Total No. of Questions : 12]

SEAT No. :

P851

[Total No. of Pages : 3

[4659] - 229
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]**

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