

Total No. of Questions : 12]

SEAT No. :

P851

[4659] - 229

[Total No. of Pages : 3

**B.E (Computer Engineering)
c - ARTIFICIAL INTELLIGENCE
(Elective - I) (2008 Pattern) (Semester - I)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Attempt three questions from Section - I and three questions from Section - II.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable data, if necessary.*

SECTION -I

- Q1)** a) Describe the different definitions of artificial intelligence. [8]
b) Explain a learning agent architecture and describe their components. [8]

OR

- Q2)** a) Explain the main factors for designing an intelligent agent with suitable example. [8]
b) Explain task domains of Artificial Intelligence problems. [8]

- Q3)** a) Define Search Problem? Solve 8 queens problem as a State Space Search problem. [8]
b) Prove that A-star is optimally efficient and complete. [8]

OR

- Q4)** a) Explain measuring problem solving performance for at least four search strategies. [8]
b) Explain Iterative deepening A-star search algorithm with suitable example. [8]

P.T.O.

- Q5) a)** What are limitations of MINI-MAX search algorithm? Explain the method for overcoming the limitations of MINI-MAX search procedure. [8]
- b) Define Constraint satisfaction problem? Solve SEND + MORE = MONEY using constraint satisfaction? [10]

OR

- Q6) a)** Describe various approaches for solving CSPs. [10]
- b) Explain MINI-MAX search algorithm for solving any game. [8]

SECTION - II

- Q7) a)** Differentiate between Propositional logic and FOL? Write the rules for converting the first-order logic to the Conjunctive Normal Form. [10]
- b) Explain Planning graphs with suitable example. [8]

OR

- Q8) a)** Explain Unification algorithm with a suitable Example. [8]
- b) What is classical planning? Explain the algorithm for planning state space search and backward relevant state search. [10]

- Q9) a)** Explain various forms of learning. [8]
- b) Explain fuzzy sets and fuzzy logic with a suitable example. [8]

OR

- Q10) a)** What are probability axioms? Explain Baye's rule with a suitable example. [8]
- b) Write note on Decision Trees. [8]

Q11)a) Explain Implementation aspects of Parsing in Natural Language Processing with suitable example? Also explain Discourse and Pragmatic Processing. **[8]**

b) Describe Knowledge acquisition step for building the Expert System with suitable example. **[8]**

OR

Q12)a) Explain the architecture of an Expert System with their components. **[8]**

b) Explain steps in Natural Language Processing. What are the applications of NLP? **[8]**

