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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

Department of Computer Science and Engineering

SEMESTER-V

IT9023- ARTIFICIAL INTELLIGENCE

Regulation 2008

Time: 3 Hours

Max. Marks: 100

Answer ALL Questions

PART-A (10*2=20 Marks)

1. Define intelligent agents and reflex agents
2. What are the features of uniformed search?
3. State the difference between informed and uninformed search strategies.
4. What are the advantages of backtracking search?
5. What are the elements of first order logic?
6. Write a propositional logic for the sentence "A FAT MAN HATES SITA"
7. Explain how learning could be done using relevant information?
8. Write down the basic formula of Bayesian learning.
9. State the difference between formal and augmented grammars.
10. What are the features of recursive transition networks?

PART-B (5*16=80 Marks)

11. What is real world problem? How to formulate a concise problem out of it for solving a RWP. How is the performance of an algorithm measured? Name the five search strategies of blind search?
 12. (a) (i) Write an algorithm for best first search. When does one prefer it? Also discuss A* algorithm. (12)
(ii) What is meant by state space search? (4)
- (Or)
- (b) (i) Explain in brief the constraint satisfaction problem with back tracking search. (12)

- (ii) What are the various features of hill climbing search? (4)
13. (a) (i) How are facts represented using propositional logic? Give an example (10)
(ii) Develop an ontological engineering for any application (6)
(Or)
- (b) (i) Explain in detail how reasoning is done using partial information? (10)
(ii) With an illustration explain the features of truth maintenance system (6)
14. (a) (i) How decision tree used in learning process? Explain with an example. (10)
(ii) With an illustration explain in brief the passive reinforcement learning (6)
(Or)
- (b) (i) How inductive based approach is used in learning? (8)
(ii) Explain in brief the logical formulation of learning (8)
15. (a) (i) How parser can be used to search for possible ways the rules of the grammar can be used? (12)
(ii) Write short note on finite state automation and machine (6)
(Or)
- (b) (i) Explain how augmented transition network can be used for Natural Language processing. (8)
(ii) Show the syntactic parsing for the following (8)
- S-> NP VP
NP-> THE NPI
NP-> NPI
ADJS->NULLSTRIBNG/ADADJ ADJS
VP-> V
VP-> V NP
The big boy hit the little boy
Rama ran