QP Code : 5922

(3 Hours) [Total Marks : 80

N.B. (1) Question **no. 1** is compulsory.
(2) Attempt any **three** from remaining **five** questions.
(3) Assume suitable data, if necessary.

1. (a) What is cloud? Explain its features, service and deployment models. 10
(b) What is virtualization? What are benefits and mechanisms used for virtualization? 10

2. (a) What are the features of Amazon SimpleDB? 10
(b) Explain Big Table as Google's NoSQL system in details 10

3. (a) Explain conceptual Architecture of Open Stack and its modes of operation. 10
(b) What is CSB? Explain its role with example 10

4. (a) What are public cloud adoption phases for SMBs? What are cloud vendor roles and responsibilities towards SMBs? 10
(b) Explain AAA model in detail along with its industry implementation? 10

5. (a) What are the risks associated with cloud computing? 10
(b) What are the fundamental requirements for cloud application architecture? 10

6. Write a note on 10
1. Factors for successful cloud deployment
2. Cloud Service Gateway
3. Google App Engine
4. SaaS maturity model

4. (a) What is state space search? Formulate the state space search problems for 8-puzzle problem. 5

(b) Draw and explain expert system architecture. Also give the differentiation between forward chaining and backward chaining. 10

(c) Figure1 is an example of a route finding problem. S is the starting state, G is the goal state. Run the greedy search algorithm for the graph given in Figure 1 and write order of the node in which it is explored. The straight line distance heuristic estimates for the nodes are shown in Figure 2. 5

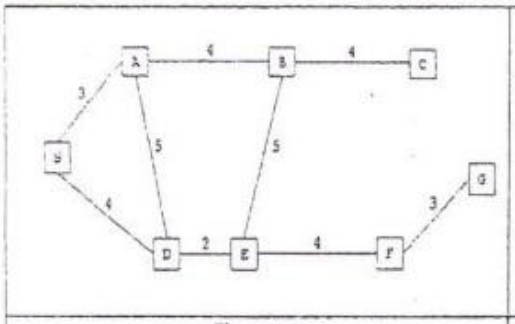


Figure-1

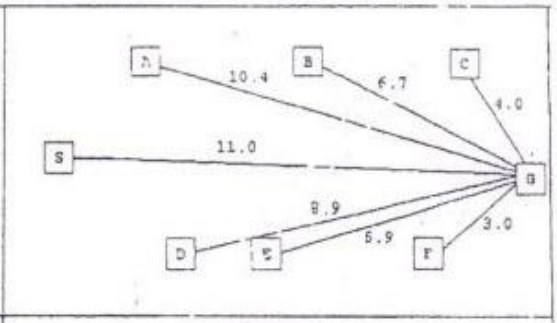
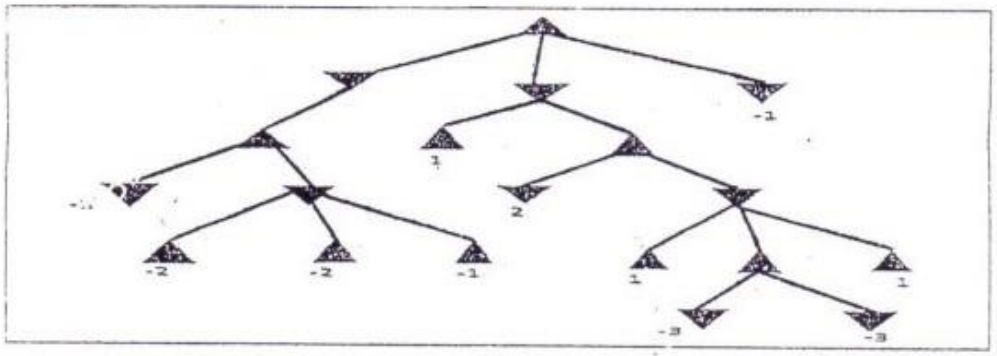


Figure-2

5. (a) Given a full 5 gallon jug and an empty 2 gallon jug, the goal is to fill the 2 gallon jug with exactly one gallon of water do the state space formulation and also discuss which strategy is appropriate for this problem. 5

(b) Write down the agent task environment and its characteristics for the Crossword puzzle with justification. 5

(c) Apply Min-Max algorithm and Min Max algorithm along with Alpha Beta pruning on given game tree then find which the next move is. (Note:-Δ: Max node and ∇: Min node) 10



6. Write Short note on any **Four**.

(a) Conditional Probability and Its role in AI.

(b) Ontology.

(c) Bayesian Network.

(d) WUMPUS World environment.

(e) Decision Tree.