



[University of Choice]

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
[MMUST]**

**MAIN CAMPUS  
UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER SPECIAL/SUPP  
EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**COURSE CODE: BIK 220**

**COURSE TITLE: INTELLIGENT SYSTEMS**

**DATE: TUESDAY 02-08-2022**

**TIME: 11:00a.m-1:00p.m**

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**INSTRUCTIONS TO CANDIDATES**

Answer Question ONE and choose any other Two.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over. ►

### QUESTION ONE [30 MARKS]

- a) Define the term Artificial Intelligence. {2 marks}
- b) Briefly explain the four things that are used in determining the environment. {8 marks}
- c) Give a brief comparison of the of four branches of AI. {8 marks}
- d) Define the term AI to represent systems that help in fault tolerance. {4 marks}
- e) What benefits does Artificial Intelligence bring to transportation field? {8 marks}

### QUESTION TWO [20 MARKS]

- a) Explain the turing test application in the security. {10 marks}
- b) What is the difference between offline and near line searches? {4 marks}
- c) How is an offline search problem improved? Explain briefly. {6 marks}

### QUESTION THREE [20 MARKS]

- a) According to AI, computer can be made to do much more than human being. Explain. {8 marks}
- b) Define the term informed search strategy. {2 marks}
- c) Davis et al. [1993] states that a knowledge representation is best understood in terms of five distinct roles it plays. What are the challenges that come with the said roles. {10 marks}

### QUESTION FOUR [20 MARKS]

- a) Describe the differences and similarities between searching and game playing. {6 marks}
- b) Define an intelligent agent. {2 marks}
- c) Construct a PEAS for a medical doctor agent. {6 marks}
- d) What are the parameters of measuring problem-solving performance. {6 marks}

### QUESTION FIVE [20 MARKS]

- a) Expert systems differ from conventional computer systems in several ways. Explain five characteristic features of ES. {5 marks}
- b) KBS are useless without the ability to represent knowledge different knowledge representation schemes may be appropriate depending on tasks and circumstances. Knowledge representation schemes and reasoning methods must be coordinated, explain at least four types of KR. {15 marks}