

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZINAGARAM
III B. Tech II Semester Regular/Supplementary Examinations November -2025

COMPUTER NETWORKS

(OPEN ELECTIVE-II)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
 All Questions Carry Equal Marks

| UNIT-I | | | |
|-----------------|----|---|------|
| 1. | a) | Explain TCP/IP Reference model in detail. | [7M] |
| | b) | With neat sketch illustrate Fiber optic cables. | [7M] |
| (OR) | | | |
| 2. | a) | Explain Network Topologies. | [7M] |
| | b) | Illustrate Microwave transmission with neat diagram. | [7M] |
| UNIT-II | | | |
| 3. | a) | Apply the standard Cyclic Redundancy Check (CRC) method to compute the CRC code for the data frame 1101011111 using the generator polynomial $G(x) = x^4 + x + 1$. Show the actual bit string transmitted, including the CRC checksum. | [7M] |
| | b) | With neat sketch explain the Stop and wait protocol. | [7M] |
| (OR) | | | |
| 4. | a) | Describe the Elementary Data Link Layer protocols. | [7M] |
| | b) | Explain HDLC configuration and transfer modes. | [7M] |
| UNIT-III | | | |
| 5. | a) | What is CSMA? Explain CSMA/CD and CSMA/CA . | [7M] |
| | b) | Explain Fastest Ethernet with suitable diagram. | [7M] |
| (OR) | | | |
| 6. | a) | Explain FDMA and CDMA. | [7M] |
| | b) | Illustrate 10 Gigabit Ethernet with suitable diagram. | [7M] |
| UNIT-IV | | | |
| 7. | a) | Illustrate Store and forward Packet switching. | [7M] |
| | b) | Explain Load Shedding Congestion Control technique. | [7M] |
| (OR) | | | |
| 8. | a) | Compare and Contrast Virtual Circuit and Datagram Networks. | [7M] |
| | b) | Explain IPv4 Header Format with neat diagram. | [7M] |
| UNIT-V | | | |
| 9. | a) | Explain TCP Connection establishment and termination. | [7M] |
| | b) | Describe the UDP Services and Applications. | [7M] |
| (OR) | | | |
| 10. | a) | Explain E-mail Architecture. | [7M] |
| | b) | Illustrate HTTP and SNMP protocols. | [7M] |
