

Code No: R5321506

III B.Tech II Semester(R05) Supplementary Examinations, December 2010
ARTIFICIAL INTELLIGENCE
(Computer Science & Systems Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. What is 8-puzzle problem? By giving an example explain a stupid move in 8-puzzle problem. [16]
2. What is a depth first search of the search tree? Write an algorithm to conduct depth first search explain with example and also mention advantages and disadvantages. [16]
3. Explain each of the following with an example:
 - (a) Constraint graph
 - (b) Constraint satisfaction problem
 - (c) Cryptarithmic puzzle. [4+6+6]
4. Explain the minimax algorithm with an example and diagram. [16]
5.
 - (a) Explain, the knowledge level, logical level, and implementation level in a knowledge-based agent.
 - (b) What is a horn sentence. Does a polynomial time inference procedure exist for Horn sentence?
 - (c) What ontological and epistemological commitments are made by propositional logic. [6+6+4]
6. Write down logical representations for the following sentences suitable to use with Generalized Modus Ponens:
 - (a) Horses, cows and pigs are mammals
 - (b) An offspring of a horse is a horse
 - (c) Bluebeard is a horse
 - (d) Offspring and parent are inverse relations
 - (e) Every mammal has a parent.

Draw the proof tree generated by an exhaustive back-ward chaining algorithm for the query $\exists h$ Horse(h). [16]

7.
 - (a) Give an outline of a simple planning agent
 - (b) Give partial-order planning algorithm. [8+8]
8. Explain instance based learning with an example. [16]
