



a) Discuss the need and structure of Bayesian networks.

(OR)

b) How are frames used in knowledge representation ? Give the structure of a general frame.

a) Discuss planning methodology used by STRIPS in detail.

(OR)

b) Discuss the various types of machine learning with appropriate examples.

a) Write a detailed note about the MYCIN expert system and its functioning.

(OR)

b) Write a detailed note on expert systems including representation, usage of domain knowledge, reasoning and explaining.

PART - C

(1×15=15 Marks)

a) Suppose the police is informed that one of the four terrorist organizations A, B, C or D has planted a bomb in a building. Draw the lattice of subsets of the universe of discourse, U. Assume that one evidence supports that groups A and C were responsible to a degree of m_1 $(\{A, C\}) = 0.6$ and another evidence supports the belief that groups A, B and D were involved to a degree $m_2 = (\{A, B, D\}) = 0.7$. Compute and create the tableau of combined values of belief for m_1 and m_2 .

(OR)

b) Consider the cryptarithmic problem shown below. The goal is a problem state where all letters have been assigned a digit in such a way that all the initial constraints are satisfied.

Problem : S E N D
 + M O R E
 M O N E Y

Initial State constraints :

- No two letters have the same value
- The sums of the digits must be as shown in the problem

Explain steps in detail to solve this problem using the constraint satisfaction algorithm.
