

TE SEM-VI EXTC C-scheme May 2026

Date: 13/05/2026

Time: 3 hours

Max. Marks: 80

- N.B. :** (1) Question No.1 is compulsory
 (2) Write any three questions from Q. 2 to Q.6.
 (3) Draw a neat diagram if necessary.

- Q1** Solve any four 20
- Describe Network Address Translation (NAT).
 - Explain the working of DSL.
 - Compare star, bus, and mesh topology.
 - Compare Telnet and SSH.
 - Describe various networking devices in computer networks and map them to their respective OSI model layers.
- Q2** 10
- Draw the IPV4 header and explain the meaning of various associated fields. 10
 - Explain CSMA/CD with a neat diagram. 10
- Q3** 10
- Describe transmission media. 10
 - Explain the header format of IPV6. Differentiate between IPV4 and IPV6. 10
- Q4** 10
- Differentiate between TCP and UDP. 10
 The following is part of a TCP header dump (contents) in hexadecimal format.
 E293 0017 00000001 00000000 5002 07FF...
 a. What is the source port number?
 b. What is the destination port number?
 c. What is the sequence number?
 d. What is the length of the header?
 e. What is the type of the segment?
 - Describe the OSI Model with functionalities at each layer. 10
- Q5** 10
- What is the purpose of ICMP? Explain all message types of ICMP. 10
 - Explain link state routing. 10
- Q6** Write a short note on (Solve any 2) 20
- TCP Congestion Control
 - DHCP
 - Pure and Slotted ALOHA