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M.Tech. (CSE Engg.)E-I (2018 Batch) (Sem.-1) INTRODUCTION TO INTELLIGENT SYSTEMS Subject Code : MTCS-107-18 Paper ID : [75157]

Time: 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWELVE marks.
- 1. Explain in detail the important trade-offs in choosing between depth-first and breadth-first search strategies and explain what difference it makes whether the search tree has finite maximum depth or not?
- 2. Consider the following sentences :
 - a. John likes all kinds of food.
 - b. Apples are food.
 - c. Chicken is food.
 - d. Anything anyone eats and isn't killed by is food.
 - e. Bill eats peanuts and is still alive.
 - f. Sue eats everything Bill eats.
 - (i) Translate these sentences into formulas in predicate logic.
 - (ii) Convert the formulas of part (i) to clause form.
- 3. Explain fuzzy logic and its use in digital image processing.
- 4. List and explain issues in knowledge representation.
- 5. Differentiate between monotonic (classical) reasoning and nonmonotonic (uncertainty) reasoning. Describe why monotonic reasoning is inadequate for solving real-world problems.
- 6. Show with example, how frames are efficient in capturing inheritance knowledge.
- 7. Comment on how understanding human behaviour is helpful for developing artificial intelligence approaches.
- 8. Describe in detail Dempster-Shafer Theory of Evidential reasoning.