

CBCS SCHEME

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17CS562

Fifth Semester B.E. Degree Examination, July/August 2021 Artificial Intelligence

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. What is Artificial Intelligence? Explain. (06 Marks)
b. A water jug problem: Two Jugs of 4L and 3L capacity (No marker on it). How can you get exactly 2L of water into 4L jug? Write both production rule and solution. (10 Marks)
c. What is meant by uniformed search? Explain Depth-first-search strategy. (04 Marks)
- 2 a. What is an AI technique? Explain. (06 Marks)
b. Write a note on Production System. (06 Marks)
c. Crypt arithmetic problem:
 SEND
 + MORE

 MONEY
Initial state: No two letters have same value. Sum of digits must be shown. (08 Marks)
- 3 a. Explain mapping between Facts and representation with example. (05 Marks)
b. Explain Forward and Backward reasoning. (05 Marks)
c. Translate following into First Order Logic:
 (i) All pompeins were Romans.
 (ii) All Romans are either loyal to Caesar or hated him.
 (iii) Everyone is loyal to someone.
 (iv) Was Macrus loyal to Caesar?
 (v) All pompeins died when the voleano errupted in 79AD. (10 Marks)
- 4 a. Explain Inheritable knowledge. (06 Marks)
b. Consider following sentences:
 (i) John likes all kind of food.
 (ii) Apple and Chicken are food.
 (iii) Anything anyone eats and is not killed by is food.
 (iv) Bill eats peanuts and is still alive.
 (v) Sue eats everything bill eats.
Using resolution prove that "John likes Peanuts". (10 Marks)
c. Write a note on Matching. (04 Marks)
- 5 a. Explain logics for Non-Monotonic reasoning. (06 Marks)
b. What is Bayesian Network? Explain semantics of it. (08 Marks)
c. Explain slot as full-fledged objects. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 6 a. Explain implementation of Breadth-first search. (08 Marks)
b. State Baye's theorem. How it is used in statistical reasoning? (08 Marks)
c. Write a note on Semantic Nets. (04 Marks)
- 7 a. Explain Conceptual dependency. (08 Marks)
b. What is global ontology? Explain. (06 Marks)
c. Write about iterative deepening. (06 Marks)
- 8 a. Explain CYC and its motivations. (10 Marks)
b. Explain Min Max search procedure. (10 Marks)
- 9 a. Explain various steps in natural language understanding process. (10 Marks)
b. Write a note on Knowledge Acquisition. (10 Marks)
- 10 a. Explain how decision trees are used in learning. (06 Marks)
b. What are the capabilities expected from expert systems. (08 Marks)
c. Explain the process of learning from examples. (06 Marks)
