

Roll No. ....

Total No. of Questions : 09]

[Total No. of Pages : 02

## Paper ID [CS424]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 7<sup>th</sup>/8<sup>th</sup>)

### EXPERT SYSTEM (CS - 424)

Time : 03 Hours

Maximum Marks : 60

#### Instruction to Candidates:

- 1) Section-A is **Compulsory**.
- 2) Attempt any **Four** questions from Section-B.
- 3) Attempt any **Two** questions from Section-C.

#### Section - A

**Q1)**

**(10 x 2 = 20)**

- a) Explain the characteristic 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 & explanation in expert system.
- j) Which are the features and capabilities that must be in any tool of expert system.

## **Section - B**

**(4 x 5 = 20)**

- Q2)** What are the main advantages in keeping the knowledge base separate from the control module in knowledge-based system?
- Q3)** Give an example of the use of meta knowledge in expert systems inference.
- Q4)** How do rules in prolog differ from general production system rules?
- Q5)** Explain the difference between forward and backward chaining and under what conditions each would be best to use for a given set of problems.
- Q6)** How real time expert system is different from normal expert system. Give example of both systems.

## **Section - C**

**(2 x 10 = 20)**

- Q7)** Draw and explain associative or semantic network architectures and frame architecture.
- Q8)** Explain how uncertainty is propagated through a chain of rules during a consolation with an expert system which is based on MYCIN architecture.
- Q9)** Write advantages and disadvantages of TIERES, MYCIN & AM expert systems.