

M. Tech (CSE) 3rd Semester (CBCS Scheme)

Examination, December-2022

KNOWLEDGE BASED SYSTEM

Paper-16CSE23C1

Time allowed : 3 hours] [Maximum marks : 100

Note : Question No. 1 is compulsory. Attempt five questions in total, first being compulsory and selecting one from each unit.

1. (a) What is propositional logic ? Give an example. 5
- (b) Explain the concept of knowledge representation. 5
- (c) What is iterative Deepening ? 5
- (d) What is Bayes Network ? Explain. 5

Unit-I

2. What is predicate logic ? Explain Semantic Tebleaux and Resolution in Predicate Logic. 20
3. Write short note on Logic Programming in Prolog. 20

Unit-II

4. What is knowledge based system ? Explain its architecture. And compare it with rule based systems and frame-based systems in brief. 20
5. (a) What is Parallel implementation of Semantic Nets ? Explain in detail. 10
- (b) Differentiate between Forward and Backward Chaining. 10

Unit-III

6. Explain the following algorithms in detail : $2 \times 10 = 20$
- (a) Hill climbing algorithm
- (b) A* algorithm
7. What is Uninformed Search ? Explain depth First Search and Breadth First Search in detail. 20

Unit-IV

8. (a) What is fuzzy logic ? Explain uncertainty management in expert systems in brief. 10
- (b) What are probabilistic methods ? Explain in detail. 10
9. What are agents ? Explain their applications in intelligent system. 20