

**K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22**  
**(Autonomous College Affiliated to University of Mumbai)**

Subject Code: CEC503

Subject Name: Computer Network

Date: 7/12/2022

| Nov – Dec 2022                                       |                                                                                                                               |            |                |          |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------|----------------|----------|
| B. Tech Program: Computer Engineering                |                                                                                                                               |            |                |          |
| Examination: TY Semester: V                          |                                                                                                                               |            |                |          |
| Course Code: CEC503 and Course Name: Compute Network |                                                                                                                               |            |                |          |
| Duration: 2.5 Hours                                  |                                                                                                                               |            | Max. Marks: 60 |          |
| Instructions:                                        |                                                                                                                               |            |                |          |
| (1) All questions are compulsory.                    |                                                                                                                               |            |                |          |
| (2) Draw neat diagrams wherever applicable.          |                                                                                                                               |            |                |          |
| (3) Assume suitable data, if necessary.              |                                                                                                                               |            |                |          |
| Sr. No.                                              | Questions                                                                                                                     | Max. Marks | CO             | BT level |
| <b>Q 1</b>                                           | <b>Solve any six questions out of eight:</b>                                                                                  | <b>12</b>  |                |          |
| i)                                                   | Differentiate between Physical Layer and Data Link Layer.                                                                     | 2          | CO2            | An       |
| ii)                                                  | Illustrate MAC Addressing in brief.                                                                                           | 2          | CO2            | U        |
| iii)                                                 | Illustrate Circuit Switching and Packet Switching.                                                                            | 2          | CO1            | U        |
| iv)                                                  | Describe Flow Control at Network Layer.                                                                                       | 2          | CO3            | U        |
| v)                                                   | Discuss the role of DNS Server.                                                                                               | 2          | CO6            | U        |
| vi)                                                  | Describe Sliding Window Protocol in brief.                                                                                    | 2          | CO3            | U        |
| vii)                                                 | Explain Packetization for IPV4 Protocol.                                                                                      | 2          | CO4            | U        |
| viii)                                                | Describe Sockets for working of internet.                                                                                     | 2          | CO4            | U        |
| <b>Q.2</b>                                           | <b>Solve any four questions out of six.</b>                                                                                   | <b>16</b>  |                |          |
| i)                                                   | Compare Distance Vector Routing and Link State Routing.                                                                       | 4          | CO3            | An       |
| ii)                                                  | Explain and compare TCP/IP and OSI Model.                                                                                     | 4          | CO1            | An       |
| iii)                                                 | Explain different framing methods.                                                                                            | 4          | CO 2           | U        |
| iv)                                                  | Explain the different functions of Transport Layer.                                                                           | 4          | CO4            | U        |
| v)                                                   | Explain Leaky Bucket and Token Bucket Algorithm.                                                                              | 4          | CO5            | U        |
| vi)                                                  | Describe Telnet and FTP Protocol.                                                                                             | 4          | CO6            | U        |
| <b>Q.3</b>                                           | <b>Solve any two questions out of three.</b>                                                                                  | <b>16</b>  |                |          |
| i)                                                   | The following is a dump of a TCP header in hexadecimal format:<br>05320017 00000001 00000000 500207FF 00000000 i) What is the | 8          | CO4            | An       |

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|            |                                                                                                                                                                  |           |     |    |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|----|
|            | source port number? ii) What is the destination port number? iii) What is the length of the header? iv) What is the type of segment? v) What is the window size? |           |     |    |
| ii)        | Explain Connection Establishment in TCP using Three-Way Handshaking.                                                                                             | 8         | CO5 | U  |
| iii)       | Explain different types of topologies with neat diagram                                                                                                          | 8         | CO1 | U  |
| <b>Q.4</b> | <b>Solve any two questions out of three.</b>                                                                                                                     | <b>16</b> |     |    |
| i)         | Explain different LAN standards with examples.                                                                                                                   | 8         | CO2 | U  |
| ii)        | Compare between Congestion Control and Flow Control. Explain Stop-and-Wait Protocol in detail.                                                                   | 8         | CO3 | An |
| iii)       | Explain different protocols at Application Layer.                                                                                                                | 8         | CO6 | U  |

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