

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

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)**Subject with Code:** COMPUTER NETWORKS (20CS0513)**Course & Branch:** B. Tech - CIC**Year & Sem:** II-B. Tech & I-Sem**Regulation:** R20**UNIT-1
INTRODUCTION**

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| 1. a. Write about Transmission Impairment. | [L2][CO1] 5M |
| b. . Define Network and elaborate the Network criteria? | [L2][CO1] 4M |
| c.) Specify Computer Network Types. | [L2][CO1] 3M |
| 2. Explain in detail about Fiber optic cable? | [L2][CO1] 6M |
| 3. a) Explain about Twisted pair cable? | [L2][C01] 6M |
| b) Briefly explain about Coaxial cable. | [L1][CO1] 6M |
| 4. Write about various Network topologies? | [L1][CO1] 12M |
| 5. Write about OSI network model? | [L1][CO1] 12M |
| 6. Compare OSI and TCP/IP Network models. | [L2][CO1] 12M |
| 7. Explain in detail about TCP /IP Network model? | [L2][CO1] 12M |
| 8. a) Explain about the various network types? | [L3][CO1] 6M |
| b) What is multiplexing and demultiplexing? | [L1][CO1] 6M |
| 9. Give the description of wireless transmission media. | [L1][CO1] 12M |

UNIT-2
INTRODUCTION TO DATA LINK LAYER

1. Discuss bit-oriented HDLC Protocol with the elaborative explanation of its frames. [L2][CO2] 12M
2. Explain Cyclic Redundancy check method used for error detection. [L2][CO2] 12M
3. Discuss about
 - a) GO BACK N Protocol. [L3][CO2] 6M
 - b) Selective repeat Protocol. [L3][CO2] 6M
4. Explain about the Elementary data link protocols? [L3][CO2] 12M
5. What is framing? Write about bit-oriented framing method? [L1][CO2] 12M
6. Write about the services provided by the Data link layer? [L1][CO2] 12M
7. Write about Point to Point (PPP) protocol in detail? [L1][CO2] 12M
8. Write about Pure ALOHA and slotted ALOHA protocols? [L1][CO2] 12M
9. Write about CSMA/CA protocol. [L1][CO2] 12M
10. Explain in detail about Controlled access protocols which are used in MAC sublayer. [L3][CO2] 12M
11. Write about the following Channelization protocols used in MAC sublayer
 - a) FDMA [L1][CO2] 6M
 - b) TDMA [L1][CO2] 6M
12. Write about Checksum error detection method with neat diagram. Also explain Internet checksum method. [L1][CO2] 12M

**UNIT-3
THE NETWORK LAYER**

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| 1. a) Explain distance vector routing algorithm. | [L2][CO3] | 8M |
| b) briefly state what is count to infinity problem. | [L1][CO2] | 4M |
| 2. Explain about Static Routing algorithms. | [L2][CO3] | 12M |
| 3. Discuss about a) leaky bucket algorithm? | [L1][CO3] | 6M |
| b) token bucket algorithm with neat diagram. | [L2][CO2] | 6M |
| 4. Explain in detail about congestion control algorithms. | [L2][CO3] | 12M |
| 5. Write about the following Quality of Service techniques | | |
| a) Traffic shaping technique. | [L1][CO2] | 4M |
| b) Packet Scheduling algorithms. | [L1][CO2] | 8M |
| 6. Write about Link State Routing algorithm. | [L1][CO2] | 12M |
| 7. Explain IP V4 protocol in detail. | [L2][CO3] | 12M |
| 8. a) Write about BGP – Exterior Gateway routing protocol? | [L1][CO3] | 6M |
| b) Write about Internet control protocols? | [L1][CO3] | 6M |
| 9. Explain IP v6 protocol in detail. | [L2][CO3] | 12M |
| 10. a) Explain about the Shortest Path Algorithm? | [L2][CO3] | 6M |
| b) Explain Flooding? | [L2][CO3] | 6M |
| 11. Explain Virtual circuit network and Datagram network with diagrams. | [L2][CO3] | 12M |
| 12. Write in detail about packet fragmentation done in Internetwork Routing. | [L1][CO3] | 12M |

UNIT-4
THE TRANSPORT LAYER

1. Explain about the elements of transport layer. [L2][CO4] 12M
2. what are the different Primitives used for transport service? Explain them. [L1][CO3] 12M
3. Explain in detail about each field of TCP segment header? [L2][CO4] 12M
4. Explain the three-way handshake protocols with suitable diagram. [L2][CO4] 12M
5. Describe about a) TCP connection Establishment. [L1][CO3] 6M
b) TCP Connection Release [L1][CO2] 6M
6. Explain in detail about congestion control in TCP. [L2][CO4] 12M
7. Explain the TCP protocol with neat sketch. [L2][CO4] 12M
8. Discuss the various timers used by TCP to perform its various operations. [L1][CO3] 12M
9. Write in detail about performance issues of transport layer. [L1][CO4] 12M
10. Write in detail about User Datagram Protocol (UDP). [L1][CO4] 12M

UNIT-5
INTRODUCTION TO APPLICATION LAYER

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| 1. Write in detail about DNS Name Space and Domain Resource records. | [L1][CO3] | 12M |
| 2. Explain in detail about function and structure of e-mail protocol. | [L2][CO2] | 12M |
| 3. Explain briefly about SMTP protocol. | [L2][CO4] | 12M |
| 4. Discuss in detail about world wide web. | [L2][CO4] | 12M |
| 5. Write about cookies. | [L1][CO5] | 12M |
| 6. Write about static web pages. | [L1][CO5] | 12M |
| 7. Explain about dynamic web pages. | [L2][CO5] | 12M |
| 8. Discuss the features of HTTP and explain how HTTP works. | [L1][CO4] | 12M |
| 9. Write about TELNET. | [L1][CO5] | 12M |
| 10. Discuss about File Transfer Protocol with neat diagram. | [L1][C05] | 12M |

Prepared By:

Dr.B. Geethavani, HOD and Professor, Department of CSE, SIETK.