

**Expert System
(CS-424, Dec-07)**

Note: Section A is compulsory. Attempt any four questions from Section B and any two from Section C.

Section-A

1. a) Explain the characteristics features of expert systems.
- b) Explain unique applications of expert system.
- c) What are the facts and rules in a simple knowledge-based system?
- d) Differentiate between tree architectures and black-board system architectures.
- e) Give the advantages of analogical reasoning architecture.
- f) Give the list of methods of knowledge acquisition.
- g) How boundaries are described in data capturing?
- h) Differentiate neural expert system and fuzzy expert system.
- i) What do you understand by learning, planning in expert system?
- j) Which are the features and capabilities that must be in any tool of expert system?

Section-B

2. What are the main advantages in keeping the knowledge base separate from the control module in knowledge-based system?
3. Give an example of the use of meta knowledge in expert systems inference.
4. How do rules in prolog differ from general production system rules?
5. Explain the difference between forward and backward chaining and under what conditions each would be best to use for a given set of problems.
6. How real time expert system is different from normal expert system. Give example of both systems.

Section-C

7. Draw and explain associative or semantic network architecture and frame architecture.
8. Explain how uncertainty is propagated through a chain of rules during a consultation with an expert system which is based on MYCIN architecture.
9. Write advantages and disadvantages of TIERES, MYCIN & AM expert systems.