

Assignment # 1

Solution to Q.3. (a)

Referring to the graph below, the required traversals for the searches are as follows:

- i) Breadth First Search: A-B-D-F (cost=19)
- ii) Uniform Cost Search: A-C-B-D-F (cost=14)
- iii) Depth First Search: A-B-D-E-F (cost=29)
- iv) A* search with $h(n)=0$: A-C-B-D-F (cost=14)

Note: Breadth first search and the depth first search will ignore edge costs to work on weighted graphs. However, this will strip optimality of BFS. To achieve optimality in this scenario, dummy nodes may be inserted into the graph to make all the edge costs same.

