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[*University of Choice*]

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY [MMUST]

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER SPECIAL/SUPP EXAMINATIONS

FOR THE DEGREE

OF

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

COURSE CODE: **BIT 226**

COURSE TITLE: **ARTIFICIAL INTELLIGENCE**

DATE: TUESDAY 02-08-2022 **TIME:** 11:00A.M-1:00P.M

INSTRUCTIONS TO CANDIDATES

Answer Question ONE and choose any other Two.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

QUESTION ONE [30 MARKS]

a) Define the term Artificial Intelligence. **{2 marks}**

b) Briefly explain the four things that are used in determning the envronment. **{8 marks}**

c) Give a brief comparison of the of four branches of artificial intelligence. **{8 marks}**

d) Define the term AI to represent systems that act rationally specifying the author[s]. **{4 marks}**

e) What benefits does Artificial Intelligence bring to modern families? **{8 marks}**

QUESTION TWO [20 MARKS]

a) Explain the turing test application in an intelligent agents development. **{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 intellgent 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}**