



PAN AFRICA CHRISTIAN UNIVERSITY

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY

END OF SEMESTER EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: DICT0214

COURSE TITLE: INTRODUCTION TO ARTIFICIAL INTELLIGENCE

CAMPUS: ROYSAMBU

EXAM DATE: FRIDAY, 4TH APRIL 2025

TIME: 6:00PM-9:00PM

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other THREE questions in Section **B**.
- Write only your **student number** on the answer booklet provided.
- None programmable calculators permitted
- Calculators on phones, tablets and computers are NOT permitted in Theory Papers

SECTION A
(Answer ALL questions in this section)

Question 1:

- a) Describe the features of a good Knowledge Representation schemes. [2
Marks]
- b) Examine any two applications of Artificial Intelligence. [2
Marks]
- c) Discuss two informed searching algorithms in artificial intelligence. [2
Marks]
- d) Translate the following sentences into predicate logic. [4
Marks]
 - i. No one likes poverty
 - ii. If Jane is tall then Jane is nice

SECTION B
(Answer any THREE (3) questions in this section)

Question 2:

- a) Describe any two types of intelligent agents. [2
marks]
- b) Intelligent agents interact with different types of environments. State and explain any four of these environments. [4 marks]
- c) The domain of artificial intelligence is huge in breadth and width. Describe the four broadly common research areas in the domain of AI. [4 marks]

Question 3:

- a) Examine two benefits of Explanation facilities in expert systems. [2
Marks]
- b) Explain four applications of expert systems. [4
marks]
- c) Discuss four limitations of an expert system. [4
Marks]

Question 4:

- a) The success of an intelligent behavior of a system can be measured with Turing Test. Discuss the Turing Test process.

[4 Marks]

- b) Discuss three short-comings of using natural language for knowledge representation.

[6

Marks]

Question 5:

- a) Explain any two methods of acquiring knowledge.

[2

Marks]

- b) AI is developing with such an incredible speed, sometimes it seems magical. There is an opinion among researchers and developers that AI could grow so immensely strong that it would be difficult for humans to control. Analyze four of these threats citing examples.

[4

Marks]

- c) Describe types of computer games in the context of artificial intelligence.

[4

Marks]

Question 6:

- a) Differentiate between Backward chaining and Forward chaining in AI.

[2

Marks]

- b) Describe computer vision and illustrate how it plays a vital role in robotics.

[4

Marks]

- c) Describe two assumptions of knowledge representation. Use examples to illustrate your answer.

[4

Marks]

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