13. What is a conflict set of rules ? How can we resolve a conflict ? List and describe the basic conflict resolution methods. **11**

Or

Illustrate use of First Order Logic to represent knowledge. **11**

Subject Code—0390

M.C.A. (Fourth Year) EXAMINATION

(5 Years Integrated Course)

(Main & Re-appear) (For Batch 2009 Onwards)

ARTIFICIAL INTELLIGENCE

MCA-402

Time : 3 *Hours* *Maximum Marks :* 70

Section A

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

1. Define Intelligence. Discuss the intelligent behaviour of a machine.

2. Define and describe the difference among knowledge, belief, hypothesis and data.

3. Describe the Backward chaining inference process. Give an example.

4. Discuss some of the potential problems when using hill climbing search. Give examples of the problem cited.

5. What are the steps to convert first Order Logic sentence to Normal form ? Explain each step.

6. What is the correct level of decomposition of a problem into frames, slots and facets ? Justify your answer through an example.

7. Define fuzzy inference. What are the main steps in the fuzzy inference process ?

8. Prove that if A and B are independent, P(A|B) = P(A). (Note that A and B are independent if and only if P(A&B) = P(A)P(B)).

9. Describe the role of each component of a general learning model and why is it needed for the learning process.

10. Discuss the benefits of integrating expert systems, fuzzy logic and artificial neutral network.

Section B

Note : Attempt all the questions.

11. Explain the concept of planning with state space search using suitable examples. **12**

Or

What is expert system ? Explain in short, the working of MYCIN. Also, discuss the concept of uncertainty in expert system. **12**

12. How the knowledge can be represented using Semantic Nets ? Explain it. Draw the semantic network of sentence :

Rohan gives Tanmay a gift. **12**

Or

Write short notes on the following :

(a) Branch and Bound Search **6**

(b) Vision and Speed Processing **6**