

**III B. Tech I Semester Supplementary Examinations, Dec/Jan -2022-23**  
**COMPUTER NETWORKS**

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**

All Questions Carry Equal Marks

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**UNIT-I**

- 1 a) Explain OSI reference model [8M]  
b) Compare OSI and TCP/IP reference models. [7M]  
(OR)
- 2 a) Explain the differences between connection-oriented and connectionless services [8M]  
b) Summarize wireless medium. [7M]

**UNIT-II**

- 3 a) Compare Pure Aloha and slotted Aloha [8M]  
b) Explain line encoding and block encoding techniques. [7M]  
(OR)
- 4 a) What are the data link layer services? Explain. [8M]  
b) Explain how to ensure reliable delivery in data link layer. [7M]

**UNIT-III**

5. a) Explain standard Ethernet. [8M]  
b) Illustrate error detection techniques. [7M]  
(OR)
- 6 a) Compare PAN and LAN. [8M]  
b) A bit stream 11100011 is transmitted using the standard CRC method. The generator polynomial is  $x^4+x^3+1$ . Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission. What are the consequences? [7M]

**UNIT-IV**

- 7 a) Compare unicasting, multicasting, broadcasting and the addresses used for them. [8M]  
b) A host in an organization has an IP address 164.64.64.32 and a subnet mask 255.255.240.0. What is the address of this subnet? How many hosts can be addressed by this subnet? Specify the range of addresses of this subnet? [7M]  
(OR)
- 8 a) Explain Distance Vector Routing with an example. [8M]  
b) Infer reasons for packet loss in the network. [7M]

**UNIT-V**

- 9 a) What are the strategies of client and server in case of crash recovery? [8M]  
b) Compare reliable and unreliable data transmission protocols. [7M]  
(OR)
- 10 a) Explain the architecture of WWW. Discuss client and server side functionality of this architecture. [8M]  
b) What is the purpose of Domain Name System? Explain implementation of it. [7M]