**ACI Assignment:**

1. Explain the environment of the Agent

Solution:

Performance Measure:

1. Minimize the total cost and time taken to travel from the start node (A) to the goal node (G).
2. Optimize the path selection to ensure that the least expensive and quickest route is chosen.

Environment:

* The agent operates within a graph of cities connected by paths that have associated time and fare costs.
* Each city is a node in the graph, and each path is an edge with a numeric value indicating the fare and time.
* The environment is dynamic to the extent that the travel costs or times may change, reflecting real-world variations in travel conditions.

Actuators:

* The agent interacts with the environment through a travel app interface similar to MakeMyTrip.
* The agent may perform actions such as selecting a path, initiating travel, and confirming reservations.

Sensors:

1. The agent receives input from the graph through the travel app, which includes information about the cities, paths, and the costs and times associated with each path.
2. The agent may also receive updates about changes in travel costs or conditions.

In the context of the problem statement, the agent's goal is to find the optimal path using two algorithms, A\* and a Genetic Algorithm. For A\*, the heuristic might be a function estimating the remaining cost and time from a node to the goal. For the Genetic Algorithm, the fitness function evaluates the total cost and time of a path, guiding the evolution of solutions towards the most efficient route