Group-4

Transport scheduling

=> Problem Formulation :-

1) Goal state :- The good(s) should be supplied to the consumers by supplier, with less path cost, mainly using priority (who ordered first.).

2) Initial state :- The initial configuration are goods in warehouse, capacity of vehicle, no. of consumers, a supplier.

3) Agent (or) Successor function :-
supplier moves to the consumer who ordered first, according to the capacity of truck, takes good(s). and supplies it considering the road network of the map. May takes many orders according to the capacity and priority of the customer who ordered before the other. If goods are empty, goes back to warehouse and loads again, same good, different capacities are delivered.

4) State space :- The set of all possible consumers & cities as potential states and all possible combinations of cities visited as paths, and set of all prioritized goods which are to be sent in ascending order.

5) Path Cost :- The cost associated with a specific path or route taken to deliver goods to customers. It includes both the time-based priority-cost & transportation cost.

6) Cost function :- The cost function that combines the time based priority & transportation cost.

(*) Task Environment :-

1) Performance :- Finding the less time-based priority path & transportation cost.

2) Environment :- The map with supplier, cities and consumers.

3) Actuators :- Moving from one city to another based on choosen successor function.

4) Sensors :- Current city, neighboring cities, capacity, goods, prioritized customer, distances of path.

⊛ Task Environment:-

1) Static - ✓
2) Observable - Fully
3) Agents - Single
4) Deterministic - ✓
5) Sequential - ✓
6) Discrete - ✓

∴ (not dynamic, stochastic, episodic, continuous).