

Total No. of Questions : 12]

SEAT No. :

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[5154]-176

[Total No. of Pages : 3

**B.E. (Computer Engineering)
ARTIFICIAL INTELLIGENCE**

(2008 Course) (Semester - I) (410444C) (Elective - I)

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) Explain the Artificial Intelligence applications. **[8]**

b) Define the following terms with example. **[10]**

State, Search tree, Successor function, Branching factor, completeness of algorithm.

OR

Q2) a) What are the different types of agent? Explain the architecture and function of model based reflex agent and simple reflex agent. **[8]**

b) Explain the main factors for designing an intelligent agent and explain learning agent architecture and it's components. **[10]**

Q3) a) Write A* Algorithm and explain in detail with example. **[8]**

b) Explain Minimax Search Algorithm for two players with example. **[8]**

OR

Q4) a) Solve given Crypt arithmetic problem using Constraint Satisfaction SEND + MORE = MONEY. **[8]**

b) How can we add alpha and beta cut-offs for better performance? **[8]**

P.T.O.

- Q5) a)** Explain Local beam search and Genetic algorithms with example. [8]
- b) Explain alpha-beta cut-offs as applicable to the basic minimax algorithm and Optimal decisions in multiplayer games. [8]

OR

- Q6) a)** Explain Alfa-beta pruning in CSP and Backtracking Search for CSPs. [8]
- b) Explain Local Search for CSPs. [8]

SECTION - II

- Q7) a)** Explain classical planning with example and Non-Linear planning with example. [10]
- b) What are the various components of a typical planning system? [8]

OR

- Q8)** Explain the following terms as applicable to knowledge representation [18]
- a) Semantic - net.
- b) Script.
- c) Frames.
- d) Conceptual Dependency.

- Q9) a)** Explain Bayes' Rule and its uses. [8]
- b) What is a fuzzy set? Explain fuzzy logic concept with example. [8]

OR

- Q10)a)** What is 'learning by Parameter' adjustment? Explain with example. [8]
- b) Explain Decision trees and Implementation aspects of Decision tress. [8]

Q11)a) Draw and explain the Architecture of Ideal Expert System. **[8]**

b) Elaborate the issues involved in natural language processing and the logical steps in Natural Language Processing. **[8]**

OR

Q12)a) Explain any four applications of neural network in Artificial Intelligence. **[8]**

With Features, why NN and Goal.

b) Explain unification algorithm with example. **[8]**

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