

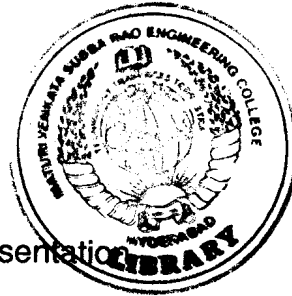
FACULTY OF ENGINEERING
B.E. 4/4 (CSE) I Semester (Main) Examination, December 2011
ARTIFICIAL INTELLIGENCE

Time: 3 Hours]

[Max. Marks: 75

Note : Answer all questions from Part A, Answer any five questions from Part B.

PART – A



(25 Marks)

1. Define an agent. What is meant by rational agent ? 2
2. Describe the components of state-space graph representation. 3
3. Represent the following sentence using predicate logic "Everyone likes someone". 2
4. Unify the following clauses : $f(\text{Saurav}, x)$ and $f(y, y)$. 3
5. What is the frame problem ? 2
6. What is Sussman's anomaly ? 3
7. What is a perceptron ? 2
8. Differentiate between single layer neural network and multilayer neural network. 3
9. State Baye's theorem. 2
10. What is meant by speech Act ? List the various categories of speech act. 3

PART – B

(50 Marks)

11. Discuss about A* algorithm with an example. 10
12. Explain the various steps in converting arbitrary wff to clause form in predicate calculus.
 Convert the given statement to clause form.
 "A gray elephant likes a pink elephant". 10

13. Discuss about hierarchical planning with an example. **10**
14. Explain about learning in decision trees using information theory. **10**
15. Discuss about Viterbi Algorithm with an example. **10**
16. Write short notes on : **10**
- a) Rule based expert systems
 - b) Alpha-beta pruning.
17. a) What is meant by activation function ? Discuss about various types of functions. **4**
- b) What are the techniques used for handling uncertainty in artificial intelligence ? Explain any two techniques.