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2K17/EC/122

Date: 6.4.20
Page No.

Assignment 1
(Computer Networks)

1.

Range of IP address for different classes are

	First octet	Length (net ID)
Class A	0 - 127	8 bits
Class B	128 - 191	16 bits
Class C	192 - 223	24 bits
Class D	224 - 239	-
Class E	240 - 255	-

i) 192.0.0.25 → Class C
(192.0.0 = net ID, 25 = Host ID)

Host ID's bits are neither 0 nor 1.
⇒ The given address is neither broadcast address nor network address
It is a normal IP address.

ii) 139.255.0.0 → Class B
(139.255 = net ID, 0.0 = Host ID)

All bits of host ID are 0
⇒ Network address.

Date :
Page No.

iii) 140.0.255.255 ⟶ Class B
net ID Host ID

Bits of host ID = 1
⇒ Broadcast address

iv) 197.10.5.0 ⟶ Class C.
net ID Host ID

Bits of host ID = 0
⇒ Network address

2.

IP address : 65.100.200.250
↓
Class A IP address

Default mask for class A = 255.0.0.0

IP address 65.100.200.250] and operation
Mask : 255.0.0.0
65.0.0.0 → network address

3.

IP address: 130.75.99.101 → Class B
net ID host ID

Put all bits of host ID to 1
⇒ Broadcast address = 130.75.255.255

2020/04/07 04:42

Date :
Page No.

4.

IP address 46.59.159.179
(CIDR notation)

$n = 20$

No of addresses $= 2^{32-20}$
$= 2^{12} = 4096$

00101110.00111011.10011111.10110011

↓

00101110.00110000.00000000.00000000

46.48.0.0 (lower range)

00101110.00111111.11111111.11111111

46.63.255.255 (upper range)

Range of block 46.48.0.0/20 to 46.63.255.255/20

2020/04/07 04:43