① Answer — (d)
Explanation — Tree edges are the edges that are part of DFS. If there are x-trees edges in a tree. then, $x+1$ vertices in the tree.
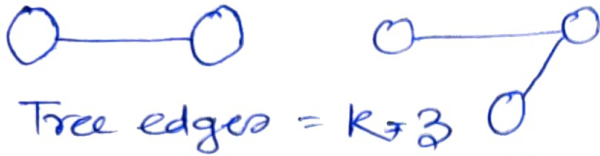
Tree edges = $k = 3$
vertices $n = 5$ Connected Components = 2

② Answer — b.
Explanation — ⓐ There can be more than one paths with same weight. Consider a path with one-edges of weight 5 and another path with two edges of weights 2 and 3. both the path have same weights.
ⓑ Dijkstra and Bellman Ford Algo. both works fine for a graph with all +ve weights. but they are different algo. and may pick differentedges for shortest paths.

③ Answer — c

④ Answer — c

⑤ Answer — d
Explanation — Dijkstra's algo. single shouree shortest path is not guranteed to works for graphs with -ve weight edges, but it works for the given graph. Litun see.
    Letus run the 1st parss
    b 1
    b is minimum, so shortest distance to b is 1
After 1st parss, distances are
    c 3 , e -2
    e is minimum, so shortest distance to e is -2

After 2nd pass, distances are

C 3, f 0

f is minimum, so shortest distance to f is 0

After 3rd pass distance are.

C 3, g 3.

Both are same, let us take g. so shortest distance to g is 3.

After 4th pass distances are

C 3, h=5,

C is minimum. so shortest distance to C is 3.

After 5th pass, distances are

h -2.

h is minimum. so shortest distances to h is -2

⑥ Answer- a

Explanation- the shortest path remains same. It is like if we change unit of distance from meter to kilometer the shortest path don't change

⑦ Answer- c

⑧ Answer- d

Explanation — (i) abeghf (visit a, explore all adjacents through b, and so on). In this b is adjacent e is picked 1st

(iii) abfhge (visit a, explore all adjacents though b, and soon) In this b's adjacents f is picked 1st.

(iv) afghbe (visit a, explore all adjacents through f and so on) In this f's adjacent g is picked 1st.

(ii) ab.fehg can't be answer. as e is visited after f.

⑨ Answer- a

⑩ Answer- b.