



	InSem Examination-II Summer 2024		
	Exam Seat No.:		
	Academic Year: 2023-2024	Semester: IV	
	Name of Programme: S.Y. BTech Computer Science and Design	Pattern: 2022	
	Name of Course: Computer Networks	Course Code: CSD222014	
	Max. Marks: 30	Duration: 1 Hrs	

	<p><b>Instructions:</b> Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.</p> <ol style="list-style-type: none"><li>1. This question paper contains _02 page(s).</li><li>2. Answer to each new question is to be started on a new page.</li><li>3. Assume suitable data wherever required, but justify it.</li><li>4. Draw the neat labelled diagrams, wherever necessary.</li><li>5. The last column indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.</li></ol>	
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**Question No. 1 Attempt following Question**

- a) Illustrate the OSI reference model with a clear and concise diagram and match the following to one or more layers of the OSI model. (5) CO1
- i) Transmission of bit stream across physical medium.
  - ii) Defines Frames. Error correction and retransmission.
  - iii) Reliable Process-to-process message delivery.
  - iv) Route selection.
  - v) Provides user services such as e-mail and file transfer.

**OR**

- b) Explain following network topologies with diagrams. For each type, discuss both its advantages and limitations. (5) CO1
- a. Star b. Ring c. Bus d. Mesh e. Tree

- c) Explain Circuit and Packet switching techniques with their advantages and disadvantages (5) CO1

**OR**

- d) Compare LAN, MAN, WAN (5) CO1

- e) Explain following network performance measure parameters. (5) CO1

a) Bandwidth b) Throughput c) Bandwidth- delay product d) Jitter e) Latency

**OR**

- f) Explain line encoding and encode the following binary data stream into Manchester and Differential Manchester codes: **1 1 0 0 1 0 1 0**. Draw waveforms. (5) CO1

**Question No. 2 Attempt following Question**

- a) Compare HTTP Non persistent and persistent connection with their suitable diagrams (5) CO2

**OR**

- b) Explain the basic working of FTP in network communication with suitable diagram. Write any 4 FTP commands. (5) CO2

- c) Illustrate function of DNS with a practical example of how a web browser resolves a domain name to an IP address? (5) CO2

**OR**

- d) Explain primary purpose of SMTP, POP3, IMAP in email communication with a neat diagram (5) CO2

- e) Illustrate the various messages and components of a DHCP server. (5) CO2

**OR**

- f) Explain different Logging Processes in TELNET (5) CO2

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