

13. Explain Neural Nets Back Propagation algorithm. Describe, how neural networks are useful in learning.

*Or*

What is Expert System ? Discuss the characteristics and applications of Expert Systems. **11**

Roll No. ....

Exam Code : J-19

Subject Code—0420

**M.C.A. (Fourth Year) EXAMINATION**

(5 Years Integrated Course)

(Batch 2009 Onwards)

ARTIFICIAL INTELLIGENCE

MCA-402

*Time : 3 Hours*

*Maximum Marks : 70*

**Section A**

**Note :** Attempt any *Seven* questions. **7×5=35**

1. Discuss artificial intelligence and its importance.
2. What are the major problems with Hill Climbing Techniques ? How are they handled ?
3. Illustrate the use of First-Order-Logic to represent the knowledge with suitable example.

4. Write short note on the Natural Language Processing.
5. Discuss problem reduction technique.
6. Differentiate between inferential knowledge and procedural knowledge.
7. Discuss role of AI in learning.
8. Briefly discuss the unification algorithm used for reasoning under predicate logic with an example.
9. Explain the need of fuzzy set and fuzzy logic with example.
10. Distinguish between RI and MYCIN.

### Section B

**Note :** Attempt all the questions.

11. (a) What do you mean by forward chaining and backward chaining ? Explain by example.

- (b) What do you mean by learning by Induction ? Explain with example.

*Or*

- (a) Compare and contrast DFS and BFS by giving suitable example. Also write their merits and demerits.
- (b) What are the various approaches for structured knowledge representation ? Explain any *one* with example. **12**

**12.** Write short notes on the following :

- (a) Production Systems
- (b) Probabilistic Reasoning.

*Or*

Briefly discuss the following :

- (a) Vision and Speech Processing
- (b) Knowledge Acquisition. **12**