Theory Final

Marks

Problem - 1

➔ Convert the following adjacency matrix into an adjacency list and draw the graph. **6**

	0	1	2	3	4	5	6
0	0	1	0	0	0	0	0
1	1	0	1	1	0	1	0
2	0	1	0	0	1	0	1
3	0	1	0	0	1	0	0
4	0	0	1	1	0	1	1
5	0	1	0	0	1	0	0
6	0	0	1	0	1	0	0

Problem - 2

➔ Write down the difference between BFS and DFS algorithms? (At least three). **6**

Problem - 3

➔ Write C++ program to solve Perfect Squares by using the Memoization method. **16**

Problem - 4

➔ Write C++ program to solve House Robber II by using the Memoization method. **16**

Problem - 5

➔ Write C++ program to solve Grid Paths by using both Memoization and Tabulation methods.

16

Problem - 6

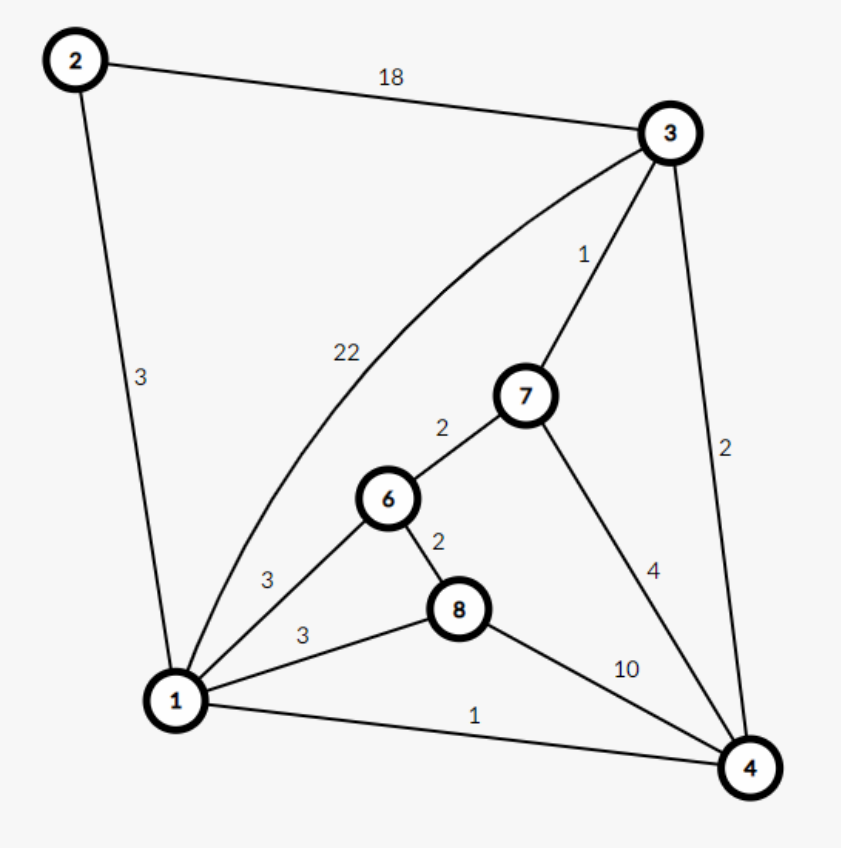
➔ Write C++ program to solve King Escape by using both BFS and DFS.

20

Problem - 7

➔ Write the shortest distance from node 2 to every other node using the Dijkstra algorithm for the following graph .You must write all the steps.

10



Problem - 8

➔ Perform BFS Traversal on the following graph and write the traversal output. Choose node 2 as the source. You must write all the steps.

10