Roll No. | | | | | | | | | | | | Total No. of Pages : 2

Total No. of Questions : 09

B.Tech. (IT) (Sem.–6)

EXPERT SYSTEM

Subject Code : IT-312

Paper ID : [A0524]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Write briefly :

(a) Name various components of an expert system.

(b) What are the types of expert system?

(c) Name the types of problems solved by the existing expert systems.

(d) What are various knowledge acquisition techniques?

(e) What are Fuzzy Expert Systems?

(f) Name various expert system implementation tools.

(g) Why is it important that the Expert system is able to explain the why and how questions related to a problem solving session?

(h) What are the steps in the expert system development process?

(i) What are semantic nets?

(j) How the expert systems are different from the knowledge-based systems?

SECTION-B

2. Consider a simple fully connected neural network containing three input nodes and single output node. The inputs of the network are eight possible binary patterns 000,001,...,111. Find weights w_i, for which the network can differentiate between the inputs by producing 3 distinct outputs.
3. Describe how appropriate reasoning is performed using Fuzzy sets.
4. Explain a simple model of expert system architecture with an expert system.
5. Discuss the expert system shell 'expertsys' in detail.
6. Explain sensor data capturing technique in detail.

SECTION-C

7. Discuss various learning, planning and exploration methods in Expert systems.
8. Discuss the working and features of RIERES and Mycin.
9. Explain various knowledge representation techniques.