

TE CMPN C Scheme Winter 2025 17/11/25

Max Marks: 80

Duration: 3hrs

- N.B. : (1) Question No 1 is Compulsory.  
(2) Attempt any three questions out of the remaining five.  
(3) All questions carry equal marks.  
(4) Assume suitable data, if required and state it clearly.

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|---|--|------|
| 1 | Attempt any FOUR   | [20] |
| a | Explain the use of checksum in TCP segment and How it is calculated?                         | 5    |
| b | Describe connection oriented and connectionless services.                                    | 5    |
| c | Generate CRC for message 101111 where binary divisor is 1011                                 | 5    |
| d | Discuss ARP and explain its use in computer network communication.                           | 5    |
| e | What is three ways handshaking technique used in transport layer?                            | 5    |
| 2 | a How virtual communication is carried out in ISO-OSI reference model?                       | [10] |
| b | Why framing is used at DLL? Also explain its different types.                                | [10] |
| 3 | a Discuss format structure for TCP segment.  | [10] |
| b | What are the different types of socket and how it is useful for client server communication? | [10] |
| 4 | a What is dynamic routing? Which algorithms are used for it?                                 | [10] |
| b | What is congestion? Discuss different techniques to prevent and control congestion.          | [10] |
| 5 | a Explain different types of cables used in Guided transmission media.                       | [10] |
| b | How CSMA/CD protocol is useful to control collision in computer network?                     | [10] |
| 6 | a How DNS is useful for web browsing? Explain name resolution process?                       | [10] |
| b | How selective repeat ARQ protocol helps to control flow in computer network                  | [10] |

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