

1. a, b, d, f and g are trees.

2. $e_1 = v_1v_6$ $e_2 = v_3v_4$ $e_3 = v_3v_5$ $e_4 = v_2v_5$ $e_5 = v_2v_7$ $e_6 = v_5v_7$
 $e_7 = v_6v_7$ $e_8 = v_1v_2$ $e_9 = v_2v_3$ $e_{10} = v_4v_5$ $e_{11} = v_4v_6$ $e_{12} = v_1v_3$

	N(1)	N(2)	N(3)	N(4)	N(5)	N(6)	N(7)	Edges	Weight
Init.	1	2	3	4	5	6	7	\emptyset	0
1	1	2	3	4	5	1	7	e_1	1
2	1	2	3	3	5	1	7	e_1, e_2	3
3	1	2	3	3	3	1	7	e_1, e_2, e_3	6
4	1	2	2	2	2	1	7	e_1, e_2, e_3, e_4	10
5	1	2	2	2	2	1	2	e_1, e_2, e_3, e_4, e_5	15
6	1	2	2	2	2	1	2	e_1, e_2, e_3, e_4, e_5	15
7	1	1	1	1	1	1	1	$e_1, e_2, e_3, e_4, e_5, e_7$	22

The edge set for the minimal spanning tree consists of edges: $e_1, e_2, e_3, e_4, e_5, e_7$

The weight of the minimal spanning tree is: 22

3. $\epsilon_1 = v_3v_7, \epsilon_2 = v_5v_6, \epsilon_3 = v_3v_4, \epsilon_4 = v_1v_2, \epsilon_5 = v_1v_3,$
 $\epsilon_6 = v_4v_7, \epsilon_7 = v_1v_7, \epsilon_8 = v_5v_7, \epsilon_9 = v_2v_3.$

	N(1)	N(2)	N(3)	N(4)	N(5)	N(6)	N(7)	E	W(E)
Initially	1	2	3	4	5	6	7	\emptyset	0
After Step 1	1	2	3	4	5	6	3	$\{\epsilon_1\}$	1
After Step 2	1	2	3	4	5	5	3	$\{\epsilon_1, \epsilon_2\}$	3
After Step 3	1	2	3	3	5	5	3	$\{\epsilon_1, \epsilon_2, \epsilon_3\}$	6
After Step 4	1	1	3	3	5	5	3	$\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4\}$	10
After Step 5	1	1	1	1	5	5	1	$\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4, \epsilon_5\}$	15
After Step 6	1	1	1	1	5	5	1	$\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4, \epsilon_5\}$	15
After Step 7	1	1	1	1	5	5	1	$\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4, \epsilon_5\}$	15
After Step 8	1	1	1	1	1	1	1	$\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4, \epsilon_5, \epsilon_8\}$	23

The minimal spanning tree contains the edge set: $\{\epsilon_1, \epsilon_2, \epsilon_3, \epsilon_4, \epsilon_5, \epsilon_8\}$

and has weight 23.

4. Here are the trees with 6 vertices.

