Qn.Code: MEDC33

N.V.K.S.D. COLLEGE OF EDUCATION

(AUTONOMOUS)

M.Ed. Degree Third Semester Examination, December 2024

(For the candidates admitted during the academic year 2023-2024)

Tool Course : **ADVANCED RESEARCH METHODOLOGY**

Course code: MED3TC003

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

SECTION A (10 x 1 = 10 marks)

Answer ALL the questions by selecting the appropriate answers.

1. A null hypothesis is
   a) A hypothesis that is always false
   b) A hypothesis that can never be tested
   c) A statement that there is no effect or difference
   d) A statement predicting the outcome of an experiment
2. Type I error is
   a) Rejecting the null hypothesis when it is true
   b) Failing to reject the null hypothesis when it is false
   c) Accepting the alternative hypothesis when it is false
   d) Failing to accept the null hypothesis when it is false
3. A one-tailed test is appropriate when
   a) The research hypothesis does not predict the direction of the effect
   b) The researcher predicts the effect in a specific direction
   c) The researcher is unsure about the outcome
   d) There are two hypotheses being tested
4. A characteristic of a good dissertation is
   a) Extensive use of jargon b) Ambiguous research questions
   c) Lack of references d) Coherence and clarity
5. The one which is not considered as scientific misconduct is
   a) Falsification b) Plagiarism
   c) Publication of data without redundancy d) Fabrication
6. The primary difference between parametric and non-parametric tests is
   a) Parametric tests do not assume normal distribution
   b) Non-parametric tests assume homogeneity of variance
   c) Parametric tests make assumptions about population parameters
   d) Non-parametric tests cannot be used with large samples
7. In qualitative data analysis, coding refers to
   a) A method for generating statistical tests

b) The process of labelling and organizing qualitative data
c) A step in testing hypotheses in quantitative data
d) A way of reducing bias in scientific misconduct

8. A publication misconduct is
   a) Transparency in methodology
   b) Fragmentation
   c) Citing relevant sources approximately
   d) Conflict of Interest disclosure
9. In hypothesis testing, the p-value represents
   a) The probability of observing the data if the null hypothesis is true
   b) The probability that the alternative hypothesis is true
   c) The probability of making a Type I error
   d) The probability that the null hypothesis is false
10. APA stands for:
    a) American Publication Association b) American Psychiatry Association
    c) American Psychological Association
    d) Association of Publishers in America

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

11. Demonstrate instances that require two tailed test and one tailed test.
12. What are the signs of a poorly organized dissertation?
13. Write your familiarity with the tools for checking plagiarism.
14. What are the different reference styles? Illustrate any one.
15. How does the use of research language brings a formal tone in research reporting?

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

16. How can you promote intellectual honesty among researchers?
17. Calculate ANOVA for the following data.

Group	Student 1	Student 2	Student 3	Student 4	Student 5
Method A	68	75	80	70	78
Method B	85	88	82	90	86
Method C	78	74	69	72	76

18. Illustrate the steps in qualitative data analysis.
19. How will you ensure ethics in your research?
20. Justify the applications of parametric and non-parametric tests.

21. Explain the ways to avoid publication misconduct.
22. What is redundant publication? Explain.

SECTION D (2 x 10 = 20 marks)

Answer BOTH the questions in about 500 words each.

23. a) Illustrate the procedure of hypothesis testing with an example.

(or)

b) What are Type I and Type II errors in hypothesis testing? How can they be controlled?

24. a) Analyze the impact of scientific misconduct on research integrity.

(or)

b) Determine if there is a significant association between the types of teaching method used (Method A, Method B, Method C) and student outcomes (Pass or Fail) using the data given.

Teaching method	Pass	Fail	Total
A	35	15	50
B	40	10	50
C	30	20	50
TOTAL	105	45	150