BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE EDUCATION

DEPARTMENT: CURRICULUM AND EDUCATIONAL MANAGEMENT STUDIES

PROGRAMME: MASTER OF SCIENCE EDUCATION IN MEASUREMENT AND EVALUATION

COURSE CODE: MAE507(1). NARRATION: THE RESEARCH PROCESS IN EDUCATION

DURATION: 3 HOURS.   TOTAL MARKS: 300

INSTRUCTIONS TO CANDIDATES

AUG 2024

- Answer any three questions.
- Each question carries 100 marks.
- Begin each question on a separate answer sheet.
- Relate your answers and examples to your subject of specialisation in the education context.

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1. Compare quantitative and qualitative research approaches.   [100 marks]

2. Examine the importance of any four components of a research proposal.
                                                                [100 marks]

3. Discuss any four threats to internal validity in experimental research.
                                                                [100 marks]

4. Evaluate any three approaches for making major inferences about a population.   [100marks]

5. Hypothesis testing

   a. Using Table 1 below, based on a survey of political party preference (n = 500), examine four assumptions of Chi-Square test.

	Conservative	Labour	Liberal Democrats	TOTAL
Male	120	90	40	250
Female	110	95	45	250

TOTAL	230	185	85	500

b. Use the following steps to perform a Chi-Square test of independence to determine if gender is associated with political party preference.
   i. State the null and alternative hypotheses
   ii. Calculate the expected values
   iii. For each cell, calculate the (difference between observed and expected value)^2, that is, squared.
   iv. Calculate the test statistic (Chi-Square) and the corresponding P-value.
   v. Draw a conclusion.

[100 marks]

The Chi-Square is denoted by x^2.

The chi-square formula is:

$$x^2 = \sum(O_i - E_i)^2/E_i$$

where
   - O_i = observed value (actual value)
   - E_i = expected value.

END OF PAPER