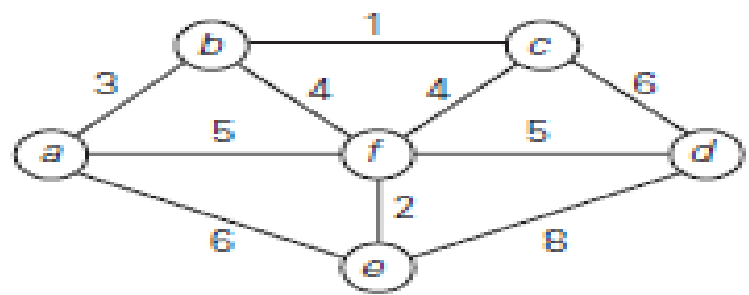


Find MST by applying prim’s algorithm for the below graph

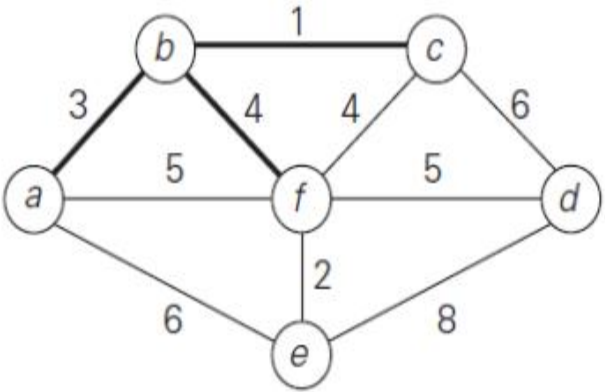
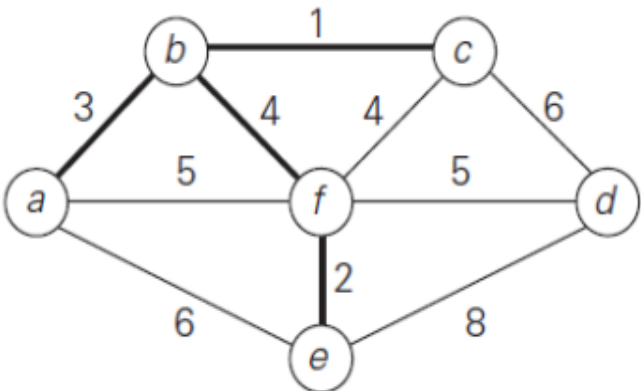
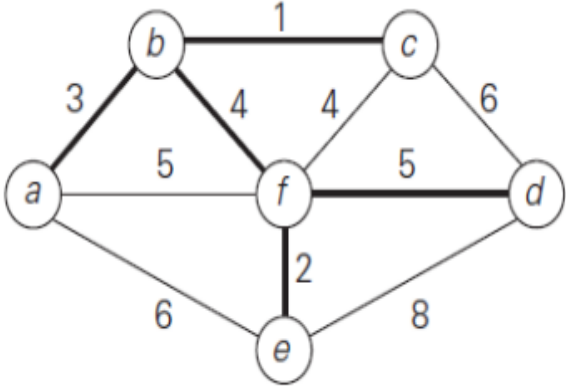


Solution:

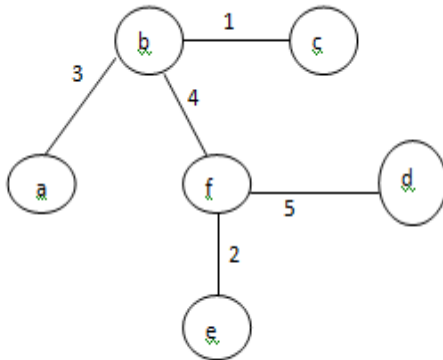
The following steps are followed in prim’s algorithm:

Where, The parenthesized labels of a vertex in the middle column in below table indicate the nearest tree vertex and edge weight; selected vertices and edges are shown in bold.

Tree Vertices	Remaining Vertices	Illustration
a(-,-)	b(a,3) c(-,∞) d(-,∞) e(a,6) f(a,5)	
b(a,3)	c(b,1) d(-,∞) e(a,6) f(b,4)	

c(b,1)	d(c,6) e(a,6) f(b,4)	
f(b,4)	d(f,5) e(f,2)	
e(f,2)	d(f,5)	
d(f,5)	Algorithm Stops has all vertices are included in MST and 5 edges(i.e 6-1) are added to MST	

Therefore , the Minimum Cost Spanning Tree is



Where,

Number of edges=5

Edges selected are (a,b),(b,c),(b,f),(f,e),(f,d)

Cost of MST=15