



(University of Choice)

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

UNIVERSITY REGULAR EXAMINATIONS

2022/2023 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER EXAMS

FOR THE DEGREE OF

BACHELOR OF INFORMATION TECHNOLOGY

Course code: BIT 415E

Course name: DISASTER MANAGEMENT AND RECOVERY

DATE: 15/12/2022

TIME: 08:00-10:00PM

INSTRUCTIONS: Please attempt question one and any other two questions

MMUST observes ZERO tolerance to examination cheating

Paper Consists of 3 Printed Pages. Please Turn Over

Question one (30mks)

- a) Using suitable examples, Distinguish between the following concepts (12mks)
 - i) Business impact analysis and Business Continuity planning
 - ii) Backup Retention policy and rotation policy
 - iii) Threats and risk
 - iv) Disaster recovery planning and disaster mitigation planning
- b) Risk mitigation is defined as taking steps to reduce adverse effects. Briefly, describe the steps you would take to overcome/prevent failure of you information systems (8mks)
- c) A Business Impact Analysis is a process of identifying the critical business functions and the losses and effects if these functions are not available. Discuss why it is essential for the BIA process to begin with executive sponsorship of the effort and the support and involvement of senior management (10mks)

Question two (20mks)

According to a survey completed in 2010, human error is responsible for 40% of all data loss, as compared to just 29% for hardware or system failures.

- d) Distinguish between RTO and RPO (4mks)
- e) Describe suitable instances where RTO and RPO could be applied in disaster recovery planning (6mks)
- f) Discuss some of the ethical issues familiar to you that could be of concern to you that can lead to IT disasters (10mks)

Question three (20mks)

The concept of **reliable system design and single point of failure** is very critical when it comes to designing, implementing, managing, and repairing the IT infrastructure for your company.

- a) Briefly describe the Principle of Redundancy. Cite practical applications (4mks)
- b) using suitable examples, explain the concept of **single point of failure** in the context of IT/IS disaster management (6mks)
- c) Discuss the concepts of cohesion and coupling in the context of reliable systems design (10mks)

Question four (20mks)

The Business Impact Analysis (BIA) process must begin with executive sponsorship of the effort and the support and involvement of senior management.

- a) Briefly explain why (4mks)
- b) Outline the key business areas of the organization that you may consider for BIA. This list should be in order of importance to the business (6mks)

- c) For each of the areas listed in Q4(b) above, Briefly explain why you would prioritize them in the BIA (10mks)

Question five (20mks)

Figure below depicts the relative relationship of people, process, and technology in most companies. Discuss the importance of the interplay among these elements and their relevance to disaster management (20mks)

