

**M.Ed. Examination, 2019**  
**Semester-II**  
**Course : MED-223**  
**(Techniques of Analysis in Educational Research)**

**Time : 3 Hours**

**Full Marks : 70**

**Questions are of value as indicated in the margin.**

1. Answer **any four** of the following questions: 4×10=40
- a) What is a partial correlation? What are its uses in educational research? In a study, the inter correlations between emotional intelligence (1) emotional maturity (2) and anxiety (3) of a group of 50 adolescents were found as follows:  $r_{12}=.89$ ,  $r_{13}=.31$  and  $r_{23}=.38$ . Determine  $r_{23.1}$  and interpret the result. 2+2+6
- b) What do you mean by standard error of a standard deviation and sampling errors in a given distribution? The SD around the mean value of 23.9 on the Achievement Motivation Test for a group of 109 school children was 9.21. Determine .99 and .95 confidence intervals for the population standard deviation. What do the obtained results indicate? 3+7
- c) The dance performance of a group of nine children was assessed in third and eighth trials. The obtained scores are given below

|           |    |    |    |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|----|----|----|
| Children: | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  |
| Trial-1:  | 20 | 12 | 19 | 11 | 9  | 17 | 11 | 14 | 24 |
| Trial-2:  | 16 | 22 | 31 | 14 | 10 | 23 | 7  | 26 | 26 |

Did the group make any significant progress in their performance from Trial-1 to Trial-2?

- d) Following teacher-trainees enrolled in urban and rural teacher training institutes expressed their opinions about four-year integrated B.Ed. programme in four different ways:

|          |                   |          |            |                     |
|----------|-------------------|----------|------------|---------------------|
| Opinion: | Strongly Favoured | Favoured | Unfavoured | Strongly Unfavoured |
| Urban:   | 12                | 11       | 25         | 15                  |
| Rural:   | 18                | 16       | 35         | 19                  |

Is there any significant difference between the opinions expressed by urban and rural teacher-trainees? 10

- e) Outline a general model for analysis of data in any qualitative research. Explain the process of analyzing data collected in a grounded theory study. 4+6
2. Answer **any four** of the following questions : 4×5=20
- a) In a certain normal distribution, the mean on a Moral Reasoning Test for 340 school students was 20.6 with a SD of 4.4. What percentage of students fall between 18 and 23?

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(2)

- b) Distinguish parametric and non-parametric data. State the assumptions for analyzing parametric data. Under what circumstances a researcher may ignore any assumption(s). 2+2+1
- c) What is a one-tailed test of significance? Formulate a hypothesis under a specific research problem which requires such a test. 3+2
- d) Explain the meaning of ANCOVA with an example. Analyse the uses of ANOVA and ANCOVA in educational research. 5
- e) "QDA software does not analyse qualitative data in an automatic way like what SPSS does with quantitative data." Clarify your position. 5
3. **Answer all the questions :** 3×2=6
- a) Distinguish Biserial and Point-Biserial correlations.
- b) Clarify the meaning of 'statistic' and 'parameter'.
- c) What are the distinguishing features of latest version of SPSS?
4. **Answer all the questions :** 4×1=4
- Choose the correct response for the following items:
- a) Qualitative data are expressed in :  
i) Nominal or interval scales ii) Ratio and ordinal scales  
iii) Ordinal or nominal scales iv) None of the above.
- b) Certain theoretical model of distribution starting with the value from zero at the left to infinity on the right is :  
i) A normal distribution ii) A t-distribution iii) A F-distribution iv)  $A\chi^2$  distribution
- c) For finding significant difference between Means of a large correlated sample, Degrees of Freedom are:  
i)  $N - 1$  ii)  $N - 2$  iii)  $n - 2$  iv)  $n - 1$
- d) Between-groups variance contains the following components :  
i) Treatment effect ii) Sampling and measurement errors iii) Hypothesized effect and error iv) Chance errors.
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