



In Semester Examination-1, March 2022

Basics of Artificial Intelligence

YEAR/SEM: ST/ SEM IV

DATE: 22/3/2022

BRANCH: AIML

TIME: 10:00 AM to 11:00AM

MARKS: 10

Subjective Questions

Instructions:

1. All questions are compulsory.
2. Assume suitable data wherever necessary and state the assumptions made.
3. Figures to the right indicate full marks.

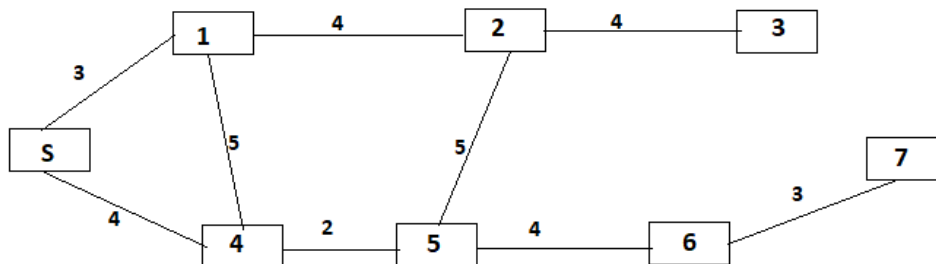
Subjective Type Question (10 Marks)

Q2 Solve any 1 (5 Marks)

MARKS

- Q2.a Consider the graph given below. Assume that the initial state is S and the goal state is 7. Find a path from the initial state to the goal state using A* Search. Also report the Solution Cost. The straight line distance heuristic estimates for the nodes are as follows:
 $h(1)=14, h(2)=10, h(3)=8, h(4)=12, h(5)=10, h(6)=10, h(S)=15$

5



- Q2.b Discuss all Inference Rules in Propositional Logic and Solve the following problem using appropriate inference rules

5

Problem 1:

Premises:

S: He is Clever Student

$S \rightarrow P$: If He is Clever Student, He is Good Programmer

$(P \wedge S) \rightarrow C$: If He is Good Programmer & Clever Student, He get Placement in Google

Prove that, He get placement in Google

Q3 Solve any 1 (5 Marks)

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|------|--|---|
| Q3.a | List all informed search strategies. Explain Greedy Best First Search strategy and Compare it with Best First and A* Search w.r.t Algorithmic Properties | 5 |
| Q3.b | Explore the Wumpus World Problem by assuming suitable static representation in detail to find gold from right square | 5 |