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**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**(MAIN CAMPUS)**

**UNIVERSITY EXAMINATIONS (MAIN EXAM)  
2021/2022 ACADEMIC YEAR**

**FIRST YEAR FIRST TRIMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF**

**MASTER OF SCIENCE, MEDICAL LABORATORY SCIENCES**

**COURSE CODE: HPE 816**

**COURSE TITLE: ADVANCED RESEARCH METHODOLOGY**

**DATE: THURSDAY 21<sup>ST</sup> APRIL 2022**

**TIME: 2:00-5:00 PM**

**INSTRUCTIONS TO CANDIDATES**

This examination paper contains five questions of 25 marks each. Answer QUESTIONS ONE and any other THREE questions. Illustrate your answers with labeled diagrams where appropriate.

**TIME: 2 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over

## QUESTIONS

1. Write the essential elements required in a Method Section for an intervention research study (25 Marks)
2. List and describe the ethical principles on which standards of ethical conduct in research are based (25 marks)
3. Describe the steps followed in writing the research proposal (25 marks)
4. Currently many research centers in world are in the process of developing COVID -19 vaccines. This is experimental study.
  - a) Describe the term experimental design (5 marks)
  - b) Discuss three principle of used in conducting experimental research according professor Fishers R.A (10 marks)
  - c) Describe three ways of increasing reliability during development of COVID -19 vaccines (10 marks)
5. Summarize the probability research designs (25 marks).