COMSATS University Islamabad, Attock Campus

Artificial Intelligence Assignment No.2

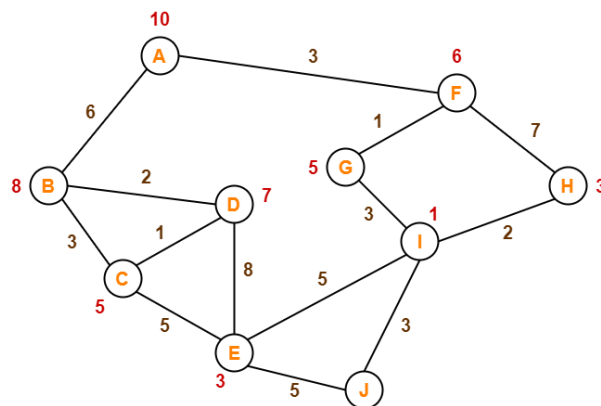### Due Date: 01/11/2022

Instructions:

1. Submit handwritten assignment.
2. **Do not copy–paste from the book and other assignments (zero marks).**

Q. #1 Consider the following graph starting from A and J as goal.

The numbers written on edges represent the distance between the nodes.

The numbers written on nodes represent the heuristic value.

a. Your task is to find the most cost-effective path to reach from start state A to final state J using A* Algorithm. **[CLO2 Points=05]**
b. Do implement using python to solve the problem.   **[CLO2 Points=05]**

Q-2. Using the following 8-puzzle problem with the given start and goal states, apply informed searching to reach the goal. Clearly mention the states step by step.

As a heuristic, use number of misplaced tiles and Manhattan distance for path lengths.   [CLO-2]

1	2	5
3	4	
6	7	8

1	2	
3	4	5
6	7	8