EDN/V/CC/05R **Student's Copy**

2022

(CBCS)

(5th Semester)

EDUCATION

FIFTH PAPER

(Introduction to Research Methodology and Statistics in Education)

(Revised)

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. Applied research is also known as

(a) field research ( )

(b) fundamental research ( )

(c) quantitative research ( )

(d) statistical research ( )

2. In this type of research, tools are used to yield data in numerical form. What type of research is it?

(a) Qualitative research ( )

(b) Quantitative research ( )

(c) Historical research ( )

(d) Descriptive research ( )

3. When the sample is not related to the unit of target population and involves personal judgement, it is called

(a) disproportional sampling ( )

(b) proportional sampling ( )

(c) probability sampling ( )

(d) non-probability sampling ( )

4. Which of the following is a non-probability sampling technique?

(a) Purposive sampling ( )

(b) Simple random sampling ( )

(c) Cluster sampling ( )

(d) Stratified sampling ( )

5. Which of the following is recognized as the most direct means of studying people when one is interested in their overt behaviour?

(a) Questionnaire ( )

(b) Interview ( )

(c) Observation ( )

(d) Personality test ( )

6. The tool used for the purpose of measuring general ability is called

(a) intelligence test ( )

(b) aptitude test ( )

(c) personality test ( )

(d) achievement test ( )

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

(a) the mean ( )

(b) the median ( )

(c) the mode ( )

(d) the range ( )

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

(a) estimation ( )

(b) hypothesis ( )

(c) inferential ( )

(d) descriptive ( )

9. The most stable and reliable measure of variability is

(a) average deviation ( )

(b) standard deviation ( )

(c) quartile deviation ( )

(d) range ( )

10. The product-moment method of correlation was propounded by

(a) William Stern ( )

(b) Charles Spearman ( )

(c) Karl Pearson ( )

(d) Skinner ( )

(SECTION : B—SHORT ANSWER)

(*Marks* : 15)

Write briefly on the following : 3×5=15

UNIT—I

1. Sources of literature review

OR

2. Characteristics of a good hypothesis

UNIT—II

3. Concept of sample in research

OR

4. Difference between probability and non-probability sampling designs

UNIT—III

5. Advantages of interview as a tool for data collection

OR

6. Disadvantages of questionnaire as a tool for data collection

UNIT—IV

7. Importance of statistics

OR

8. Difference between descriptive and inferential statistics

UNIT—V

9. Interest inventories as tools for describing and measuring interests of individuals

OR

10. Meaning of Intelligence test

(SECTION : C—DESCRIPTIVE)

(*Marks* : 50)

Answer the following : 10×5=50

UNIT—I

1. Explain the concept of educational research. Discuss the different types of research. 3+7=10

OR

2. Elaborate on the steps involved in undertaking research. 10

UNIT—II

3. What is population and sample in educational research? Discuss the principles of sampling. 4+6=10

OR

4. Explain the various types of probability sampling. 10

UNIT—III

5. What are psychological tests? Explain any two types of psychological tests. 3+7=10

OR

6. Explain observation as a tool for collection of data. Mention its advantages and disadvantages. 3+7=10

UNIT—IV

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

20, 15, 17, 26, 35, 30, 17, 44, 23, 17

(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	2
	N = 50

OR

8. *(a)* Define median and write its uses. 2+2=4

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

Scores	*f*
90–94	2
85–89	2
80–84	4
75–79	8
70–74	6
65–69	11
60–64	9
55–59	7
50–54	5
45–49	0
40–44	2
	$N = 56$

UNIT—V

9. *(a)* What are the uses of range? 3

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

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

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

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

Scores in Maths	*Scores in Science*
80	82
45	86
55	50
56	48
58	60
60	62
65	64
68	65
70	70
75	74
85	90

★ ★ ★