

Satyug Darshan Institute of Engineering and Technology, Faridabad

Programme: B.TECH

Year:/Semester : 3rd/6th

Subject Name : COMPUTER NETWORKS

Subject Code : PCC-CS-602

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Unit -1

Short Questions

S. No.	Questions	Bloom Taxonomy
1	Define data representation in computer networks.	K1
2	List the main components involved in data flow within a network.	K1
3	State the meaning of network topology.	K1
4	Name any two network protocols used in data communication.	K1
5	Identify the total number of layers in the OSI model.	K1
6	List any two types of transmission media.	K1
7	State the full form of LAN.	K1
8	Mention any two techniques used for bandwidth utilization.	K1
9	Identify the basic idea of spread spectrum communication.	K1
10	Explain the role of protocols in network communication.	K2
11	Describe the purpose of standards in networking.	K2
12	Summarize the function of the Physical layer in the OSI model.	K2
13	Differentiate between guided and unguided transmission media.	K2
14	Explain the concept of a wireless LAN.	K2
15	Illustrate the basic working principle of frequency division multiplexing.	K2
	Demonstrate the use of star topology in a small office network.	K3
	Show the working of time division multiplexing in data transmission.	K3

Long Questions

1	Explain the importance of protocols and standards in networking.	K2
2	Describe the OSI model with functions of each layer.	K1
3	Explain the concept of bandwidth utilization techniques.	K1
4	Explain the flow of data in a computer network using suitable representation.	K2
5	Describe various connection topologies with their characteristics.	K2
6	Discuss different types of transmission media used in LANs.	K2
7	Explain frequency division, time division, and wavelength division multiplexing.	K2

Unit -2

Short Questions

S. No.	Questions	Bloom Taxonomy
1	Define error detection in data communication.	K1
2	Define error correction in data transmission.	K1
3	State the meaning of block coding.	K1
4	Identify the purpose of a parity bit.	K1
5	State the concept of two-dimensional parity.	K1

6	Identify the term Hamming distance.	K1
7	Expand the term CRC.	K1
8	State the meaning of flow control.	K1
9	State the meaning of error control.	K1
10	Identify one random access protocol.	K1

Long Questions

1	Explain the fundamentals of error detection and error correction.	K2
2	Describe block coding with a suitable example.	K2
3	Explain parity bit error detection.	K2
4	Describe two-dimensional and three-dimensional parity techniques.	K2
5	Explain the concept of Hamming distance.	K2
6	Describe the principle of cyclic redundancy check.	K2
7	Explain the stop-and-wait ARQ protocol.	K2
8	Describe the concept of sliding window in flow control.	K2
9	Explain piggybacking in data communication.	K2
10	Describe the basic operation of pure ALOHA.	K2
11	Explain various error detection and error correction techniques.	K2
12	Describe block coding and parity-based error detection methods.	K2
13	Explain Hamming distance and CRC in detail.	K2
14	Discuss flow control and error control mechanisms in data communication.	K2
15	Explain pure ALOHA and slotted ALOHA with suitable illustrations.	K2

Unit -3

Short Questions

S. No.	Questions	Bloom Taxonomy
1	Define switching in computer networks.	K1
2	State the meaning of logical addressing.	K1
3	Identify the address length used in IPv4.	K1
4	Identify the address length used in IPv6.	K1
5	Expand the term ARP.	K1
6	Expand the term RARP.	K1
7	Expand the term BOOTP.	K1
8	Expand the term DHCP.	K1
9	State the meaning of forwarding in networking.	K1
10	Identify the term unicast routing.	K1
11	Explain the concept of switching in data communication.	K2
12	Describe logical addressing in computer networks.	K2
13	Explain the structure of an IPv4 address.	K2
14	Describe the basic features of IPv6.	K2
15	Explain the purpose of address mapping.	K2
16	Describe the operation of ARP.	K2
17	Explain the role of DHCP in IP address allocation.	K2
18	Describe packet forwarding in a network.	K2
19	Explain the concept of routing.	K2
20	Describe unicast routing with a suitable example.	K2

Long Questions

1	Explain switching techniques used in computer networks.	K2
2	Describe logical addressing with IPv4 addressing scheme.	K2

3	Explain IPv4 and IPv6 addressing with suitable formats.	K2
4	Discuss address mapping protocols such as ARP, RARP, BOOTP, and DHCP.	K2
5	Explain delivery, forwarding, and routing in data communication.	K2
Unit -4		
Short Questions		
S. No.	Questions	Bloom Taxonomy
1	Define process-to-process communication.	K1
2	Expand the term UDP.	K1
3	Expand the term TCP.	K1
4	Expand the term SCTP.	K1
5	State the meaning of port number.	K1
6	Identify the layer responsible for process-to-process delivery.	K1
7	State the meaning of congestion control.	K1
8	State the meaning of Quality of Service.	K1
9	Identify one QoS parameter.	K1
10	Identify one QoS improving technique.	K1
11	Explain the concept of process-to-process communication.	K2
12	Describe the basic features of UDP.	K2
13	Explain the services provided by TCP.	K2
14	Describe the characteristics of SCTP.	K2
15	Explain the role of port numbers in transport layer communication.	K2
16	Describe congestion control in computer networks.	K2
17	Explain the concept of Quality of Service.	K2
18	Describe leaky bucket algorithm for traffic shaping.	K2
19	Explain token bucket algorithm.	K2
20	Differentiate between leaky bucket and token bucket algorithms.	K2
Long Questions		
1	Explain process-to-process communication in the transport layer.	K2
2	Describe UDP, TCP, and SCTP protocols with their features.	K2
3	Explain congestion control mechanisms in TCP.	K2
4	Discuss Quality of Service parameters and requirements.	K2
5	Explain leaky bucket and token bucket algorithms with suitable illustrations.	K2
Unit -5		
Short Questions		
S. No.	Questions	Bloom Taxonomy
1	Define Domain Name Space in DNS.	K1
2	Expand the term DDNS.	K1
3	Expand the term TELNET.	K1
4	Identify one protocol used for electronic mail.	K1
5	Expand the term FTP.	K1
6	Expand the term HTTP.	K1
7	Expand the term SNMP.	K1
8	State the meaning of Bluetooth.	K1
9	Define a firewall.	K1
10	State the basic concept of cryptography.	K1
11	Explain the structure of the Domain Name Space.	K2
12	Describe the function of DDNS in networking.	K2
13	Explain the operation of TELNET.	K2
14	Describe the process of electronic mail communication.	K2

15	Explain the working of File Transfer Protocol.	K2
16	Describe the role of WWW in Internet services.	K2
17	Explain the operation of HTTP.	K2
18	Describe the basic functions of SNMP.	K2
19	Explain the role of firewalls in network security.	K2
Long Questions		
1	Explain the Domain Name System with its namespace.	K2
2	Describe Internet application layer protocols such as TELNET, FTP, and EMAIL.	K2
3	Explain WWW and HTTP with suitable examples.	K2
4	Discuss SNMP architecture and its components.	K2
5	Explain Bluetooth technology and its applications.	K2
6	Discuss firewalls and basic concepts of cryptography.	K2