Artificial Intelligence I

(a) Give a brief description of the way in which if-then rules can be used as a basis for knowledge representation and reasoning. What essential elements would you expect to be included in such a system? [3 marks]

(b) In the context of such a system, give detailed descriptions, illustrating your answers with specific examples, of the following concepts:

(i) pattern matching; [2 marks]
(ii) reason maintenance; [2 marks]
(iii) forward chaining; [4 marks]
(iv) conflict resolution strategies; [4 marks]
(v) backward chaining with backtracking. [5 marks]