

1 Answer All

- a What is the time complexity of BFS for a branching factor of b and depth d 1
- b Is depth limited search a complete algorithm? 1
- c What is Iterative Deepening search? 1
- d What is bidirectional search? 1
- e Describe the concept of "HeuristicFunction" in informed search. How it is used to guide the searching for a solution. 1
- f Explain what is "Evaluation Function" of a node in case of informed search. 1

2 Answer any Two

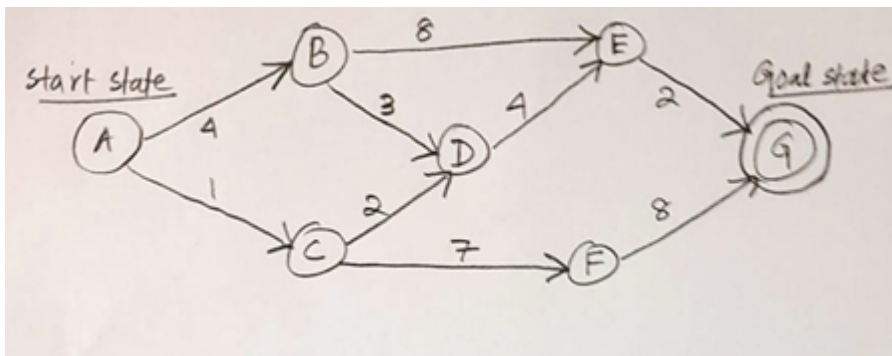
- a Specify the problem definition for Missionaries & Cannibals problem in terms of Initial state, Goal state & actions in case of uninformed search. 3
- b Explain the PEAS with reference to an Automated Taxi Driver agent. 3
- c Describe the Depth First Search algorithm in step by step manner. 3

3 Answer any One

- a Describe what is Simulated Annealing algorithm & how it is useful in handling the problem of getting stuck in local maxima. 3
- b Describe how an informed search problem can be defined in AI in terms of the sets $[S, s, O, G, h]$. 3

4 Answer any One

- a What is "Uniform Cost Search"? Solve below path finding problem using Uniform Cost Search. 5



b Define State space? Design the state space of “Water jug Problem”.

5

5 Answer any One

a Explain Greedy Search approach in detail with the example of “Route Finding problem”.

5

b Solve the below path finding problem using A* search algorithm.

5

