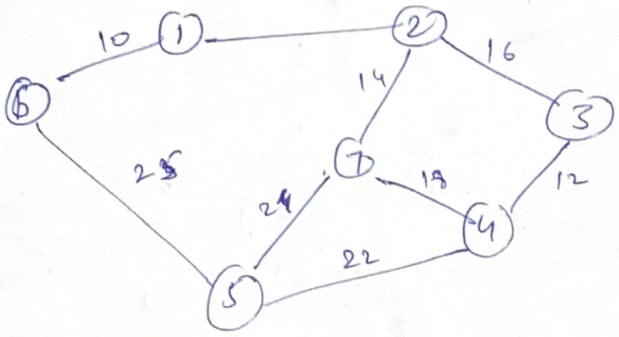
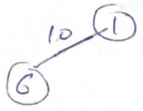
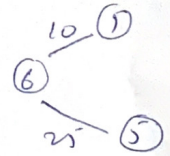
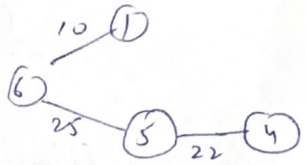
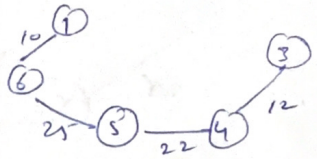
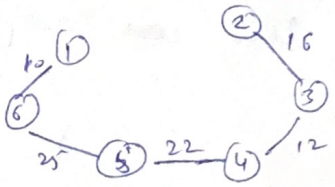
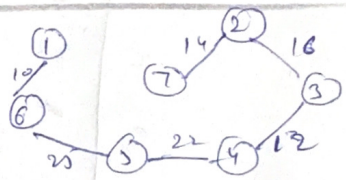
Prim's algorithm



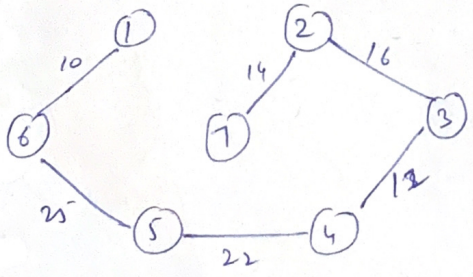
the cost adjacency matrix for the above graph is:

	1	2	3	4	5	6	7
1	0	28	∞	∞	∞	10	∞
2	28	0	16	∞	∞	∞	14
3	∞	16	0	12	∞	∞	∞
4	∞	∞	12	0	22	∞	18
5	∞	∞	∞	22	0	25	24
6	10	∞	∞	∞	25	0	∞
7	∞	14	∞	18	24	∞	0

tree vertices	Remaining vertices	Resulting graph
1. 1(-,-)	2 (1,28) 4(1,∞) [6(1,10)] 3(1,∞) 5(1,∞) 7(1,∞)	
2. 6(1,10)	2(1,28) 2(6,∞) 3(1,∞) 3(6,∞) 4(1,∞) 4(6,∞) 5(1,∞) [5(6,25)] 7(1,∞) 7(6,∞)	

3. 5 (6, 25)	2(1,28) 2(6,8) 2(5,∞) 3(1,∞) 3(6,∞) 3(5,∞) 4(1,∞) 4(6,∞) **4(5,22)** 7(1,∞) 7(6,∞) 7(5,24)	
4. 4(5,22)	2(1,28) 2(6,∞) 2(5,∞) 2(4,∞) 3(1,∞) 3(6,∞) 3(5,∞) **3(4,12)** 7(1,∞) 7(6,∞) 7(5,24) 7(4,18)	
5. 3(4,12)	2(1,28) 2(6,∞) 2(5,∞) 7(1,∞) 7(6,∞) 7(5,24) 2(4,∞) **2(3,16)** 7(4,18) 7(3,∞)	
6. 2(3,16) 7. 7(2,14)	7(1,∞) 7(6,∞) 7(5,24) 7(4,18) 7(3,∞) **7(2,14)**	

Minimum spanning Tree :



Minimum cost = 10 + 25 + 22 + 12 + 16 + 14

= 99 units