

**III B.Tech II Semester Supplementary Examinations, April/May 2005**  
**ARTIFICIAL INTELLIGENCE**  
**( Common to Computer Science & Engineering and Electronics &**  
**Computer Engineering)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Describe with necessary diagrams, a suitable state space representation for 8 puzzle problem and explain how the problem can be solved by state space search. Show how heuristic can improve the efficiency of search.
2. Explain constraint satisfaction with the help of a crypt arithmetic problem.
3. (a) What are the normally used conflict resolution strategies? What are their limitations?  
(b) Suggest a IF then Rule structure with conflict resolution strategy to solve a 8 puzzle problem.
4. (a) What are Semantic networks? Explain its features with sample semantic net.  
(b) Explain the classification of nodes in Semantic net.
5. (a) What is CWA? What are the merits of CWA? Explain with example, the disadvantages of CWA.  
(b) Describe the differences between the JTMS and LTMS.  
(c) Write short note on circumscription.
6. (a) What is hierarchical planning?  
(b) Explain with relevant examples.  
(c) What is constraint satisfaction?
7. (a) What is natural language processing?  
(b) Write Production rules necessary to check the syntax of an English noun. The Grammar shall include both proper and common nouns?
8. Define and explain the concept of "Learning" Describe the features of the following methods of Learning.
  - (a) Memorization (Rote learning)
  - (b) Direct Instruction (Taking advice)
  - (c) Analogy (By example)
  - (d) Induction
  - (e) Deduction.

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