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(University of Choice)

## Masinde Muliro University of Science and Technology

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE  
OF

BSc. in Information Systems & Knowledge Management

COURSE CODE: BIK 220

COURSE TITLE: Intelligent Systems

DATE: 17/04/2023

TIME: 8:00-10:00AM

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### INSTRUCTIONS

Answer QUESTION ONE and ANY OTHER TWO

### Question One (30 Marks)

- a. Define the term Machine Learning. Is it useful in intelligent systems? **6 marks**
- b. Explain the people involved in the design of the pioneer intelligent system. **6 marks**
- c. The easiest way to present an overall view of intelligent system structure is with a representative diagram. Explain the genesis of this statement with a diagram. **4 marks**
- d. When developing an expert system a shell becomes handy because it will not force you to develop the expert system from scratch, it allows you as the KNOWLEDGE ENGINEER to focus more on the knowledge. Explain the term knowledge engineer giving their roles and variations of the same. **14 marks**

### Question Two (20 Marks)

- a. Design of agents are greatly dependent on the agents' level of autonomy. Explain. **4 marks**
- b. Explain some of the intelligent systems that have been commercialized in education. **8 marks**
- c. Explain the major components of an expert system. **8 marks**

### Question Three (20 Marks)

- a) There are two major types of a problems in AI. Explain. **8 marks**
- b) How can you evaluate an algorithm's performance, explain the application of at least three (3) blind search techniques. **12 marks**

### Question Four (20 Marks)

- a) Autonomy of intelligent agents implies that an agent takes initiative and exercises control over its own action. Explain how an agent should show its autonomy. **6 marks**
- b) Explain the significance of some of the main processes that occur within the expert system? **14 marks**

### Question five (20 marks)

Construct a PEAS for at least four agents in social justice environment, giving challenges that may exist in their design. **20 marks**