C 33249-D (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER M.Ed. DEGREE EXAMINATION, DECEMBER 2017

MED 04—INTRODUCTION TO EDUCATIONAL RESEARCH AND STATISTICS

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. List any four types of qualitative research.
2. Distinguish between dichotomous and continuous variables.
3. Enumerate the criteria that one can use to evaluate a research problem.
4. Give *two* reasons for stating a hypothesis before the data-gathering phase of a quantitative study.
5. Write a directional and a non-directional hypothesis based on the research question : "What is the relationship between the rate of maturation of adolescent boys and their self-concepts ?"

(5 × 2 = 10 marks)

Section B

Answer any **eight** *questions.*
Each question carries 5 *marks.*

6. Discuss the role of review of related literature in quantitative research.
7. Write a short note on simple random sampling.
8. Distinguish between Type I and Type II errors with the help of an example.
9. Draw the histogram and frequency polygon for the following frequency distribution. Interpret the graphs :

X	*f*	*x*	*f*	*x*	*f*	*x*	*f*
80	1	76	6	73	20	70	7
79	2	75	15	72	17	69	3
78	3	74	22	71	9		
77	10						

10. Explain the necessity of mastering online database searching with examples.

Turn over

11. Discuss the criteria and qualities of a good research.
12. Write a short note on APA style of referencing.
13. Distinguish between cross-sectional and longitudinal research with examples.
14. Discuss the significance of formulating hypotheses. What are the different types of hypotheses in educational research ? Illustrate.
15. Explain the merits and demerits of different measures of dispersion.
16. Illustrate the applications of normal probability curve.
17. Explain the concept and types of correlation in educational research.

(8 × 5 = 40 marks)

Section C

Answer any **two** *questions.*
Each question carries 15 *marks.*

18. (a) What do you understand by the term 'Research' ?
    (b) Discuss the criteria, objectives and qualities of a good research.
    (c) Describe the different methods of non-probability sampling.

(2 + 8 + 5 = 15 marks)

19. (a) Describe the ways in which a researcher reaches to a problem formulation.
    (b) Illustrate with examples different types of variables in a quantitative research.
    (c) Illustrate the need and importance of graphical representation of data in educational research.

(6 + 4 + 5 = 15 marks)

20. (a) Define Kurtosis. What are different types of curves based on Kurtosis values ?
    (b) What do we mean by probability sampling techniques ? Describe how you would draw a :
        (i) Stratified random sample ; and (ii) Cluster sample ?
    (c) An achievement test was administered on 2500 students. The mean is 85 and standard deviation is 4.25. Find the 67^{th} percentile and 39^{th} percentile and then write interpretation.

(3 + 6 + 6 = 15 marks)

21. (a) Elucidate the meaning and characteristics of standard deviation.
    (b) Explain the use of derived *z*-score and stanine scores with examples.
    (c) Compute the standard deviation for the following data and write the interpretation :

Marks	90-99	80-89	70-79	60-69	50-59	40-49	30-39	20-29	10-19
No. of Students	10	17	23	40	45	25	20	13	7

(4 + 5 + 6 = 15 marks)

[2 × 15 = 30 marks]