Department of CSE

B. Tech. Mid Question Bank (R22 Regulations)

Academic Year:2024-2025 **Semester: V**

Subject Name: COMPUTER NETWORKS

Faculty Name: Dr D T V Dharmajee Rao, Dr Suma, Mr A Uday Kiran G Lavanya,

PART-A

MID-I Questions					
Q.No	**Questions**	**Marks**	**BL**	**CO**	**Unit No**
1	Explain the components of Data Communication.	2	L1	CO1	1
2	Define Topology and list the types of topologies.	2	L1	CO1	1
3	Explain various categories of Networks.	2	L1	CO1	1
4	What are the three criteria necessary for an effective and efficient network?	2	L1	CO1	1
5	Distinguish between point-to-point and multi-point links.	2	L1	CO1	1
6	Assume 6 devices are arranged in a mesh topology. How many cables are needed? How many ports are needed for each device?	2	L1	CO1	1
7	What are the services provided by the data link layer?	2	L2	CO2	2
8	What is framing? List various framing methods.	2	L1	CO2	2
9	What are the functions of MAC and LLC?	2	L1	CO2	2
10	Define the following terms. I) Single-bit error II) Burst-bit error	2	L1	CO2	2
11	List persistence methods	2	L1	CO2	2
12	What is the purpose of a Network Interface Card?	2	L2	CO2	2
13	List the desire properties for routing algorithm	2	L1	CO3	3
14	Compare between virtual circuit and datagram subnet	2	L4	CO3	3
15	List the uses for flooding	2	L1	CO3	3
MID-II Students					
16	List the classes of IP address and its range	2	L1	CO3	3
17	Define congestion control	2	L1	CO3	3
18	List the techniques for achieving good quality of service	2	L1	CO3	3
19	List the Transport layer services.	2	L2	CO4	4
20	Explain transport service primitives	2	L2	CO4	4
21	What is three-way handshake.	2	L2	CO4	4
22	What is meant by segment and segmentation?	2	L2	CO4	4
23	Explain TCP Features	2	L2	CO4	4

24	What are the uses of UDP?	2	L1	CO4	4
25	Write down the three types of WWW documents.	2	L2	CO5	5
26	What are the duties of FTP protocol?	2	L2	CO5	5
27	Explain the differences between POP3 and IMAP.	2	L4	CO5	5
28	What is a URL? What are its identifiers?	2	L1	CO5	5
29	Name four factors needed for a secure network	2	L2	CO5	5
30	How is a secret key different from a public key?	2	L1	CO5	5

PART-B

MID-I Questions					
Q.No	**Questions**	**Marks**	**BL**	**CO**	**Unit No**
1	Define Computer network. What are its Advantages?	4	L1	CO1	1
2	Compare broadcasting and multicasting	4	L2	CO1	1
3	What is Data Flow? Explain its types.	4	L1	CO1	1
4	Discuss in detail about Network Hardware.	4	L3	CO1	1
5	Discuss in detail the of Un-guided transmission media	4	L2	CO1	1
6	Explain applications of Computer Networks.	4	L1	CO1	1
7	Draw and explain in detail about the ISO-OSI Reference Model.	8	L3	CO1	1
8	Discuss various types of network topologies with the advantages and disadvantages of each topology	8	L2	CO1	1
9	Explain in detail about TCP/IP Protocol suite with a neat diagram	8	L2	CO1	1
10	Calculate CRC, if the message is $x^7 + x^5 + 1$ and the generator polynomial is $x^3 + 1$.	4	L3	CO2	2
11	Explain the 1-bit Error Correcting Code (Hamming code) with an example (data 1001).	4	L2	CO2	2
12	Explain about Elementary Data Link Protocols.	4	L2	CO2	2
13	Compare error detection Versus Error Correction.	4	L1	CO2	2
14	Explain about Design issues of the Datalink layer.	4	L2	CO2	2
17	Explain a protocol using Go Back N and Selective Repeat.	8	L2	CO2	2
15	Briefly discuss Sliding Window protocols.	4	L2	CO2	2
16	Explain details about Random Access protocols i) ALOHA ii) CSMA.	8	L2	CO2	2
18	Explain the HDLC data link protocol.	8	L6	CO2	2
19	Explain the Shortest Path Routing Algorithm.	4	L2	CO3	3

20	Explain the Distance Vector Routing algorithm.	4	L2	CO3	3
21	Explain about Link State Routing.	4	L2	CO3	3
MID-II Questions					
22	What is hierarchy routing explain	4	L2	CO3	3
23	Discuss congestion control in datagrams subnets	4	L2	CO3	3
24	Explain the leaky bucket algorithm.	4	L4	CO3	3
25	Give a comparison between node-to-node, host-to-host and process-to-process delivery.	4	L2	CO4	4
26	Explain TCP segment header format	4	L4	CO4	4
27	Explain about UDP Datagram	4	L2	CO4	4
28	Explain the TCP service.	4	L2	CO4	4
29	Explain the Difference between IPV4 and IPV6.	4	L2	CO4	4
30	Explain types of IP addresses and port numbers.	4	L1	CO4	4
31	Discuss connection establishment and connection release in TCP.	8	L6	CO4	4
32	Differentiate between TCP and UDP by describing their characteristics	8	L2	CO4	4
33	Explain the elements of Multiplexing & Demultiplexing of Transport Protocols	8	L2	CO4	4
34	Explain about MIME.	4	L2	CO5	5
35	Explain about HTML—The Hypertext Markup Language.	4	L2	CO5	5
36	What is hypertext transfer protocol? What is its purpose in the World Wide Web?	4	L1	CO5	5
37	Explain the Architecture of e-mail.	4	L2	CO5	5
38	Explain about Streaming audio and video.	4	L2	CO5	5
39	Explain about Web Documents.	4	L2	CO5	5
40	Explain the request message format in HTTP.	8	L2	CO5	5
41	Explain in detail about DNS	8	L2	CO5	5
42	What are the functions of user agent message transfer agent and message access agent in E-mail system?	8	L1	CO5	5