

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****1154 B.Tech. CBCS****Sub. Name: Computer Networks - I****Sub. Code: 73279****Day and Date: Monday ,08-12-2025****Total Marks: 70****Time: 02:30 PM To 05:00 PM**

**Instructions:** 1. All questions are compulsory  
 2. Assume suitable data wherever necessary and mention it boldly  
 3. Figures to the right indicate full marks

- Q1)** Solve any 2 of the following (7 Marks Each) [14]  
 a. Outline OSI Reference model and explain each layer in detail.  
 b. List and explain the different networking device.  
 c. Draw the Binary Encoding, Manchester encoding, Differential Manchester encoding for given data 101100010
- Q2)** Solve any 2 of the following (7 Marks Each) [14]  
 a. List and explain the design Issues of the Data Link Layer.  
 b. List and explain the types of connection between the devices (Point-to-point and multipoint)  
 c. Explain CSMA along with 1 - persistent CSMA , Non persistent CSMA and P - persistent CSMA .
- Q3)** Solve any 2 of the following (7 Marks Each) [14]  
 a. Illustrate the working of Shortest Path Routing (Dijkstra Algorithm).  
 b. Explain the terms Load shedding and Jitter control.  
 c. Explain Collision free Protocols (reservation) Binary Countdown.
- Q4)** Solve any 2 of the following (7 Marks Each) [14]  
 a. Draw and explain ARP packet format.  
 b. What is fragmentation? Explain Fragmentation with example.  
 c. Illustrate the working of Distance Vector Routing(Bellman Ford)
- Q5)** Solve any 2 of the following (7 Marks Each) [14]  
 a. Explain services provided by TCP  
 b. Explain Error reporting messages in ICMPv4.  
 c. list and Explain Socket system calls in detail

**End Of Question Paper****Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -**

This Question Paper may be distributed for following Subjects as common code.

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