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:2units
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 (3mars)

(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)