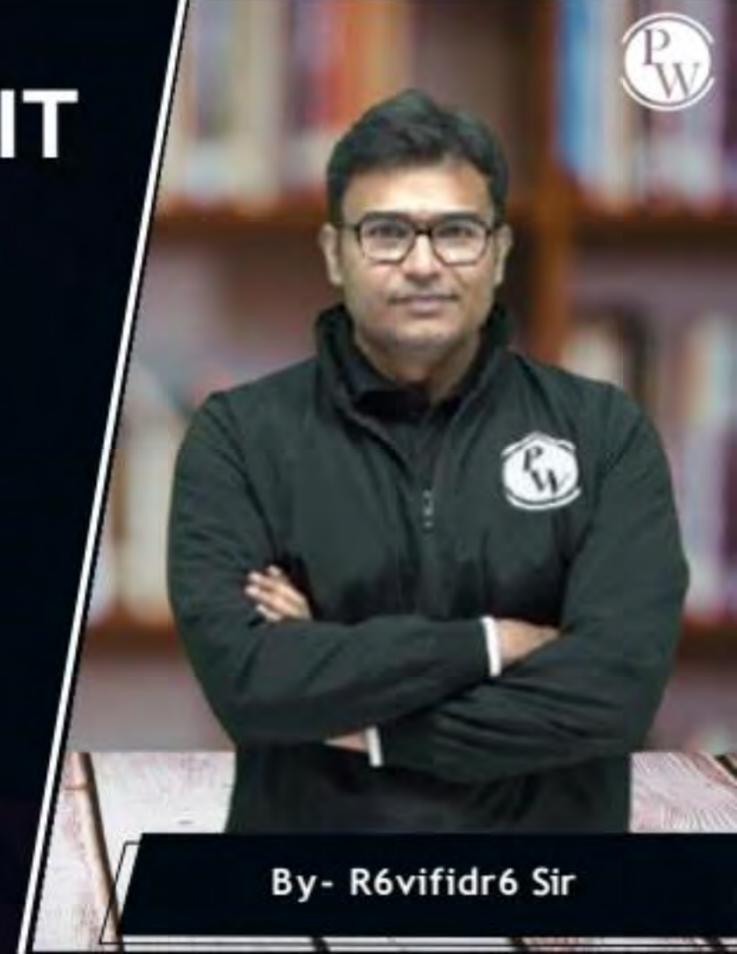
Computer Science & IT

COMPUTER NETWORKS (CN)

IP address Subnetting Supernetting

Lecture No. 08





# **Recap of Previous Lecture**





# **Topics to be Covered**





## Extra Ordinary Individuals: Stories to Ignite Student Motivation

Edavaleth Kakkat Janaki Ammal (1897-1984) was a pioneering botanist who co-discovered colchicine-induced polyploidy to enhance crop varieties. Educated in the UK, she led genetic research at the Sugarcane Breeding Institute and the Botanical Survey of India. Ammal's work on plant cytogenetics improved stress resistance and yield in economically vital species. She championed biodiversity conservation and mentored women scientists, demonstrating how fundamental research in plant biology can support food security and sustainable agriculture. Lesson: Scientific innovation paired with mentorship can drive agricultural advancement and empower underrepresented groups.



#### Extra Ordinary Individuals: Stories to Ignite Student Motivation

Asima Chatterjee (1917–2006) was India's first female PhD in science, renowned for her work in organic chemistry and pharmacology. She isolated anti-epileptic and anti-malarial compounds from indigenous plants and developed vinca alkaloids for cancer treatment. As head of the University of Calcutta's chemistry department, she nurtured a culture of rigorous research. Chatterjee's dedication to natural product chemistry provided lifesaving therapies and inspired countless students, especially women, to pursue scientific careers.

Lesson: Research driven by societal needs can yield lifesaving treatments and inspire future innovators.



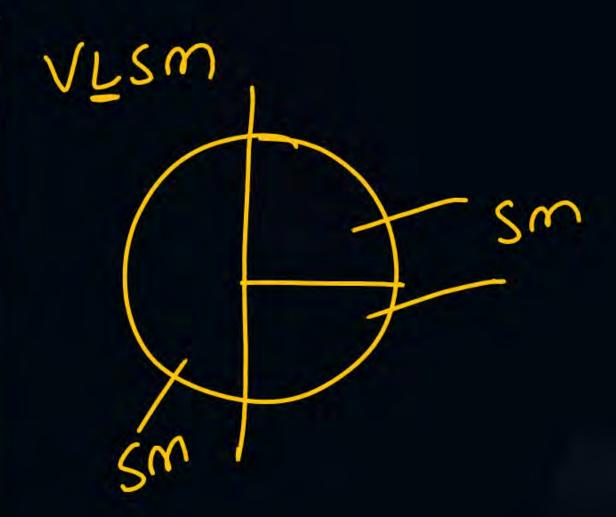
## Extra Ordinary Individuals: Stories to Ignite Student Motivation

Koccharlakota Suryanarayana Krishnan (1908–1961) codiscovered the Raman scattering effect with C. V. Raman in 1928. He went on to conduct pioneering research in magnetism and electron spin resonance at Allahabad University, where he established key laboratories. Krishnan mentored a generation of physicists, integrating theoretical insights with practical experimentation. His dual legacy of discovery and education strengthened India's physics community and its international reputation.

Lesson: Collaborative discovery and mentorship create enduring scientific communities.









Smt 255.255.192.0

Hosti/Nn

NID+SID=PS HOST/NW Host id = 0'S HID= 14

15'-> (NIO)+SID

SID= 18-8=10 SN=2 = 1024

0000000-0 10000000-128 11000000-192 11100000-224 11110000-240 11111000-248 11111100-252 1111110-254

111111-255



```
Smt 255.255.192.0
0000000-0
              10000000-128
                CB->SN
11000000-192
               I'S = NID+ SLD
11100000-224
                18 = 16 + SID
11110000-240
                 SID= 2
11111000-248
                   Subnet = 2 = 4
11111100-252
1111110-254
```

111111-255

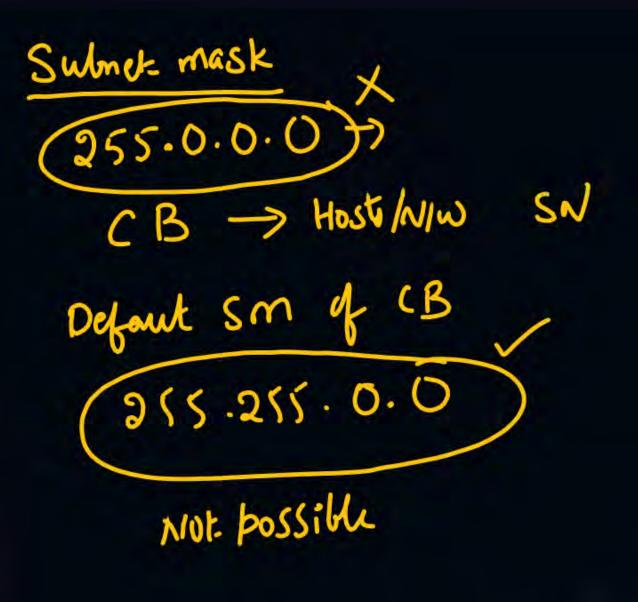
Smr 255.255. 255.240 (C -> SN 1'S = 28 = NID + SID 28 = 24 + SID SIO= 28-24=4 Subrut = 24 = 16

Smr 255.255. 255.240 CB -> HOST/NW, SN HIO= 4 = 24-2 HOSE/N/W 15-> 28 1'S = NIO+SIO 28 = 16 + SID SID=1264 SN = 212

Smr 255.255. 255.240 CE -> HOSE/N/W and SN's 1111111.11111111.1111111.11110000 H10=4661) => no of hosts = 24-2 1'S = N'0+SID 28 = 24 + SID SIO= 28-24=4 SN= 250 = 24=16

Swhot mask 255.0.0.0 -> defaut sm & CA CA -> Host/NW & and SNS 1'S = N10+ S10 8 = 8 + SID => SID=0 20=1 Subrut

(150 hours)





```
0000000-0
10000000-128
11000000-192
11100000-224
11110000-240
1111000-248
1111100-252
1111110-254
111111-255
```

```
Swhot mask
255.0.0.0
             SN
        HOSE
       Not posserx
  DF Sm of CC
    255.255.0
```

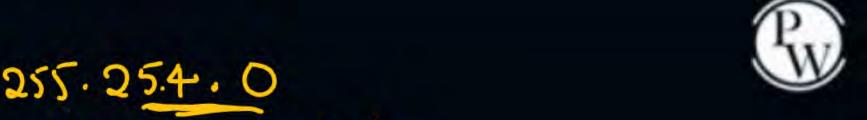
Sm: 255.192.0.0 SN HOSG/NW CA 1's - 10= NID+SID 10 = 8 + SIO SIO= 2 SN: 22=4 Host/sn= 0'5=22 NI+/SA = 222-2

Sm: 255.240.0.0 0000000-0 Subnets HOSG/N/W 10000000-128 CA 1111111-11110000.0000000,0000000000 11000000-192 H10= 20 1'S = 12 = SIO + NID 11100000-224 HOSE/N/W = 2 - 2 11110000-240 12 = SIO+8 11111000-248 S10=4 11111100-252 SN=24=16 1111110-254 111111-255

Sm: 255.255.0.0 CA: HOSTI/NIN SN 1'S=16 = NIO+ SID 16= 8 + SID S10= 8 SN=28=256 0'S -16 615 HOSG/NW - 216-2.

-> dufault: sm fl Sm: 255.255.0.0) CB -> Hoste/N/W, Subnuts 15 - 16 = NID+ SID 16 = 16 + SID S10=0 216 2 hooks

255.255.254.0 CA: HOSE/N/W SN'S 24: 1111111.1111.1111.0.0000000 15-23= NIO+ SID 23 = 8 + 510 S10=15 SN=215 H10=9 0'S HOSt-/N/W = 29-2



255.255.254.0 CB >> HOSE/N/W SN 1'S = 23 = NIO+SID 0'S = 9 = HIO 29-2 = Host 23 = 16 +SID 50=7 SN:27



255.255.254.0 CB >> HOSE/N/W SN 1111111.1111111.11111110.0000000 1'S = 23 = NIO+SID 0'S = 9 = HIO 23 = 16 +510 29-2 = Host S10:7 SN:27



255. 255. 255. 224

CA -> SN Hosts/SN

$$1'S-27 = N10+S10$$
  
 $27 = 8+S10$   
 $SD = 19$   
 $SN = 219$ 

255.255.255.224 CB -> HOSE/N/W /SN millii-miniti-miniti. Viloooo. IS= 27= NIOTSID 27= 16 1 510 SID=11 SN= 2510 = 211 0's - 5 = 1110 Host = 25-2=(30)

255.255.255.224 CC - Host/Mw - SN 1'S = 27 = NIO+SID 27= 24 + 510 Host/sn= 25-2 510:3 SN = 23 = 8

255.255.255.240 CA 15 - 28 = NIO+SID 28 = 8 + 510 S10=20 SN=220 Host/SN H10=4

255.255.255.240 CB= \$110 15= 98 = NIO+ SID 28 = 16 ts10 Sign 1/5N= 24-2 Hosts/snv SID=12 SN:212

```
255.255.255.240
0000000-0
               CC
10000000-128
               11000000-192
11100000-224
                   15 = 28 = NIO+ SID
                                Six of each niw
11110000-240
                     28 = 24 + 510
                                H10=0000=46k
1111000-248
                      S10:4
11111100-252
                      SN=24
                                Host/NW= 24-2
1111110-254
111111-255
```



# THANK - YOU