



P.S.R. ENGINEERING COLLEGE
(An Autonomous Institution)
SIVAKASI-626 140.
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
QUESTION BANK



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Course Code:	191CS54	Course Name:	Computer Networks
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UNIT-1

COMPUTER NETWORKS FUNDAMENTALS

	<u>PART- A</u>	Mark	Bloom's Taxonomy	CO's
1.	What is a computer network? a) A device used to display information on a computer screen b) A collection of interconnected computers and devices that can communicate and share resources c) A type of software used to create documents and presentations d) The physical casing that protects a computer's internal components	1	K1	CO 1
2.	What is internet? a) A network of interconnected local area networks b) A collection of unrelated computers c) Interconnection of wide area networks d) A single network	1	K1	CO 1
3.	Which of the following is an example of Bluetooth? a) wide area network b) virtual private network c) local area network d) personal area network	1	K1	CO 1
4.	Which one of the following is not a function of network layer? a) congestion control b) error control c) routing d) inter-networking	1	K1	CO 1
5.	Which topology requires a multipoint connection? a) Ring b) Bus c) Star d) Mesh	1	K1	CO 1
6.	Which of the following devices forwards packets between networks by processing the routing information included in the packet?	1	K1	CO 1

	a) firewall b) bridge c) hub d) router			
7.	How do two devices become part of a network? a) PIDs of the processes running on different devices are same b) a process in one device is able to exchange information with a process in another device c) a process is active and another is inactive d) a process is running on both devices	1	K1	CO 1
8.	Which layer does the data link layer take packets from and encapsulate them into frames for transmission? a) transport layer b) application layer c) network layer d) physical layer	1	K1	CO 1
9.	What was the name of the first network? a) ASAPNET b) ARPANET c) CNNET d) NSFNET	1	K1	CO 1
10.	Which layer provides the services to user? a) physical layer b) presentation layer c) session layer d) application layer	1	K1	CO 1
<u>PART- B</u>				
11.	Define computer networks.	2	K1	CO 1
12.	What do you mean by error control?	2	K1	CO 1
13.	Define flow control?	2	K1	CO 1
14.	What is redundancy?	2	K1	CO 1
15.	What are the steps followed in checksum generator.	2	K1	CO 1
16.	Define checksum.	2	K1	CO 1
17.	Write short notes on CRC checker.	2	K1	CO 1
18.	Mention the types of error detection methods.	2	K1	CO 1
19.	Mention the types of errors and define the terms?	2	K1	CO 1
20.	What are the ways to address the framing problem?	2	K1	CO 1

21.	What are the responsibilities of data link layer?	2	K1	CO 1
22.	What are the functions of Application layer?	2	K1	CO 1
23.	Define Bit stuffing.	2	K1	CO 1
24.	What are the two types of parity checks? Define it.	2	K1	CO 1
25.	Draw a neat diagram of Internet protocol graph.	2	K1	CO 1
26.	What are the three criteria necessary for an effective and efficient network?	2	K1	CO 1
<u>PART- C</u>				
27.	Explain the ISO-OSI model of computer network with a neat diagram.	14	K2	CO 1
28.	Explain the different approaches of framing in detail.	14	K2	CO 1
29.	Illustrate about different types of Issues in data link layer.	14	K3	CO 1
30.	With a neat diagram explain in detail about the Network architecture.	14	K2	CO 1
31.	Illustrate in detail about Error Detection Techniques	14	K3	CO 1
32.	Illustrate in detail about flow control mechanisms.	14	K3	CO 1
33.	Compare Stop and Wait ARQ scheme with sliding window ARQ scheme.	14	K2	CO 1

UNIT-2

INTERNETWORKINGANDMEDIAACCESSCONTROL

	<u>PART- A</u>	Mark	Bloom's Taxonomy	CO's
1.	The data link layer takes the packets from _____ and encapsulates them into frames for transmission. a) network layer b) physical layer c) transport layer d) application layer	1	K1	CO 2
2.	Which of the following tasks is not done by data link layer? a) framing b) error control c) flow control d) channel coding	1	K1	CO 2
3.	CRC stands for _____ a) cyclic redundancy check b) code repeat check	1	K1	CO 2

	c) code redundancy check d) cyclic repeat check			
4.	Which of the following are Gigabit Ethernets? a) 1000 BASE-LX b) 1000 BASE-CX c) 1000 BASE-SX d) All of the mentioned	1	K1	CO 2
5.	Which of the following allows you to connect and login to a remote computer? a) SMTP b) HTTP c) FTP d) Telnet	1	K1	CO 2
6.	Ethernet frame consists of _____ a) MAC address b) IP address c) Default mask d) Network address	1	K1	CO 2
7.	What is start frame delimiter (SFD) in ethernet frame? a) 10101010 b) 10101011 c) 00000000 d) 11111111	1	K1	CO 2
8.	MAC address is of _____ a) 24 bits b) 36 bits c) 42 bits d) 48 bits	1	K1	CO 2
9.	Which class does the IP address 192.168.10.5/24 represent? a) Class A b) Class C c) Class B d) Class D	1	K1	CO 2
10	Determine the number of subnets for the given IP 192.13.67.0/28 using the CIDR value. a) 16 b) 14 c) 4 d) 8	1	K1	CO 2
<u>PART- B</u>				
11	Draw a frame format of IEEE 802.3	2	K2	CO 2
12	With a neat diagram explain the relationship of IEEE Project to the OSI model?	2	K2	CO 2
13	Define Protocol Data Unit.	2	K1	CO 2
14	What are the functions of MAC?	2	K1	CO 2

15	What are the functions of LLC?	2	K1	CO 2
16	What is Ethernet?	2	K1	CO 2
17	Define Repeater?	2	K1	CO 2
18	Why Ethernet is said to be a I-persistent protocol?	2	K1	CO 2
19	What are the four prominent wireless technologies?	2	K1	CO 2
20	Define the standard IEEE 802.15?	2	K1	CO 2
21	What are the advantages and disadvantages of bluetooth technology?	2	K1	CO 2
22	How to mediate access to a shared link?	2	K1	CO 2
23	What is the use of Switch?	2	K1	CO 2
24	What are the three pieces of information in the configuration messages?	2	K1	CO 2
25	Define Piconet.	2	K1	CO 2
26	What is broadcast?	2	K1	CO 2
27	Difference between switch and bridge.	2	K2	CO 2
<u>PART- C</u>				
28	Illustrate in detail about IEEE 802.3 architecture.	14	K2	CO 2
29	Explain in detail about Bluetooth (IEEE 802.15) architecture.	14	K2	CO 2
30	Illustrate in detail about Wireless LANs (IEEE 802.11).	14	K2	CO 2
31	Explain in detail about Bridges and LAN switches.	14	K2	CO 2
32	Illustrate in detail about Internetworking Protocol (IP).	14	K2	CO 2
33	Briefly explain about how to forward the datagram in IP.	14	K2	CO 2
34	Explain in detail about ARP & RARP.	14	K2	CO 2
35	With neat diagram explain in detail about spanning tree algorithm.	14	K2	CO 2

UNIT-3

ROUTING ANDROUTINGPROTOCOLS

	<u>PART- A</u>	Mark	Bloom's Taxonomy	CO's
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1.	Open Shortest Path First (OSPF) is also called as _____ a) Link state protocol b) Error-correction protocol c) Routing information protocol d) Border gateway protocol	1	K1	CO 3
2.	The computation of the shortest path in OSPF is usually done by _____ a) Bellman-ford algorithm b) Routing information protocol c) Dijkstra's algorithm d) Distance vector routing	1	K1	CO 3
3.	Which application is not suitable to use broadcast routing? a) Radio programs b) Stock market c) Weather report d) Telephone network	1	K1	CO 3
4.	Which of the following is not concerned by the switch to manage traffic in it? a) MAC address b) Collision Domain c) Segmentation d) Number of ports	1	K1	CO 3
5.	Which of the following can't be a feature of hub? a) Filtering the data b) Half duplex transmission c) No software association d) Star topology architecture	1	K1	CO 3
6.	Which of the following device belongs to physical layer? a) Switch b) Hub c) Bridge d) Router	1	K1	CO 3
7.	Which of the following is an error correcting code? a) Checksum b) Parity c) Cyclic redundancy check d) Hamming codes	1	K1	CO 3
8.	Which of the following error correcting code is not a linear block code? a) Low density parity check b) Hamming codes c) Binary convolution codes d) Reed-Solomon codes	1	K1	CO 3
9.	How cyclic redundancy check code can also be called? a) Fletcher's checksum b) Polynomial code c) Generator polynomial code d) Checksum	1	K1	CO 3

10.	Simple parity-check is used to detect the even number of errors also. a) True b) False	1	K1	CO 3
PART- B				
11.	List the difference between circuit switching and Packet switching.	2	K1	CO 3
12.	What are the different kinds of Multicast Routing?	2	K1	CO 3
13.	Illustrate the class field in IP address.	2	K1	CO 3
14.	What is meant by circuit switching?	2	K1	CO 3
15.	What is multicasting?	2	K1	CO 3
16.	What is a host id and net id?	2	K1	CO 3
17.	How does a net id differ from a network address?	2	K1	CO 3
18.	What is the purpose of sub-netting?	2	K1	CO 3
19.	Define Masking.	2	K1	CO 3
20.	What is the difference between boundary level masking and non-boundary level masking?	2	K1	CO 3
21.	What is the function of router?	2	K1	CO 3
22.	How does a router differ from a bridge?	2	K1	CO 3
23.	Find the class of each addresses.	2	K1	CO 3
24.	Difference between MAC address and IP address.	2	K1	CO 3
25.	Why is adaptive routing superior to non-adaptive routing?	2	K1	CO 3
26.	What are the three main elements of distance vector algorithms?	2	K1	CO 3
27.	What is address resolution?	2	K1	CO 3
28.	What are the benefits of sub netting a network?	2	K1	CO 3
29.	What are the metrics used by routing protocols?	2	K1	CO 3
30.	Why the congestion occurs in network.	2	K1	CO 3
31.	Write the keys for understanding the link state routing?	2	K1	CO 3
32.	How the packet cost referred in distance vector and link state routing?	2	K1	CO 3
PART- C				

33.	Explain the Distance vector routing protocol.	14	K2	CO 3
34.	Explain in details IP addressing methods.	14	K2	CO 3
35.	Explain shortest path algorithm with a suitable illustration.	14	K2	CO 3
36.	Illustrate in detail the various aspects of IPV6.	14	K2	CO 3
37.	Explain OSPF in detail.	14	K2	CO 3
38.	Briefly explain about Inter domain Routing (BGP).	14	K2	CO 3

UNIT-4

TRANSPORTLAYER

	<u>PART- A</u>	Mark	Bloom's Taxonomy	CO's
1.	Which of the following is false with respect to TCP? a) Connection-oriented b) Process-to-process c) Transport layer protocol d) Unreliable	1	K1	CO 4
2.	In TCP, sending and receiving data is done as _____ a) Stream of bytes b) Sequence of characters c) Lines of data d) Packets	1	K1	CO 4
3.	TCP process may not write and read data at the same speed. So we need _____ for storage. a) Packets b) Buffers c) Segments d) Stacks	1	K1	CO 4
4.	Communication offered by TCP is _____ a) Full-duplex b) Half-duplex c) Semi-duplex d) Byte by byte	1	K1	CO 4
5.	Which of the following is false with respect to UDP? a) Connection-oriented b) Unreliable c) Transport layer protocol d) Low overhead	1	K1	CO 4
6.	Beyond IP, UDP provides additional services such as _____ a) Routing and switching	1	K1	CO 4

	b) Sending and receiving of packets c) Multiplexing and demultiplexing d) Demultiplexing and error checking			
7.	What is the header size of a UDP packet? a) 8 bytes b) 8 bits c) 16 bytes d) 124 bytes	1	K1	CO 4
8.	Which transport layer protocols are reliable? a) SCTP and HTTP b) SMTP and HTTP c) TCP and UDP d) TCP and SCTP	1	K1	CO 4
9.	Which of the following mechanism is used by the TCP to guard the receiver from data overwhelming? a) Flow control b) Error control c) Sequencing d) Acknowledgement	1	K1	CO 4
10.	Which of the following protocol(s) supports uni-casting? a) UDP b) TCP c) SCTP d) UDP and TCP	1	K1	CO 4
<u>PART- B</u>				
11.	What are the services provided by transport layer protocol?	2	K1	CO 4
12.	What is the difference between network service and transport service?	2	K1	CO 4
13.	Differentiate between TCP and UDP.	2	K1	CO 4
14.	Explain the main idea of UDP.	2	K1	CO 4
15.	List some of the Quality of service parameters of transport layer	2	K1	CO 4
16.	What are the functions of transport layers?	2	K1	CO 4
17.	What is transport entity?	2	K1	CO 4
18.	What is meant by segmentation?	2	K1	CO 4
19.	What is the purpose of sequence control?	2	K1	CO 4
20.	How transport layer performs Duplication control?	2	K1	CO 4
21.	What are the methods to improve Qos?	2	K1	CO 4

22.	What is the use of sequence numbers?	2	K1	CO 4
23.	Define Congestion Control.	2	K1	CO 5
24.	What are the different fields in pseudo header?	2	K1	CO 4
25.	State the two kinds of events trigger a state transition?	2	K1	CO 4
26.	What are the three events involved in the connection?	2	K1	CO 4
27.	What is Silly Window Syndrome?	2	K1	CO 5
28.	Define Gateway.	2	K1	CO 4
29.	What is RED?	2	K1	CO 5
<u>PART- C</u>				
30.	With neat architecture, explain TCP in detail.	14	K2	CO 4
31.	With neat architecture, explain UDP in detail.	14	K2	CO 4
32.	Explain TCP Congestion control techniques in detail.	14	K2	CO5
33.	Explain adaptive flow control in detail and its uses.	14	K2	CO 4
34.	Explain in detail about Congestion-Avoidance Mechanisms.	14	K2	CO5
35.	Explain the three-way handshake protocol to establish the transport level connection.	14	K2	CO 4

UNIT-5

APPLICATION LAYER AND CASE STUDIES

	<u>PART- A</u>	Mark	Bloom's Taxonomy	CO's
1.	Which is not a application layer protocol? a) HTTP b) SMTP c) FTP d) TCP	1	K1	CO6
2.	The packet of information at the application layer is called	1	K1	CO6

	a) Packet b) Message c) Segment d) Frame			
3.	Application layer offers _____ service. a) End to end b) Process to process c) Both End to end and Process to process d) None of the mentioned	1	K1	CO6
4.	Electronic mail uses which Application layer protocol? a) SMTP b) HTTP c) FTP d) SIP	1	K1	CO6
5.	The HTTP request message is sent in _____ part of three-way handshake. a) First b) Second c) Third d) Fourth	1	K1	CO6
6.	When the sender and the receiver of an email are on different systems, we need only _____ a) One MTA b) Two UAs c) Two UAs and one MTA d) Two UAs and two MTAs	1	K1	CO6
7.	DHCP is used for _____ a) IPv6 b) IPv4 c) Both IPv6 and IPv4 d) None of the mentioned	1	K1	CO6
8.	The application layer protocol used by a Telnet application is _____ a) Telnet b) FTP c) HTTP d) SMTP	1	K1	CO6
9.	SMTP uses which of the following TCP port? a) 22 b) 23 c) 21 d) 25	1	K1	CO6
10.	Which of the following protocol is not used to receive mail messages? a) SMTP b) Post Office Protocol (POP) c) Internet Message Access Protocol (IMAP) d) FTP	1	K1	CO6

<u>PART- B</u>				
11.	What is the function of SMTP?	2	K1	CO6
12.	What is the difference between a User Agent (UA) and a Mail Transfer Agent (MTA)?	2	K1	CO6
13.	How does MIME enhance SMTP?	2	K1	CO6
14.	What is the purpose of Domain Name System?	2	K1	CO6
15.	Why is an application such as POP needed for electronic messaging?	2	K1	CO6
16.	Illustrate the three main division of the domain name space.	2	K1	CO6
17.	Illustrate the TCP connections needed in FTP.	2	K1	CO6
18.	Illustrate the basic model of FTP.	2	K1	CO6
19.	Name four factors needed for a secure network?	2	K1	CO6
20.	How is a secret key different from public key?	2	K1	CO6
21.	What is a digital signature?	2	K1	CO6
22.	What are the advantages & disadvantages of public key encryption?	2	K1	CO6
23.	What are the advantages & disadvantages of secret key encryption?	2	K1	CO6
24.	Define CGI?	2	K1	CO6
25.	Define permutation.	2	K1	CO6
26.	What are the requests messages support SNMP and explain it?	2	K1	CO6
27.	Define SSH?	2	K1	CO6
28.	Define PGP?	2	K1	CO6
29.	Compare the HTTP and FTP.	2	K1	CO6
30.	Give the format of HTTP request message?	2	K1	CO6
31.	What are basic functions of email system?	2	K1	CO6
32.	What is WWW?	2	K1	CO6
33.	What is POP3?	2	K1	CO6
34.	What is TELNET protocol?	2	K1	CO6

<u>PART- B</u>				
35.	Describe the main aspects of hypertext transfer protocol(HTTP) in accessing data on world wide web.	14	K2	CO6
36.	Explain the final delivery of email to the end user using pop3.	14	K2	CO6
37.	Write short notes on email services of the application layer.	14	K2	CO6
38.	Explain the SMTP and HTTP. Give their uses, state strengths and weaknesses.	14	K2	CO6
39.	Explain Email protocols in detail.	14	K2	CO6
40.	Illustrate SNMP and Telnet in detail.	14	K2	CO6

K1- Remembering, K2- Understanding, K3- Applying K4- Analyzing K5- Evaluating
K6- Creating

Course Tutor(s)

HOD/CSE