



RAN-1811000701040001

M.Sc. (I.C.T.) (Sem. - I) Examination November - 2025 Advanced Computer Network (Paper - 104)

Time: 3 Hours]

[Total Marks: 70

સૂચના : / Instructions

(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.

Fill up strictly the above details on your answer book.

Seat No.:

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Student's Signature

Q.1. Answer following Questions. (Any Six) (18)

1. What are the main functions of the Data Link Layer?
2. What is Subnetting?
3. Explain functions of Internet Administration.
4. Explain the purpose of checksum in UDP.
5. What is MTU and when it is required?
6. Define SNMP and its purpose
7. What is the function of TELNET?
8. What is Full Duplex?

Q.2. Answer following Questions (Any Three) (18)

1. Explain OSI Model in detail.
2. Explain SMTP, POP3, and IMAP.
3. Explain IGMP and ICMP in detail.
4. What is IPv6? Explain the IPv6 packet structure.

Q.3. Answer following Questions (Any Three) (18)

1. Explain ARP and RARP in detail with suitable examples.
2. An organization is granted a block of addresses with the beginning address 13.14.20.0/17. The organization needs to have 2 subblocks of addresses to use in its two subnets: one subblock of 210 addresses, and one subblock of 120 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.
3. Explain DNS in detail.
4. Explain TCP/IP model in detail.

Q.4. Answer following Questions (Any Four) (16)

1. Explain BOOTP and DHCP.
2. Differentiate between classless and classful addressing.
3. Explain TCP error control mechanism.
4. Explain network performance.
5. Explain various Control flags of TCP.