20.20.000010 00.00000000 Network ID: 20.20.8.0/22 Broadcast ID: 20.20.11.255/22 Subnet Mask: 255.255.252.0 20.20.00001010.00000000 Range: 20.20.8.0/22 to 20.20.11.255/22 20.20.00001010.0 11111111 Useable: 20.20.8.1/22 to 20.20.11.254/22 Network ID: 20.20.10.0/25 Network Bits = 22 Broadcast ID: 20.20.10.127/25 Host Bits = 32 - 22 = 10Subnet Mask: 255.255.255.128 Number of Hosts = $2^10 - 2 = 1022$ Range: 20.20.10.0/25 to 20.20.10.127/25 Useable: 20.20.10.1/25 to 20.20.10.126/25 Network Bits = 25 Host Bits = 32 - 25 = 7Number of Hosts = $2^7 - 2 = 126$ 20.20.00001000 .00000000 20.20.00001010.1 0000000 20.20.00001000 .11111111 20.20.00001010.1 1111111 Network ID: 20.20.8.0/24 Network ID: 20.20.10.128/25 Broadcast ID: 20.20.8.255/24 Broadcast ID: 20.20.10.255/25 Subnet Mask: 255.255.255.0 Subnet mask: 255.255.255.128 Range: 20.20.8.0/24 to 20.20.8.255/24 Range: 20.20.10.128/25 to 20.20.10.255/25 Useable: 20.20.8.1/24 to 20.20.8.254/24 Useable: 20.20.10.129/25 to 20.20.10.254/25 Network Bits = 24 Network Bits = 25 Host Bits = 32 - 24 = 8Mechanical Host Bits = 32 - 25 = 7Number of Hosts = $2^8 - 2 = 254$ Engineering Number of Hosts = $2^7 - 2 = 126$ (ME) Computer Science (CS) 20.20.00001011.00 000000 20.20.00001011.00 111111 Civil Engineering (CE) Network ID: 20.20.11.0/26 BroadCast ID: 20.20.11.63/26 Subnet Mask: 255.255.255.192 **Electrical Engineering** Hostel Range: 20.20.11.0/26 to 20.20.11.63/26 (EE) 20.20.00001001.0 Useable: 20.20.11.1/26 to 20.20.11.62/26 20.20.00001001.0 1111111 Admin Block Network Bits = 26 Host Bits = 32 - 26 = 6Network ID: 20.20.9.0/25 Number of Hosts = $2^6 - 2 = 62$ Broadcast ID: 20.20.9.127/25 Subnet Mask: 255.255.255.128 Library Faculty Range: 20.20.9.0/25 to 20.20.9.127/25 * 20.20.00001011.01 000000 Useable: 20.20.9.1/25 to 20.20.9.126/25 20.20.00001011.01 111111 Network Bits = 25 Host Bits = 32 - 25 = 7Network ID: 20.20.11.64/26 Number of Hosts = $2^7 - 2 = 126$ Broadcast ID: 20.20.11.127/26 Subnet mask: 255.255.255.192 Range: 20.20.11.64/26 to 20.20.11.127/26 Useable: 20.20.11.65/26 to 20.20.11.126/26 20.20.00001001.1 0000000 20.20.00001011.10 000000 Network Bits = 26 20.20.00001001.1 1111111 20.20.00001011.10 111111 Host Bits = 32 - 26 = 6Network ID: 20.20.11.128/26 Network ID: 20.20.9.128/25 Number of Hosts = $2^6 - 2 = 62$ Broadcast ID: 20.20.11.191/26 Broadcast ID: 20.20.9.255/25 Subnet Mask: 255.255.255.192 Subnet Mask: 255.255.255.128 Range: 20.20.11.128/26 to 20.20.11.191/26 Range: 20.20.9.128/25 to 20.20.9.255/25 Useable: 20.20.11.129/26 to 20.20.11.190/26 Useable: 20.20.9.129/25 to 20.20.9.254/25 Network Bits = 26 Network Bits = 25 Host Bits = 32 - 26 = 6Host Bits = 32 - 25 = 7Number of Hosts = $2^6 - 2 = 62$ Number of Hosts = $2^7 - 2 = 126$ 20.20.00001011.11 000000 20.20.00001011.11 111111 Free Space

20.20.00001011.11|111111
Network ID: 20.20.11.192/26
Broadcast ID: 20.20.11.255/26
Subnet Mask: 255.255.255.192
Range: 20.20.11.192/26 to 20.20.11.255/26
Useable: 20.20.11.193/26 to 20.20.11.254/26
Network Bits = 26
Host Bits = 32 - 26 = 6
Number of Hosts = 2^6 - 2 = 63