Assignment-8 Solution

(1) Answer- (c)
Explanation- The longest common subsequence is 'BCBA'. so, the length is 4.

(2) Answer- (d)
Explanation- The space complexity of the above dynamic programming implementation of the longest common subsequence is $O(mn)$.

(3) Answer- (b)
Explanation- Row number of the matrix represents the tail, while column number represents the head of the edge.

(4) Answer- (b)

(5) Answer- (b)

(6) Answer- (c)
Explanation- The time complexity of the brute force algorithm used to find the longest common subsequence. is $O(2^n)$.

(7) Answer- (b)
Explanation- Only undirected graphs produce symmetric adjacency matrices.

(8) Answer- (d)
Explanation- A graph can have many spanning trees. Each spanning tree of a graph G is a subgraph of the graph G, and spanning trees include every vertex of the graph. Spanning trees are always acyclic.

(9) Answer- (c)
Explanation- Total number of values in the matrix is $4 \cdot 4 = 16$, out of which 6 entries are non-zero.

(10) Answer- (a)
Explanation- All adjacency matrices are square matrices.