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Total No. of Questions : 09]

[Total No. of Pages : 02

B.Tech. (Sem. - 6th)

EXPERT SYSTEM

SUBJECT CODE : IT - 312

Paper ID : [A0524]

[Note : Please fill subject code and paper ID on OMR]

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 × 2 = 20)

- a) Give the list of methods of knowledge acquisition.
- b) What do you understand by expert system shell?
- c) What is the difference between a shell and a programming environment?
- d) Explain why backward chaining is considered goal-driven.
- e) What are the main domain exploration methods?
- f) List the phases in the expert system development life cycle.
- g) What do you mean by Knowledge Elicitation?
- h) Differentiate between structured and unstructured interviews.
- i) Write down any two problem faced during development of an Expert System.
- j) Define fuzzy logic. Why it is useful?

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Section - B**(4 × 5 = 20)**

- Q2)** Write short note on MYCIN.
- Q3)** Differentiate the following :
- (a) Forward and Backward Chaining.
 - (b) Declarative knowledge and procedural knowledge.
- Q4)** Explain Sensor Data Capturing techniques in detail.
- Q5)** What are the main advantages in keeping the knowledge base? Separate from the control module in knowledge-based system?
- Q6)** Discuss how reasoning is done using semantic nets. What are its limitations?

Section - C**(2 × 10 = 20)**

- Q7)** Discuss ES development life cycle phases. Compare the ES development life cycle phases to the Simon four phase decision making model. How do the phases overlap?
- Q8)** Write short note on the following :
- (a) Fuzzy Expert System.
 - (b) Neural Expert System.
- Q9)** Draw and explain decision tree architectures and black-board system Architectures.

