

TE - ECS - R-19 C-Scheme Winter 2025 Sem VI - KT

5/12/25

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 diagrams wherever necessary.

- Q1** Solve any four 5
- a Write one example for IPv4 address, IPv6 address, MAC address, data link layer protocol and transport layer protocol. 5
- b Explain packet switching and circuit switching network. 5
- c Explain Domain name System. 5
- d Compare link state routing protocol and distance vector routing protocol. 5
- e Explain any 5 tcp-ip commands use in computer network. 5
- f compare various LAN topologies with neat diagram. 5
- Q2** a Compare IPv4 and IPv6, Explain IPv4 packet header. 10
- b Explain classfull routing protocol, justify, why subnetting is required in IPv4 addressing. 10
- Q3** a Explain Ethernet devices with its advantages and disadvantages. 10
- b Whats is sliding window technique, Explain it with an example. 10
- Q4** a Explain TCP three way handshaking during connection establishment and connection release with neat diagrams. 10
- b What is ICMP? Explain all message types of ICMP. 10
- Q5** a An ISP grants 200.192.30.0/24 block of IP addresses. It is required to have at least 6 subnets and 30 host addresses per subnet. Perform subnetting and determine : 1) subnet mask 2) slash notation 3) broadcast address in first subnet. 10
- b Draw OSI layer diagram and explain the functions of each layer. 10
- Q6** Write a short note on (Solve any 4) 20
- a TELNET
- b Flow control and Error control
- c Berkelly API
- d Fast Speed LAN
- e Slotted ALOHA