Given the above graph, perform the following traversals in questions 1 and 2. Show the steps. Use extra space if needed.

1. Depth-First Search
2. Breadth-First Search

5

6

4

8

2

1

2

2

10

Give this weighted graph; answer questions 3 – 4. Show the steps. Use extra space if needed.

1. Find the shortest paths from S to all the other nodes in the graph using Dijkstra Algorithm.
2. Find the Minimum-Cost Spanning Trees for the above graph using the following algorithms.
   1. Prim Algorithm
   2. Kruskal’s Algorithm