

III B.Tech II Semester Supplementary Examinations, April/May 2005  
ARTIFICIAL INTELLIGENCE (E-II)  
(Computer Science & Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions  
All Questions carry equal marks

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1. (a) Explain the role of heuristics in search problems.  
(b) Why is the AO\* algorithm not suitable for searching AND-OR Graphs.
2. (a) In what kind of a problem space would a depth first search be better than a breadth first one?  
(b) A problem-solving search can precede either forward or backward. Discuss the factors that determine the choice of direction for a particular problem.
3. (a) What are the uses of combining forward and backward reasoning? Justify your answer.  
(b) What is meant by matching? Explain complex and approximate matching.
4. (a) Discuss in detail with proper illustrations the Semantic nets and Scripts. What are its advantages and limitations?  
(b) Explain the major components of a Restaurant Scripts.
5. (a) Consider the problem of finding clothes to wear in the morning. The knowledges are
  - Wear jeans unless either they are dirty or you have a job interview today.
  - Wear a sweater if it's cold
  - Its usually cold in the winter
  - Wear sandals if it's warm
  - Its usually warm in the summer
  - i. Build a JTMS-style database of the necessary facts to solve this problem.
  - ii. Show how the problem can be solved and how the solution changes as the relevant facts change.
- (b) TMSs are useful tools in solving constraint satisfaction problems. Give your opinion.
6. (a) What is hierarchical planning?  
(b) Explain with relevant examples.  
(c) What is constraint satisfaction?
7. (a) Describe the steps involved in language understanding.  
(b) How "Parse tree" helps in understanding language with examples.

8. (a) Define and Explain “Learning” . Describe in detail, the range of activities covered by the concept “Learning”. Justify the statement -that “Learning is the most important characteristic of Intelligence”.
- (b) Describe and discuss in detail, the important aspects of
- i. Rote Learning
  - ii. Learning by taking advice. Illustrate answer with the help of relevant examples.

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