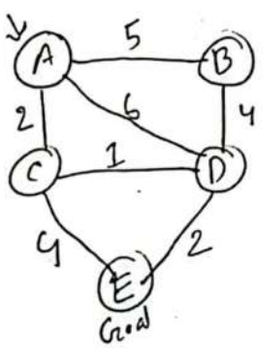
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Quiz-1

Course Code: CSE316

Course Title: Artificial Intelligence

Time: 30 minutes

1	A logistics company is planning to deploy autonomous drones for package delivery across an urban area. The drones must handle weather conditions, avoid obstacles, and maintain delivery efficiency. **Describe** each PEAS component based on this scenario.	[3]
2	 **Apply** the Uniform-Cost Search (UCS) algorithm to determine the least-cost route in the weighted graph. **Demonstrate** how UCS expands nodes step-by-step. **Conclude** by stating the cheapest path from **A** to **E** with its total cost.	[5]
3	Referring to the graph and search context in Question 2, **design** and **justify** a condition where Iterative Deepening Search (IDS) would be more efficient than Breadth-First Search (BFS).	[3]
4	Based on the same search environment as Question 2, **examine** how the branching factor (b) and goal depth (d) affect the time and space complexity of BFS, DFS, and Iterative Deepening Search (IDS) algorithms.	[4]

