

NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA, B.TECH 4th SEMESTER COMPUTER ENGINEERING

Computer Networks (CSPE-26) SESSIONAL-I

Duration: - 50 Minutes.

M.M 15

Note: - All questions are compulsory.

Q-1) An ISP is granted a block of addresses starting with 150.80.0.0/16. The ISP wants to distribute these blocks to 2600 customers as follows. (4)

- a. The first group has 200 medium-size businesses; each needs 128 addresses.
- b. The second group has 400 small businesses; each needs 16 addresses.
- c. The third group has 2000 households; each needs 4 addresses.

Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations.

Q-2) What are 4 reasons that have exhausted IPv4 addresses? discuss the technologies to effectively use IPv4 addresses. (4)

Q-3) List the functions of the presentation layer. (1)

Q-4) An IP fragment has an offset = 370. The MTU is 1500 bytes and IP header is 20 bytes long. At what byte will this fragment be inserted at the time of packet assembly at the receiver? (2)

Q-5) An organization is granted the block 112.76.0.0/16. The administrator wants to create 256 subnets. What will the subnet mask for last subnet? (1)

Q-6) Consider an IP address 118.35.42.10 which is on a network with a subnet mask 255.255.32.0. The possible number of valid host addresses for this network is..... (1)

Q-7) Why 3 addresses use in network? Can mac address use in global routing ? (2)