



III B.Tech I Sem Regular End Examination, December 2022

Computer Networks
 (CSD/CSE/CSI/CSM/IT)

Time: 3 Hours.

Max. Marks: 70

Note: 1. Question paper consists: Part-A and Part-B.

2. In Part – A, answer all questions which carries 20 marks.

3. In Part – B, answer any one question from each unit.

Each question carries 10 marks and may have a, b as sub questions.

PART- A**(10*2 Marks = 20 Marks)**

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|----|----|---|----|-----|-----|
| 1. | a) | What are the factors to be considered while selecting a transmission media? | 2M | C01 | BL1 |
| | b) | What are the advantages and disadvantages of wave Division Multiplexing? | 2M | C01 | BL1 |
| | c) | Mention some of the physical properties of Ethernet. | 2M | C02 | BL1 |
| | d) | Why do we need even parity bit? | 2M | C02 | BL1 |
| | e) | What is count to infinity problem? | 2M | C03 | BL1 |
| | f) | What is tunneling? | 2M | C03 | BL1 |
| | g) | Why TCP services are called Stream delivery services? | 2M | C04 | BL1 |
| | h) | Name the device which is used in the transport layer. | 2M | C04 | BL1 |
| | i) | What are the properties of HTTP request? | 2M | C05 | BL1 |
| | j) | What are the functions of Application layer? | 2M | C05 | BL1 |

PART- B**(10*5 Marks = 50 Marks)**

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|---|----|--|----|-----|-----|
| 2 | a) | Explain about the coaxial cable with neat sketch | 7M | C01 | BL4 |
| | b) | What are the 4 main components of networks? | 3M | C01 | BL1 |

OR

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|---|----|---|----|-----|-----|
| 3 | a) | Explain the different types of connections in computer networks | 5M | C01 | BL4 |
| | b) | Compare and contrast between FDM and TDM | 5M | C01 | BL2 |
| 4 | a) | Explain the CRC coding mechanism considering following message and generator polynomial | 5M | C02 | BL4 |

$$M = 110010101100101010, \quad G = 1010$$

Show the working on this data

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|----|---|----|-----|-----|
| b) | Explain how slotted aloha offers better efficiency. Derive an expression for it | 5M | C02 | BL4 |
|----|---|----|-----|-----|

OR

- 5 a) Explain about the working principle of sliding window protocol in data link layer 5M C02 BL4
 b) Explain the frame format of IEEE 802.5 5M C02 BL4

- a) Explain about the Link State routing protocol 5M C03 BL4
 6 b) What is the need for ICMP? Mention any four ICMP messages and their purpose 5M C03 BL1

OR

- a) Explain the different types of Internetworking 5M C03 BL4
 7 b) Differentiate between IPv4 and IPv6 5M C03 BL2

- a) Explain about the token bucket algorithm 5M C04 BL4
 8 b) Explain the services provided by the Transport layer 5M C04 BL4

OR

- a) Explain about the operation of UDP 5M C04 BL
 9 b) Explain the steps involved in three way handshaking mechanism to establish the connection in TCP 5M C04 BL4

- a) List and explain the services provided by DNS 5M C05 BL4
 10 b) Explain the Simple Network Management Protocol 5M C05 BL4

OR

- a) Explain in detail about function and structure of e-mail protocol 5M C05 BL4
 11 b) Describe the file transfer protocol with a neat diagram 5M C05 BL2

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CO - Course Outcome

BL - Blooms Taxonomy Levels