V/EDN (vi)

2014

(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

1. *(a)* Define statistics. What are the advantages of statistics? 2+3=5

(b) Tabulate the following 40 scores into a frequency distribution using 40–44 as the lowest class interval : 5

76	40	60	62	63	69	71	59
78	44	64	61	60	67	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

(a) What is statistics? Mention the limitations of statistics. 2+2=4

(b) Plot frequency polygon and histogram on the same graph from the following table : 3+3=6

Scores	*f*
90–94	1
85–89	3
80–84	4
75–79	7
70–74	5
65–69	2
60–64	3
	$N = 25$

2. (a) Explain the concept of Mean (M). What are the uses of Mean (M)? 2+2=4

(b) Calculate the mean from the following distribution of scores : 6

Scores	*f*
45–49	2
40–44	3
35–39	5
30–34	9
25–29	6
20–24	4
15–19	1
	$N = 30$

Or

(a) Give the meaning of median (Mdn) showing its uses. 2+2=4

(b) Calculate the median from the following distribution of scores : 6

Scores	*f*
40–44	5
35–39	8
30–34	8
25–29	10
20–24	12
15–19	6
10–14	0
5–9	1
	$N = 50$

3. *(a)* What is range? 2

(b) Calculate quartile deviation (QD) from the frequency table given just above in Question No. **2** *(b)*. 8

Or

(a) What are the uses of range? 2

(b) Calculate standard deviation (SD) from the frequency table given in Question No. **2** *(b)* of the previous page on (45–49 to 15–19). 8

4. What is normal distribution? Discuss the characteristics of normal distribution curve. 4+6=10

Or

What is NPC? What are the applications of normal distribution? 4+6=10

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

(b) Compute the coefficient of correlation between Maths and Science test scores as given by rank difference method and interpret your results. 6+2=8

Students	:	*A*	*B*	*C*	*D*	*E*	*F*
Maths	:	80	45	55	56	58	60
Science	:	82	86	50	48	60	62

Students	:	*G*	*H*	*I*	*J*	*K*
Maths	:	65	68	70	75	85
Science	:	64	65	70	74	90

Or

(a) Define correlation. 2

(b) Compute the coefficient of correlation from the scores given above in Question No. **5** *(b)* by using product moment method and interpret your results. 6+2=8

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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. Statistics that make use of certain terms like 'parameter', 'sample' and 'population' is called —— statistics.

(a) descriptive ( )

(b) inferential ( )

(c) hypothesis ( )

(d) estimation ( )

2. Scores which are expressed in equal units constitute

(a) ordinal scales ( )

(b) standard scales ( )

(c) interval scales ( )

(d) nominal scales ( )

3. The most popular measure of central tendency is

(a) mode ( )

(b) mean ( )

(c) median ( )

(d) range ( )

4. Mode is also known as

(a) modal value ( )

(b) modal scale ( )

(c) modal data ( )

(d) modal frequency ( )

5. Measures of variability is also called

(a) measures of standard value ( )

(b) measures of equal value ( )

(c) measures of error value ( )

(d) measures of dispersion ( )

6. When increase or decrease in one variable does not affect other variables in any manner, then it is called as

(a) positive correlation ( )

(b) negative correlation ( )

(c) linear correlation ( )

(d) zero correlation ( )

7. Range is regarded as —— measures of variability as it takes the two extremes of the distribution.

(a) quickest ( )

(b) reliable ( )

(c) simple ( )

(d) unreliable ( )

8. In a normal distribution mean ± 1 standard deviation includes

(a) 64·26% of cases ( )

(b) 68·26% of cases ( )

(c) 72·36% of cases ( )

(d) 95·44% of cases ( )

9. The skewness value of a normal distribution curve is

(a) 1·00 ( )

(b) 2·00 ( )

(c) 1·58 ( )

(d) zero ( )

10. Rank difference coefficient of correlationship is propounded by

(a) Karl Pearson ( )

(b) McDougall ( )

(c) Charles Spearman ( )

(d) Skinner ( )

SECTION—B

(*Marks* : 15)

Write on the following : 3×5=15

1. Meaning of descriptive statistics

2. Uses of mode

3. Range—its concept

4. Skewness

5. Uses of correlation

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