

B.E. 6th Semester (I.T.) Examination,

May-2010

INTELLIGENT SYSTEMS

Paper-CSE-304-E

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt five questions. All questions carry equal marks.

1. (a) What are the components of Intelligence ? What is the criterion to check the intelligence of a system ? 5,5
- (b) Explain and write algorithm for Mini-Max with alpha beta cut off game playing strategy. 10
2. (a) What do you mean by state space search, explain using suitable examples. 6
- (b) Apply constraints propagation (or satisfaction) approach to solve the following Cryptarithmic problem ? 14

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3. (a) Explain and give A* Algorithm. 10
- (b) What do you mean by a fact and its representation ? Convert the following facts into predicate logics. 2,8
- (i) A man's son is a man
 - (ii) Mohan's daughter is elder then Sohan's son.
 - (iii) All the students of 6th semester who have scored 70% marks in aggregate can appear in aptitude test.
 - (iv) Geeta eats every thing Ramesh does not except peanuts.
4. (a) What do you mean by resolution ? What is its basis ? Give algorithm for converting a predicate into clause(s). 2,2,6
- (b) What is a semantic network ? What are its features. Give semantic networks for following fact "*Every dogs in town has bitten every mail carrier*". 2,6,2
5. (a) Explain Dempster Shafer theory. 10
- (b) Write short note on Truth Maintenance System. 10

6. (a) What do you mean by planning ? Explain planning using situational calculus. 2,8
- (b) Give Genetic algorithm. Apply it on travelling sales man problem. 2,8
7. (a) What is Natural Language Processing ? Explain in brief various Phases in Natural language understanding. 2,8
- (b) What is an Expert System ? Give brief introduction of at least 4 expert systems. 2,8
8. Write short notes on the following :
- (a) Monotonic and non-monotonic reasoning. 6
- (b) Partial Order Planning. 6
- (c) POLOG programming language. 8