VIT

Vellore Institute of Technology

Continuous Assessment Test – I

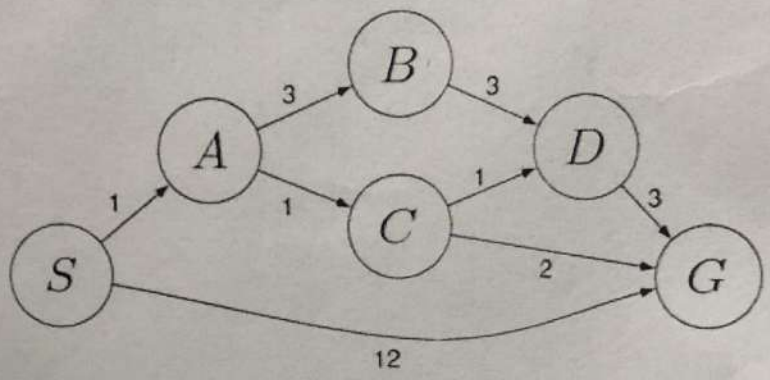
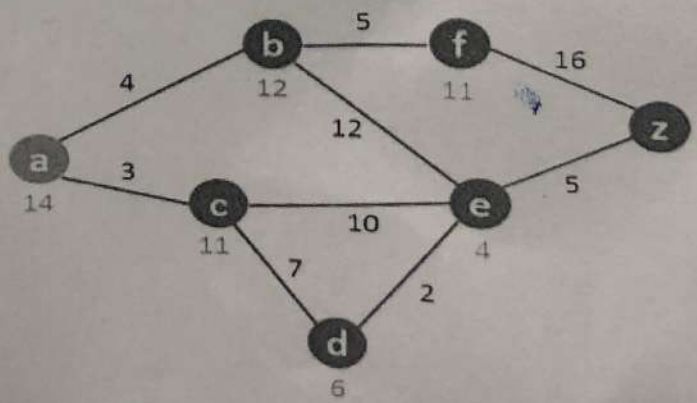
Programme Name & Branch: B.Tech(CSE)

Course Code: CSE3013

Course Name: Artificial Intelligence

Class Number: ALL **Slot:** B1+ TB1 **Exam Duration:** 90 Mins **Maximum Marks:** 50

Section – A (10 x 5 = 50 Marks)

S.No.	Question
1.	a. Illustrate the general model of learning agent with neat diagram. (5 Marks) b. Demonstrate the uniform cost search algorithm by using below graph. Find the minimum cost from node S to node G. (5 Marks) 
2.	a. Discuss different types of task environment in AI. Describe the following task environment and their characteristics. (6 Marks) i) Practicing tennis against a wall. ii) Knitting a sweater. b. List the evaluation criteria of search strategies in artificial intelligence. Explain in detail. (4 Marks)
3.	Explain the methodology, advantages, and disadvantages of the following search algorithms with an example. i. Simulated Annealing ii. Local Beam Search iii. Stochastic Beam Search
4.	Perform A* search and Greedy best first search on the given graph to find the shortest path from node a to node z. Each edge is labeled with cost to traverse that edge. Heuristic values are given in the table below the graph. 

N	a	b	c	d	e	f	z
H(n)	14	12	11	6	4	11	0

5. Write the pseudocode for alpha-beta pruning. Identify the nodes that are pruned using the alpha-beta pruning algorithm.