 6

UNIT—II

3. (a) Explain the concept of mean with its uses. 4

(b) Calculate the median from the distribution of scores :

6

Scores	$f$
70-74	2
65-69	2
60-64	2
55-59	4
50-54	5
45-49	9
40-44	6
35-39	3
30-34	4
25-29	2
20-24	1
	<hr/>
	$N$ 40

**OR**

4. (a) What is mode? Mention the limitation of median.

4

(b) Calculate the mean from the data given in Question No. 3 (b).

6

### UNIT—III

5. (a) Give the meaning of median.

3

(b) Compute the quartile deviation from the following distribution of scores :

7

Scores	$f$
70-79	2
60-69	3
50-59	5
40-49	9
30-39	6
20-29	4
10-19	1
	<hr/>
	$N$ 30

**OR**

6. (a) Explain the concept of measures of variability. 3  
(b) Compute the standard deviation (SD) from the distribution of scores given in Question No. 5 (b). 7

UNIT—IV

7. What is normal distribution? Discuss the characteristics of normal distribution with suitable diagram. 3+7=10

**OR**

8. (a) Explain the concepts of skewness and kurtosis with suitable diagram. 6  
(b) Mention the applications of normal distribution curve in the field of education. 4

UNIT—V

9. (a) Explain the concept of correlation. 3  
(b) Compute the coefficient of correlation between Mathematics and Science test scores by rank difference method and interpret your result : 5+2=7

<i>Students</i>	:	A	B	C	D	E	F	G	H	I	J
<i>Mathematics</i>	:	65	48	50	75	58	60	69	73	55	82
<i>Science</i>	:	71	47	58	60	65	53	58	45	50	65

**OR**

10. (a) Mention the uses of correlation. 3  
(b) Compute the coefficient of correlation from the scores given above in Question No. 9 (b) by using product moment method and interpret your result. 5+2=7

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