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Mid Term Examinations - October 2026

Date: 08/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: CSS2264 **Course Name:** Essentials of AI

Semester: Third/Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	86	94

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	List four criteria used to evaluate the performance of a search algorithm	2	CO2	BT1
2	state the evaluation function of A* search and explain each term.	2	CO2	BT1
3	Compare between uninformed and informed (heuristic) search.	2	CO2	BT1
4	Define PEAS for an automated vacuum-cleaner agent	2	CO1	BT1
5	Differentiate between Narrow AI and General AI with one example each	2	CO1	BT1

PART B : Answer Any 1 Following Questions. 10 M

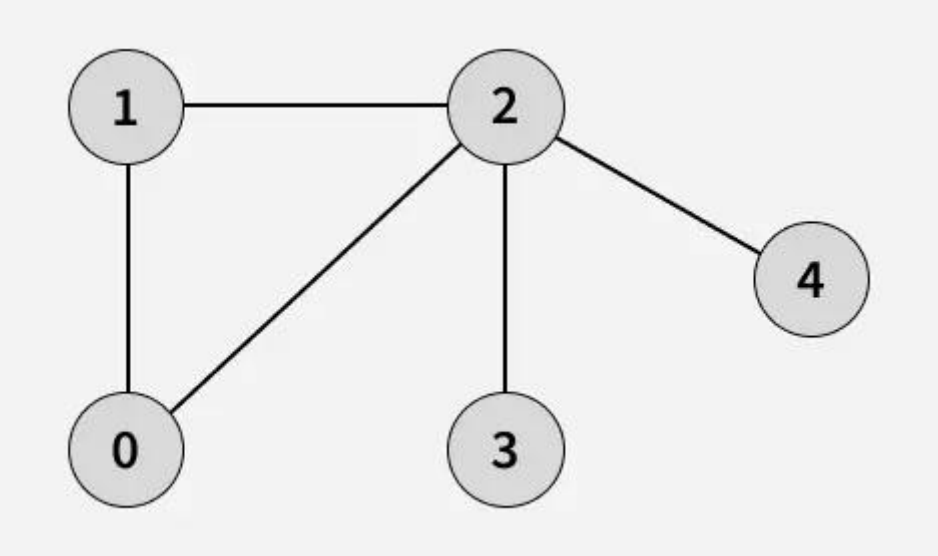
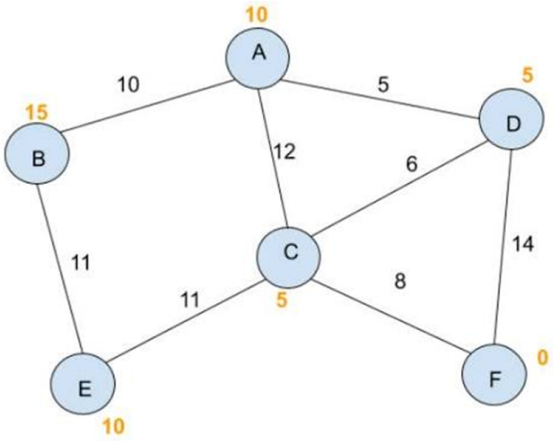
Q.N.	Questions	M	CO	BT
6	Explain any four applications of AI, such as healthcare, autonomous vehicles, smart homes and manufacturing. Evaluate the major challenges of AI	10	CO1	BT2
7	Summerize the history of Artificial Intelligence from its origins to the present day.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	Explain the PEAS framework for describing the task environment of an intelligent agent and why PEAS is needed to design a rational agent. Apply the PEAS framework to a self-driving car, identifying and justify each PEAS component	10	CO1	BT2
9	Explain the four approaches to defining AI. Describe the Turing Test and the capabilities a computer needs to pass it	10	CO1	BT2

PART D: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT

10	Apply Depth First Search (DFS) to the graph below to find a path from the **start node 0** to the **goal node 4**. Show the stack and visited list at each step. 	10	CO2	BT3
11	Apply the A* search algorithm to the graph below to find the optimal path from start node A to goal node F 	10	CO2	BT3

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	Differentiate between Breadth First Search (BFS), Depth First Search (DFS), Greedy Best-First Search and A* Search.	10	CO2	BT1
13	a.Define search in AI. Explain the main search algorithm terminologies b.Explain is a well-defined problem in AI? with its five components	10	CO2	BT1