

BT-7/D-18  
EXPERT SYSTEMS  
CSE-425N

37154

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

## Unit I

1. (a) When is it advisable to use depth-first search over breadth-first search and vice-versa ? Discuss.  
(b) Differentiate between declarative frames and procedural frames using suitable examples.
2. (a) What is mini-max search ? Discuss the use of alpha and beta cut offs to refine the mini-max search using suitable examples.  
(b) What are the desirable characteristics of a knowledge representation scheme ? Write a note on representing the knowledge using rules.

3. (a) Discuss the factors motivating the use of Expert Systems.  
(b) What are the advantages of keeping the knowledge base separate from inference mechanism in Expert Systems ? Discuss.
4. (a) What are the different techniques of representing the knowledge in Expert Systems ? Discuss.  
(b) What are the types of problems handled by Expert Systems ? Discuss.

## Unit III

5. (a) What are the different tools required for Expert System development ? Discuss.  
(b) What are the different stages in Expert system development ? Discuss.
6. Expert knowledge is generally subconscious in nature. So how is it acquired to populate the knowledge base of Expert Systems ? Discuss.

#### Unit IV

7. Write a detailed note on common pitfalls in planning for expert system development.
8. What are the common inconsistencies observed in rule-based knowledge representation ? Discuss.

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