

B. Tech Degree VIII Semester Examination, April 2009

CS 802 ARTIFICIAL INTELLIGENCE (1999 Scheme)

Time : 3 Hours

Maximum Marks : 100

- I. (a) What is AI? Give three applications where intelligence is required to solve the situation. (6)
(b) Explain the state space approach of problem solving with an example. (14)
OR
- II. (a) What is the role of control strategy in production system? What are its basic requirements? (6)
(b) Explain hill climbing algorithm. What are the problems associated with hill climbing? (14)
- III. (a) Explain the steps for converting a predicate logic statement to clause form. (10)
(b) Convert the following statement to clause form. "All Romans who know Marcus either hate Caesar or think that anyone who hates anyone is crazy". (10)
OR
- IV. (a) Explain the resolution algorithm used in predicate logic. (10)
(b) Assume the following facts :
Steve likes only easy courses
Science courses are hard
All courses in the computer science department are easy
CS 802 is a computer science course.
Use resolution to answer the question 'What course would Steve like?' (10)
- V. (a) What are the different steps in natural language understanding? (10)
(b) Differentiate between top down and bottom up parsing with an example. (10)
OR
- VI. Write notes on :
(i) Case Grammar (ii) Augmented Transition Network
(iii) Transformational Grammar (iv) Context Free Grammar. (20)
- VII. (a) Describe the concept of fuzzy logic and its relevance in AI system. (10)
(b) Differentiate procedural and declarative knowledge. (10)
OR
- VIII. (a) With a neat diagram explain the structure of an expert system. (14)
(b) Explain the difference between statistical and non monotonic reasoning. (6)
- IX. (a) Show how neural networks duplicate the operation of human brain. (10)
(b) What is unsupervised learning? Explain. (10)
OR
- X. (a) Differentiate between supervised and unsupervised learning. (10)
(b) What are perceptrons? Explain multilayer perceptron. (10)

