CSE 421

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Sec: 23

Assignment: 2

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Ans no:1

Given,

IP : 3.12.66.26/19

Subnet mask = 255.255.~~255~~ 224.0

Block Size = 32

66 ∈ 64–95

Network Address = 3.12.64.0/19

Host Requirement

R = 100 → /25

R_1 = 50 → /26

R_3 = 25 → /27

P2P = 2 → /30

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VLSM Table:

R2: 3.12.64.0 /25 (.1–.126) B: .127

R1: 3.12.64.128/26 (.129–.190) B: .191

R3: 3.12.64.192/27 (.193–.222) B: .223

P2P: 3.12.64.224/30 (.225–.226) B: .227.

Wasted IPs (R2) = 126 − 100 = 26.

Ans no: 2

Recursive defult route:

IP route 0.0.0.0 0.0.0.0

Floating default route:

IP route 0.0.0.0 0.0.0.0 S0/0/1 200

[40/0] → AD = 40, Metric = 0

· Direct route better → faster, no recursion.

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Ans no:3

Total = 4584

Header = 42

Data = 4542

Fragment Size = 362

Payload = 320

MTU = 362 bytes.

Fragment offset = (4x320)/8 = 160

Total Fragments : 4542/320 ≈ 15.

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Ans no:5

(1) 2001:0db8:12af:1::0:3

2001:0d68:12af:0001:0000:0000:0000:0003

(2) ::

0000:0000:0000:0000:0000:0000:0000:0000

Ans no:6

- Blocked for Security
- Prevent scanning / Dos

Ans no:7

Broadcast → inform all servers which offer accepted

Renewal → Unicast to original server.

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Ans no: 9

Cause → NAT / firewall

Solution → Port forwarding, Public IP, DDNS.

Ans no: 10

Type → Any cast

Benefits → low latency, load balancing, high availability.

Ans no:

- Destination MAC → default gateway MAC
- ARP resolves MAC
- Switches are self-learning → build MAC table from Source MACs.