



National Open University of Nigeria, University Village, 91 Cadastral Zone, Nnamdi
Azikiwe Express Way, Jabi, Abuja
Faculty of Sciences

CIT478 Artificial Intelligence – (2 Credits)

Answer any four (4) questions in 2½ Hours.

Each question carries 17½ marks.

1 (a) Describe the term Artificial Intelligent (AI) and List three different approaches in defining artificial intelligence (9 marks)

1 (b) Identify four (4) fields that are linked or associated with AI. (4 marks)

1(c) Outline three tasks that can be successfully performed by AI. (4½ Marks)

2(a) Describe an agent and list examples.(4 marks)

2(b) Write short notes on three of the following:

- (i) Observability
 - (ii) Continuity
 - (iii) Episodicity
 - (iv) Determinism
- (9 marks)

2(c) Identify three features of an Agent (4½ marks)

3(a)With a diagram describe Goal Directed agent (6 marks)

3(b) Explain the term “Problem Space” give example(7 marks)

3(c)Outline three steps for a generic searching process (4½ marks)

4(a) Describe an uninformed search and outline two types. (6 marks)

4(b) Organize the following into Informed and Uninformed Search:

- (i) Best – First Search

- (ii) A Greedy Algorithm
- (iii) A Beam Search
- (iv) Hill Climbing
- (v) Breadth-first search
- (vi) Tree Search
- (vii) Depth-first search

(1 mark each for correct placement, max 7)

4(c) Outline three features of Knowledge Representation Languages ($4\frac{1}{2}$ marks)

5(a) Explain Knowledge representation. (5 marks)

5(b) Locate four advantages of an Expert System (8 marks)

5(c) Outline three fields that are linked or associated with AI ($4\frac{1}{2}$ **marks**)

6 (a) Write short notes on the following

- (i) Robotics
- (ii) Expert System
- (iii) Knowledge Base

(3 marks each)

6 (b)) Identify four (4) features of Knowledge Representation Language (4 marks)

6 (c) Outline three areas where LISP has been used. ($4\frac{1}{2}$ **marks**)