Sanjay Ghodawat University, Kolhapur

2020-21

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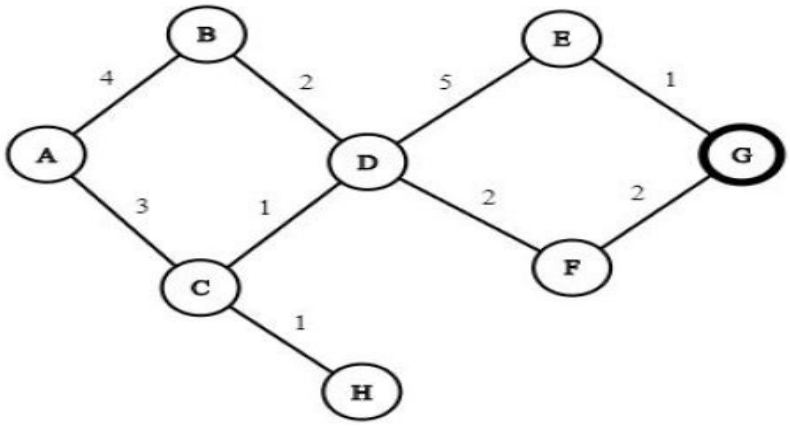
EXM/P/09/00

Year and Program: 2020-21 T.Y.B.Tech.	**School of Technology**	**Department: Computer Science & Engineering**
Course Code: CST 3143	**Course Title: Intelligent Systems**	**Semester: VI**
Day and Date: Thursday, 10/06/2021	**End Semester Examination (ESE)**	**Time: 2 Hrs. Max Marks : 50**

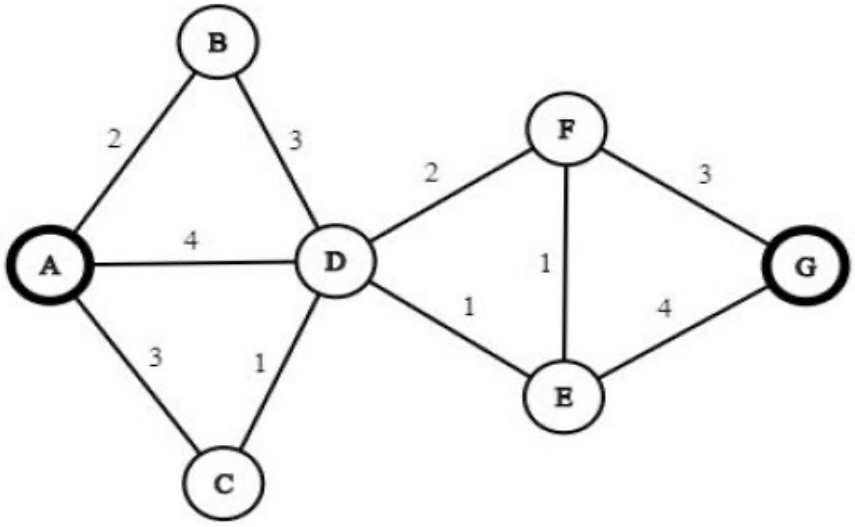
Instructions: 1) All Questions are Compulsory.

2) Figures to the right indicates full marks

Q.1	**Answer/Solve the following (any Two)**	**Marks**	**Bloom's Level**	**CO**
a)	Consider the following graph in which we are searching from start state A to goal state G. The number over each edge is the transition cost for (DFS) & heuristics cost for (BFS). Find the path to the goal found by Depth First Search(DFS) and Best First Search(BFS) strategy with full duplicate detection, which explores children in lexicographical order. Explain both strategy BFS & DFS in detail.	8	L3	CO2



b)	Consider the following undirected graph in which we are searching from start state A to goal state G. The number over each edge is the actual transition cost between the nodes. Additionally, we are given a heuristic function h for every node as follows {h(A) = 7, h(B) = 5, h(C) = 6, h(D) = 4, h(E) = 3, h(F) = 3, h(G) = 0}. Explain how the sequence of nodes explored by using A* graph search algorithm. Assume that, in case of ties, the search procedure uses a lexicographical order for tie-breaking.	8	L3	CO2



c)	Write a significance of Heuristic Function in AI Problem solving Search space strategy with example of each	8	L2	CO1

Q.2 Answer/Solve the following (any two) –

a)	Write a note on Syntax & Semantics for FOL (First order Logic)?	8	L3	CO3
b)	"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." Check whether Colonel West is a Criminal? Justify using both Forward & Backward Chaining strategy?	8	L3	CO3
c)	Discuss Probability and Conditional probability in Uncertainty?	8	L3	CO4

Q.3 Answer/Solve the following (any two) –

a)	Explain Decision tree-based learning model with example?	9	L2	CO4
b)	Construct MYCIN as a Realtime Expert System?	9	L3	CO3
c)	Explain expert system work at knowledge engineering companies? 5. Draw & Explain the schematic of expert system?	9	L3	CO4

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