

P1340

[3864] - 426

B.E. (Information Technology)
ARTIFICIAL INTELLIGENCE
(2003 Course)

Time : 3 Hours]

[Max. Marks :100

Instructions to the candidates:

- 1) Assume suitable data wherever necessary.
- 2) Separate answer books must be used for the sections.
- 3) Draw proper diagrams wherever necessary.

SECTION - I

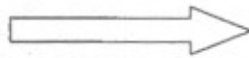
- Q1)** a) Discuss the classification of production systems. [8]
 b) Define the reasonable heuristic estimates for, [8]
 i) 8-puzzle ii) Chess
 iii) Bridge iv) Tic-Tac-Toe

OR

- Q2)** a) Detail the forward and backward chaining rules. [6]
 b) Apply A* algorithm to solve following 8-puzzle problem. [10]

Initial State

3	4	5
1	8	6
2		7



Goal State

3	4	5
2		6
1	8	7

- Q3)** a) What is Knowledge Representation using propositional logic? Compare propositional and predicate Logic. [8]
 b) Write a script for having the food in a restaurant. [8]

OR

- Q4)** a) Give the complete procedure to convert wff into clause form. [8]
b) Draw the Conceptual Dependency representation for the following statements. [8]
i) As smoking can kill you I stopped.
ii) Bill shot Bob.

- Q5)** a) Explain all the steps in Natural Language Processing. [10]
b) Write and explain Waltz's algorithm. [8]

OR

- Q6)** a) Give the complete ATN representation to accept Interrogatory English statements. [10]
b) Detail the Semantic analysis phase of NLP. [8]

SECTION - II

- Q7)** a) What is the significance of Planning? Which are the various components of typical Planning system? [8]
b) Explain Non linear planning with goal stack with example. [8]

OR

- Q8)** a) Elaborate least commitment strategy. [8]
b) What is Hierarchical planning? Illustrate with example. [8]

- Q9)** a) Explain Learning by Analogy and Learning by Deduction. [8]
b) Explain Back Propagation Neural Network in detail? [10]

OR

- Q10)** a) What is Perceptron? Give three applications of ANN. [8]
b) Write the note on Rote Learning and Learning by Induction. [10]

- Q11)** a) Explain typical Medical Diagnosis Expert system. [10]
b) What are the desirable characteristics of AI language? [6]

OR

- Q12)** a) Explain the typical architecture of Expert System. [8]
b) Write a Prolog program to compute the Factorial of a number. [8]

