END TERM EXAMINATION

FOURTH SEMESTER [BCA] JUNE 2024

Paper Code: BCAT-214   **Subject: Introduction to Artificial Intelligence**

Time: 3 Hours   **Maximum Marks: 75**

Note: Attempt all questions as directed. Internal choice is indicated.

Q1   Attempt **any Five** from the following   **(5x5=25)**

a) What are the Various Issues in the design of the Search Problem?

b) Describe Best First Search algo? Also discuss its application?

c) What is difference between Generate and Test and Hill Climbing Search Techniques?

d) What is AI? Mention application of AI.

e) Why Knowledge representation is important in AI ?

f) What is Heuristic Search? Explain with suitable example

g) What are State space? Write State spaces for TIC -TOE game?

UNIT-I

Q2 a) Explain the following search algorithms with example: **(3x2=6)**

i) A*

ii) Depth First Search

b) How Sensors are Different from Actuators? Write PEAS for Smart Washing Machine?   **(6.5)**

OR

Q3 a) What do you mean by agent? What are the different Types of Agents?   **(6)**

b) Discuss various problems in Hill Climbing Algorithm and how they can be prevented?   **(6.5)**

UNIT-II

Q4 a) What are the various Issues in knowledge representations?   **(6.5)**

b) How Predicate and Propositional Logic are different from each other? Provide example   **(6)**

OR

Q5 a) Why Knowledge Representation is important in AI? Explain with Example?   **(6.5)**

b) How Various approaches used for Knowledge representations are different from each other?   **(6)**

UNIT-III

Q6 a) Describe one application of Natural Language Processing in detail?   **(6)**

b) What is Monotonic Reasoning and why it is important?   **(6.5)**

OR

Q7 a) Explain the application of Fuzzy Logic? Why it is important for Automation?   **(6.5)**

b) What is the difference between Syntactic and Pragmatic processing? Explain with suitable example?   **(6)**

UNIT-IV

Q8 a) Explain different types of learnings with examples?   **(6)**

b) Differentiate between Discovery and Analogy?   **(6.5)**

OR

Q9 a) Why Genetic Learning is Important in AI? Explain with suitable example?   **(6)**

b) Explain Neural Networks with its application?   **(6.5)**

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