ASSIGNMENT-2

Q. Discuss the structure of an intelligent agent. Give an example.

Q. Compare the uninformed and informed search strategies with respect to all factors.

Q. Solve the 8- puzzle problem using Hill climbing. Write down the heuristic function.

Initial state   **Goal state**

1	2	3
8	6	5
7	4	

1	2	3
4	5	6
7	8	

Q. The law says that it is a crime for an American to sell weapons to hostile nations. The country Nono, an enemy of America, has some missiles, and all of its missiles were sold to it by Colonel West, who is American. Prove that Col. West is criminal by forward and backward chaining.

Q. Assume two players, min and max, play nim (as described above). Min plays first. If a terminal state in the search tree developed above is a win for min, a utility function of zero is assigned to that state. A utility function of 1 is assigned to a state if max wins the game. Apply the minimax algorithm to the search tree to assign utility functions to all states in the search tree.

Q. Consider the following data set

Feature 1	Feature 2	Feature 3	Class
0	0	0	0
1	0	1	1
1	0	0	0
1	1	1	1
0	1	1	1
0	1	1	0

Assume the test pattern as feature 1 as 0, feature 2 as 0 and feature 3 as 1, classify the pattern using NNC and Bayes classifier.

Q. Write down the evaluation procedure of HMM.

Q. How a k-means Clustering algorithm works? Give an example.

Q. You have three jugs measuring 12 gallons, 8 gallons, and 3 gallons, and a water faucet. You need to measure out exactly one gallon.

Q. Describe the planning method based on hierarchical task networks with an example.

Q. Discuss the different design issues to be solved to use hidden markov model for real world application.

Q. Assume two players, min and max, play nim (as described above). Min plays first' If a terminal state in the search tree developed above is a win for min, a utility function of zero is assigned to that state. A utility function of I is assigned to a state if max wins the game. Apply the minimax algorithm to the search tree to assign utility functions to all states in the search tree.

Q. Give the completeness proof of resolution.