Solution of the problem: 172.17.0.0/20

Step 1: The number of the subnets according to their requirements:

(a) 2nd subnet, EEE Department LAN = 210 + 2 = 212
(b) 1st subnet, CSE Department LAN = 112 + 2 = 114
(c) 3rd subnet, ETE Department LAN = 64 +2 = 66
(d) Point to point link between CSE and ETE = 2 + 2 = 4
(e) point to point link between CSE and EEE = 2 + 2 = 4
(f) Point to point link between EEE and ETE = 2+2 = 4

Step 2:

(a) 2nd subnet, **EEE** Department LAN = 212 =2^8
(b) 1st subnet, **CSE** Department LAN = 114 = 2^7
(c) 3rd subnet, **ETE** Department LAN = 66 = 2^7
(d) Point to point link between **CSE** and **ETE** = 4 = 2^2
(e) point to point link between **CSE** and **EEE** = 4 = 2^2
(f) Point to point link between **EEE** and **ETE** = 4 = 2^2

128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1		
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Network EEE	172.17.0.0 /24
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1st host EEE	172.17.0.1 /24
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	Last host EEE	172.17.0.254 /24
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	Broadcast EEE	172.17.0.255/ 24
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	Network CSE	172.17.1.0 /25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1st host CSE	172.17.1.1 /25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	Last host CSE	172.17.1.126 /25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	Broadcast CSE	172.17.1.127/ 25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	Network ETE	172.17.1.128/ 25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1st host ETE	172.17.1.129/ 25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	Last host ETE	172.17.1.254/ 25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	Broadcast ETE	172.17.1.255/ 25
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Network CSE-ETE	172.17.2.0 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1st host CSE-ETE	172.17.2.1 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	Last host CSE-ETE	172.17.2.2 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	Broadcast CSE-ETE	172.17.2.3 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	Network CSE-EEE	172.17.2.4 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1st host CSE-EEE	172.17.2.5 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	Last host CSE-EEE	172.17.2.6 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	Broadcast CSE-EEE	172.17.2.7/30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	Network CSE-ETE	172.17.2.8/30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1st host EEE-ETE	172.17.2.9/30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	Last host EEE-ETE	172.17.2.10 /30
1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	Broadcast EEE-ETE	172.17.2.11 /30

Subnet Name	Needed Size	Allocated Size	Network address	Mask	Assignable Range	Broadcast Address
CSE	112	126	172.17.1.0 /25	255.255.255.128	172.17.1.1 - 172.17.1.126	172.17.1.127
EEE	210	254	172.17.0.0 /24	255.255.255.0	172.17.0.1-172.17.0.254	172.17.0.255
ETE	64	126	172.17.1.128/25	255.255.255.128	172.17.1.129 -172.17.1.254	172.17.1.255
CSE-ETE	2	2	172.17.2.0 /30	255.255.255.252	172.17.2.1- 172.17.2.2	172.17.2.3
CSE-EEE	2	2	172.17.2.4 /30	255.255.255.252	172.17.2.5- 172.17.2.6	172.17.2.7
EEE-ETE	2	2	172.17.2.8/30	255.255.255.252	172.17.2.9 - 172.17.2.10	172.17.2.11