

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech. III Year I Semester Regular Examinations December-2025

COMPUTER NETWORKS & INTERNET PROTOCOLS

(Common to CAD, CSE, CSIT & CCC)

Time: 3 Hours

Max. Marks: 70

PART-A

(Answer all the Questions 10 x 2 = 20 Marks)

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|---|---|---|-----|----|----|
| 1 | a | Define the Internet in simple terms. | CO1 | L1 | 2M |
| | b | What is meant by a host (end system) in a computer network? | CO1 | L1 | 2M |
| | c | What is burst error give an example? | CO2 | L2 | 2M |
| | d | Differentiate between Error Control and Flow Control. | CO2 | L2 | 2M |
| | e | Differentiate between static routing and dynamic routing. | CO3 | L3 | 2M |
| | f | Define the term "routing algorithm" and state its primary purpose in a network. | CO3 | L3 | 2M |
| | g | What is function of transport layer? | CO4 | L1 | 2M |
| | h | What is meant by segmentation? | CO4 | L1 | 2M |
| | i | Illustrate the P2P Architecture in Network Application Architectures. | CO5 | L3 | 2M |
| | j | Illustrate the structure of high-level Internet e-mail system. | CO5 | L3 | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

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|---|--|--|-----|----|-----|
| 2 | | Explain in detail the structure of the Internet. Discuss hosts, ISPs, and protocols. | CO1 | L2 | 10M |
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| 3 | a | Explain the concept of the network edge with suitable examples. | CO1 | L2 | 5M |
| | b | Describe the concept of packet switching in Network core. | CO1 | L2 | 5M |

UNIT-II

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|---|---|---|-----|----|----|
| 4 | a | Describe the concept of packet switching in Network core. | CO2 | L4 | 5M |
| | b | Describe Error control and flow control in data link layer. | CO2 | L4 | 5M |

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| 5 | | Demonstrate with an example how Hamming codes correct a single-bit error in data transmission. | CO2 | L2 | 10M |
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UNIT-III

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| 6 | | What are the Network Layer Design Issues. Explain it in detail. | CO3 | L1 | 10M |
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| 7 | a | Explain about Static Routing algorithms. | CO3 | L2 | 6M |
| | b | Explain about dynamic Routing algorithms. | CO3 | L3 | 4M |

UNIT-IV

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|---|--|--|-----|----|-----|
| 8 | | What is additive increase multiplicative decrease in TCP congestion control? | CO4 | L2 | 10M |
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| 9 | a | Explain about UDP segment structure. | CO4 | L2 | 5M |
| | b | How to check UDP Checksum. | CO4 | L1 | 5M |

UNIT-V

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| 10 | | Compare the streaming architectures of Netflix, YouTube, and Kankan. | CO5 | L6 | 10M |
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| 11 | a | List out the Services Provided by DNS. | CO3 | L1 | 5M |
| | b | List out the difference between Non-Persistent and Persistent Connections. | CO5 | L1 | 5M |

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