N.V.K.S.D. COLLEGE OF EDUCATION
(AUTONOMOUS)
M.Ed. Degree Second Semester Examination, July 2024
(For the candidates admitted during the academic year 2023-2024)

Tool Course : ESSENTIALS IN EDUCATIONAL RESEARCH AND STATISTICS
Course code: MED2TC002

Time: 3 Hours   **Maximum Marks: 70**

SECTION A (10 x 1 = 10 marks)
Answer ALL the questions by selecting the appropriate answers.

1. The ability of a research tool to consistently produce the same results under the same conditions is known as
   a) Validity   b) Reliability   c) Usability   d) Sensitivity

2. Choose the option which is not a qualitative research technique
   a) Focus groups   b) In-depth interviews
   c) Surveys with closed-ended questions   d) Ethnography

3. An example of projective technique is a/an
   a) Questionnaire   b) Sentence completion test
   c) Rating Scale   d) Observation

4. The tool used for assessing the degree of performance of students is
   a) Check list   b) Rating scale
   c) Anecdotal record   d) Questionnaire

5. The shape of a normal distribution is
   a) Skewed   b) Bimodal   c) Bell-shaped   d) Uniform

6. If the correlation coefficient between two variables is -1, then there is
   a) No relationship between the variables
   b) A perfect positive linear relationship
   c) A perfect negative linear relationship
   d) A weak negative relationship

7. The measure of central tendency most affected by extreme values is
   a) Mean   b) Median   c) Mode   d) Range

8. Spearman's rank correlation coefficient is used when
   a) Data are normally distributed   b) Data are ordinal
   c) Variables are dichotomous   d) Data are interval or ratio scale

9. Inferential statistics are used to
   a) Describe the main features of a dataset
   b) Draw conclusions about a population based on sample data
   c) Organize and summarize data   d) Present data in tables and graphs

10. Categorical data are measured in
    a) Nominal scale   b) Ordinal scale
    c) Ratio scale   d) Interval scale

SECTION B (5 x 3 = 15 marks)
Answer all the FIVE questions in about 100 words each.

11. What type of data do projective techniques collect?
12. Write the applications of sociometric technique?
13. How does a checklist differ from a questionnaire?
14. How is the standard error calculated?
15. Provide an example of a research scenario where the arithmetic mean would be an appropriate measure to use.

SECTION C (5 x 5 = 25 marks)
Answer any FIVE questions in about 200 words each.

16. Describe rating scale as a device for data collection.
17. What does practicability refer to in the context of research tools?
18. Differentiate population from sample with examples.
19. Discuss the importance of statistics in educational research.
20. Discuss the advantages and disadvantages of using the mode as a measure of central tendency.
21. Discuss a practical example where the Central Limit Theorem is applied in real-world data analysis.
22. Calculate the standard deviation for the following data.

Sl. No	1	2	3	4	5	6	7	8	9	10
Marks	31	27	23	19	16	29	19	21	38	25

SECTION D (2 x 10 = 20 marks)
Answer BOTH the questions in about 500 words each.

23. a) Discuss the importance of attitude scales in research. Explain the various types of attitude scales commonly used in research.

(or)

b) Describe the steps in constructing a research tool. Discuss the importance of each step in ensuring the validity and reliability of the tool.

24. a) Describe the features of normal distribution and the normal probability curve with examples.

(or)

b) Calculate the t-value for the following data. How will you interpret the data?

Scores on writing skills.

Sl. No.	1	2	3	4	5	6	7	8	9	10	11	12
Boys	57	55	48	52	34	57	45	48	60	56	54	55
Girls	54	51	60	62	56	56	45	60	47	50	57	48