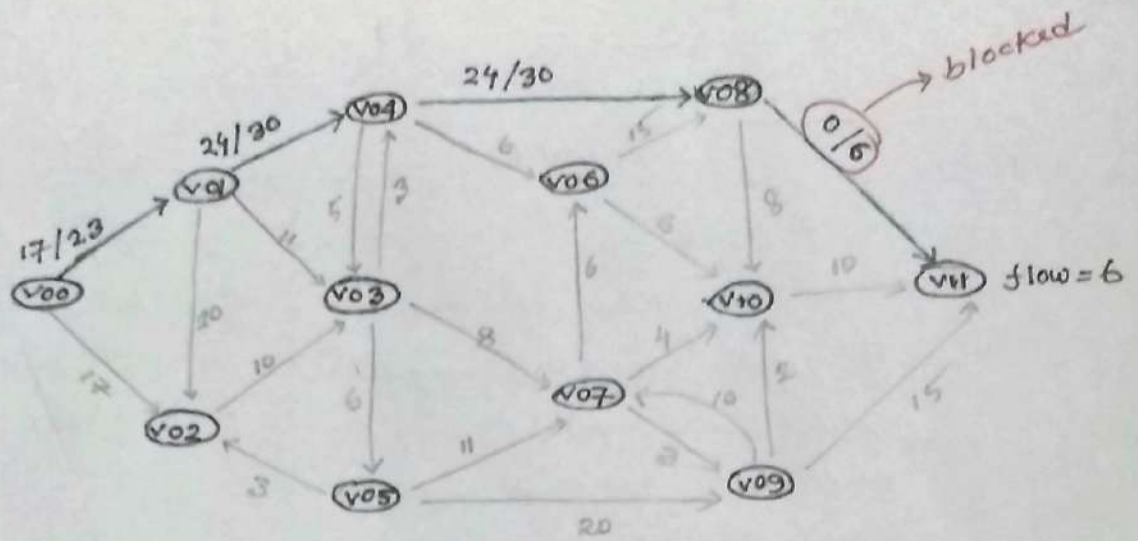


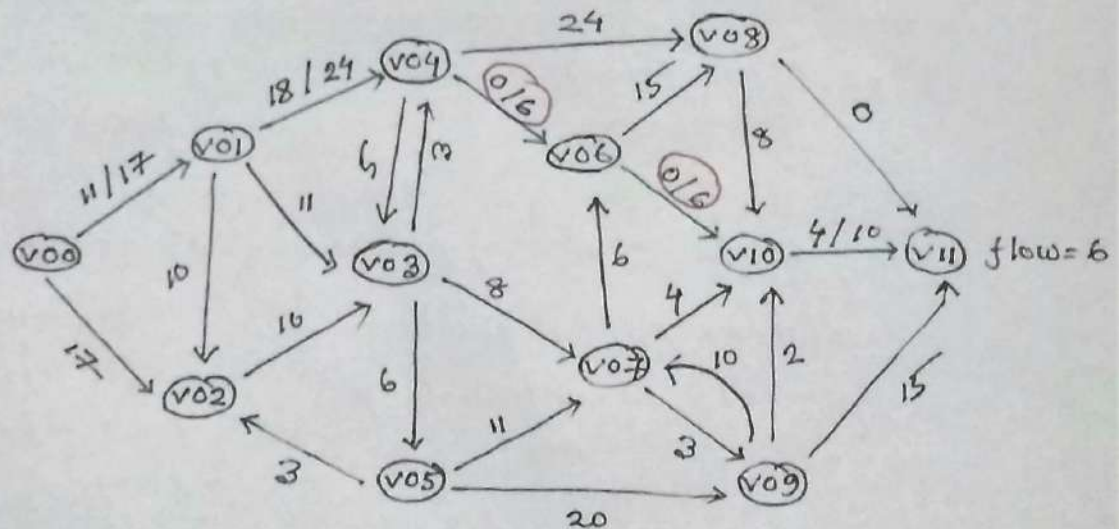
Ans. To. The. Q. No. 05

Step 1



Path: $v_{00} \rightarrow v_{01} \rightarrow v_{04} \rightarrow v_{08} \rightarrow v_{11} = 6$

Step 2

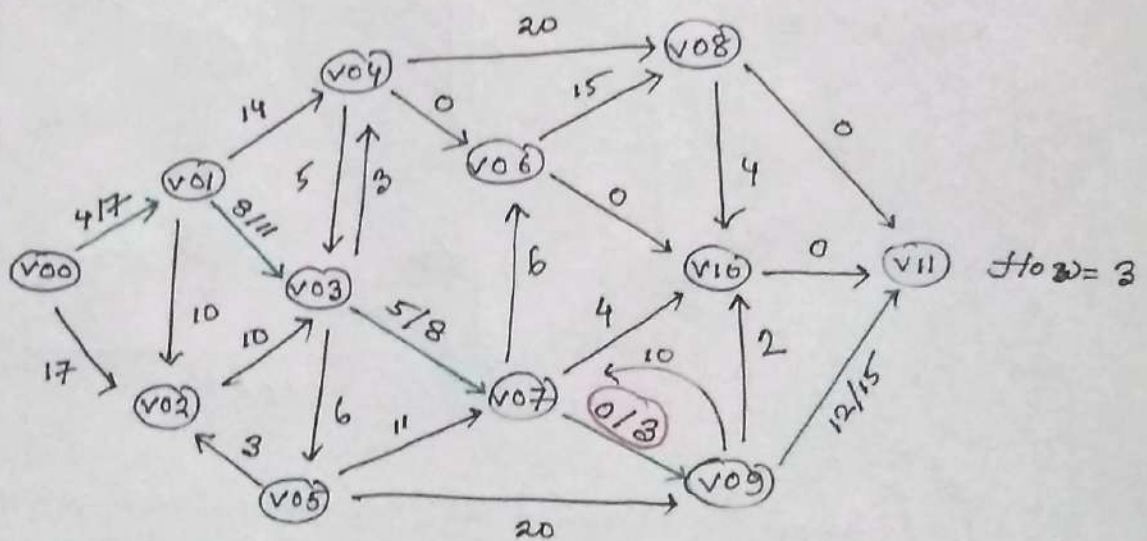


Path: $v_{00} \rightarrow v_{01} \rightarrow v_{04} \rightarrow v_{06} \rightarrow v_{10} \rightarrow v_{11} = 6$

The diagram shows a network flow problem with the following nodes and edges:

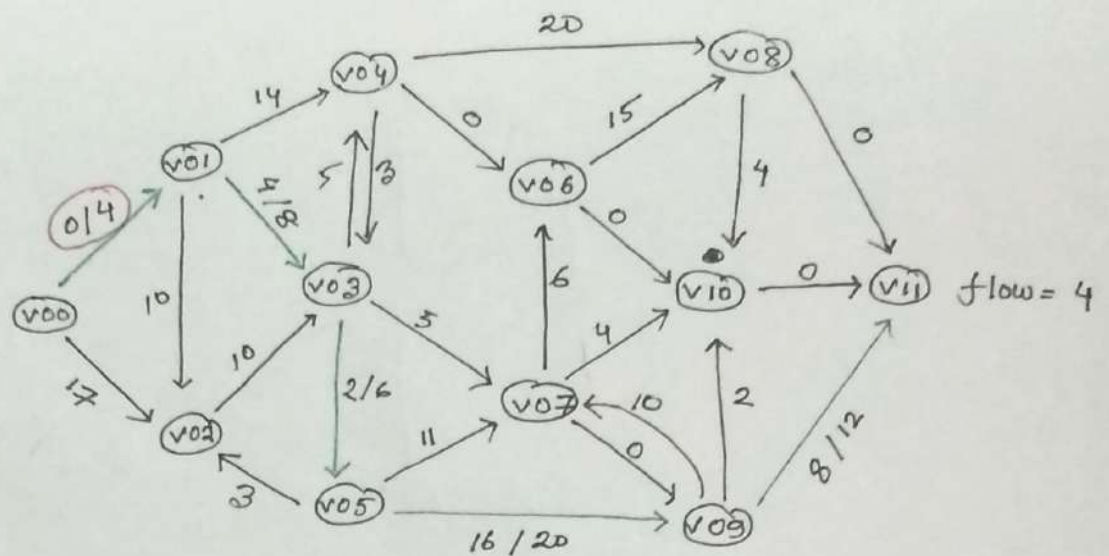
- Nodes:** v_{00} , v_{01} , v_{02} , v_{03} , v_{04} , v_{05} , v_{06} , v_{07} , v_{08} , v_{09} , v_{10} , and v_H .
- Edges and Flow/Residual Values:**
 - $v_{00} \rightarrow v_{01}$: 7 / 11
 - $v_{00} \rightarrow v_{02}$: 17
 - $v_{01} \rightarrow v_{03}$: 11
 - $v_{01} \rightarrow v_{02}$: 10
 - $v_{02} \rightarrow v_{03}$: 10
 - $v_{03} \rightarrow v_{04}$: 5
 - $v_{03} \rightarrow v_{05}$: 6
 - $v_{03} \rightarrow v_{07}$: 8
 - $v_{04} \rightarrow v_{06}$: 0
 - $v_{04} \rightarrow v_{08}$: 20 / 24
 - $v_{05} \rightarrow v_{02}$: 3
 - $v_{05} \rightarrow v_{07}$: 11
 - $v_{05} \rightarrow v_{09}$: 20
 - $v_{06} \rightarrow v_{08}$: 15
 - $v_{06} \rightarrow v_{10}$: 0
 - $v_{07} \rightarrow v_{06}$: 6
 - $v_{07} \rightarrow v_{09}$: 3
 - $v_{08} \rightarrow v_{10}$: 4 / 8
 - $v_{08} \rightarrow v_H$: 0
 - $v_{09} \rightarrow v_{07}$: 10
 - $v_{09} \rightarrow v_{10}$: 2
 - $v_{09} \rightarrow v_H$: 15
 - $v_{10} \rightarrow v_H$: 0 / 4
- Total Flow:** flow = 4

Step 4



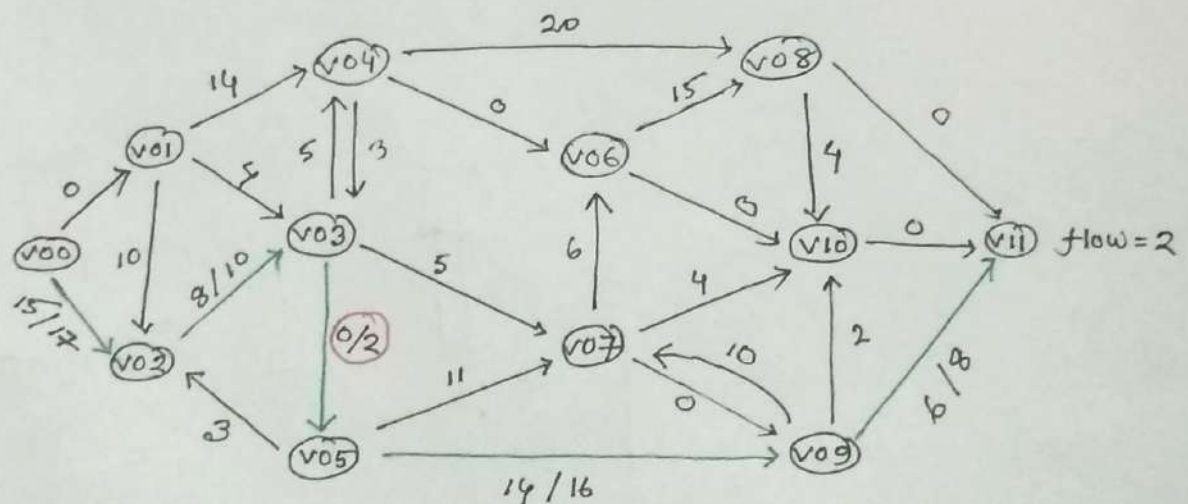
Path: $v_{00} \rightarrow v_{01} \rightarrow v_{03} \rightarrow v_{07} \rightarrow v_{09} \rightarrow v_{11} = 3$

step 5.



Path: $v_{00} \rightarrow v_{01} \rightarrow v_{03} \rightarrow v_{05} \rightarrow v_{09} \rightarrow v_{11} = 4$

step 6.



Path: $v_{00} \rightarrow v_{02} \rightarrow v_{03} \rightarrow v_{05} \rightarrow v_{09} \rightarrow v_{11} = 2$

\therefore Maximum flow from v_{00} to v_{11} is $= 6 + 6 + 4 + 3 + 4 + 2$
 $= 25$