

**MASTER OF ARTS EXAMINATION, 2023**

**(1<sup>st</sup> Year 2<sup>nd</sup> Semester)**

**EDUCATION**

**Course- EDU/PG/2.4**

**Methodology of Educational Research & Statistics – II**

**Time: Two Hours**

**Full Marks: 30**

1. Answer **any one** of the following. 12x1=12

- a) Before starting the classroom instruction, a school teacher measured the learning styles of 100 students constituting both male and females. Observation of the teacher has been given in the below table.

Gender/Learning Styles	Visual	Auditory	Read/Write	Kinaesthetic
Male	10	20	5	20
Female	25	10	5	5

Based on the given data, formulate a null hypothesis and test (considering 0.05 level of significance) whether the learning style of the students is influenced by their gender or not.

- b) In what ways are Reliability and Validity related? Explain the ways of ensuring reliability of a psychological test with suitable examples. 4+8

c) Answer **any two** in about 250 words each. 6x2=12

- a. In an international school, the mean score of class X students in Mathematics Olympiad is  $\mu = 40$ . This year 10 students have appeared in the Olympiad and obtained scores of 41, 43, 37, 39, 43, 41, 39, 42, 45, 40. Using appropriate parametric statistics at a significance level of  $\alpha = 0.05$ , determine whether the performance of this year's students significantly differs from the average performance of class X students at the Mathematics Olympiad in this school.

- b. Illustrate with examples various steps of conducting interview for collecting research data.

- c. Briefly discuss the concept and strategies of content analysis in qualitative research.

- d. Briefly discuss various steps of writing an educational research report.

[ Turn over

- d)** Answer *any three* in about 60 words each. 2x3=6
- a. Formulate two research questions considering an educational research problem.
  - b. What is meant by PCA?
  - c. Write a reference for a research article in accordance with the APA (7th Edition) format.
  - d. What is the most commonly used scale of measurement in educational research? Provide one justification in its favour.
  - e. Differentiate between percentage and percentile.