



National Open University of Nigeria
Plot 91, Cadastral Zone, NnamdiAzikiwe Expressway, Jabi - Abuja
Faculty of Science
Department of Computer Science
2022_2 EXAMINATIONS

Course Code: CIT478
Course Title: Artificial Intelligence
Time Allowed: 2 Hours
Unit: 2 units
Instruction: Answer Question one (1) and any two (2) other Questions

Questions

Question 1

- a. Describe the term Knowledge base. (5marks)
- b. Write short note on Lisp programming Language. (4 marks)
- c. Outline three major components of Knowledge Representation in AI. (6 marks)
- d. List the fundamental faculties of intelligence. (3marks)
- e. Highlight different ways to perceive agent's environment in AI. (5 marks)
- f. List five (4) types of Robot Actuators. (2 marks)

Question 2

- a. State three (3) disadvantages of expert system. (6 marks)
- b. Identify five (6) types of AI search techniques. (3 marks)
- c. Briefly explain the greedy search algorithm. (5 marks)
- d. List two (2) algorithms that can be used to play chess at the level of the best human players. (1 mark)

Question 3

- a. Identify five (5) examples of agents. (5 marks)
- b. Identify the differences between fully observable and partially observable intelligent agent environment. (6marks)
- c. Explain four (4) characteristics of an agent environment? (4 marks)

Question 4

- a. State the merits and demerits of greedy search algorithm. (4 marks)
- b. Explain four (4) prolog syntax or semantics that you know? (4 marks)
- c. Briefly explain how AI experts evaluate intelligent agent performance? (4 marks)
- d. What is problem space? (3marks)

Question 5

- a. Write short notes on the following:
 - (i) Robotics (3 marks)

- (ii) Expert System (3marks)
- (iii) Backward chaining and Forward chaining (3marks)

- b. List five (5) the application areas of Lisp . (2marks)
- c. Outline the generic best first search algorithm. (4 marks)

Question 6

- a. Describe any four (4) agent architectures. (8 marks)
- b. Explain five (5) terms used in state space search that you know? (5 marks)
- c. What is a Statistical Natural Language Processing? (2 marks)