

III YEAR, B.Tech. EXAMINATION, June-2023**200602/200602 - DATA COMMUNICATION**

Time : 3 Hours

Maximum Marks : 70

Minimum Pass Marks : 22

Note :		1. Answer all five questions. All questions carry equal marks. 2. In each question part a, b, c are compulsory and part d has internal choice. Out of which part a & b carry 2 marks, part c carry 3 marks and part d carry 7 marks. 3. All Parts of each question are to be attempted at one place. 4. Assume suitable value for missing data, if any.			
Question No.			Marks	Course outcomes	Bloom's Level
1.	(a)	Explain the functions of modem in brief.	02	CO-1	L1
	(b)	In a group of 10 servers, each is occupied for 30 minutes in an observation interval of two hours. Calculate the traffic carried by the group.	02	CO-1	L3
	(c)	Explain circuit switching technique?	03	CO-1	L2
	(d)	Explain various network topologies giving their merits and demerits.	07	CO-1	L2
		OR			
	(e)	What is OSI Model? Explain the functions and protocols and services of each layer?	07	CO-1	L2
2.	(a)	What is the need of framing?	02	CO-2	L2
	(b)	Write short notes on HDLC.	02	CO-2	L2
	(c)	What is cyclic code and explain Cyclic Redundancy Check (CRC) code?	03	CO-2	L3
	(d)	What is sliding window protocol? For what purpose this protocol is used.	07	CO-2	L2
		OR			
	(e)	Explain the role of Hamming code in error detection and correction with example.	07	CO-2	L3
3.	(a)	A slotted ALOHA networks transmits 200 bits frame using a shared channel with a 200 kbps bandwidth. Find the throughput of the system, if the system produces 250 frames per second.	02	CO-4	L3
	(b)	What are Routers? Explain the merits of Routers.	02	CO-3	L1
	(c)	Compare between Pure and slotted ALOHA.	03	CO-3	L2
	(d)	Illustrate the working of CSMA / CD and CSMA/CA protocol.	07	CO-4	L2
		OR			
	(e)	Explain FDMA channelization protocols with suitable diagrams.	07	CO-3	L1
4.	(a)	Discuss about ATM traffic management.	02	CO-4	L2
	(b)	Describe IP Version 6 Protocol.	02	CO-4	L2

	(c)	Explain about congestion control algorithm .	03	CO-4	L1
	(d)	Explain datagram and virtual circuits.	07	CO-4	L2
		OR			
	(e)	Explain Dijkstra's algorithm with suitable examples.	07	CO-4	L2
5.	(a)	Explain the function of transport layer.	02	CO-5	L2
	(b)	Discuss about Connection oriented Services.	02	CO- 5	L2
	(c)	Discuss about FTP transmission modes.	03	CO-5	L2
	(d)	Compare the segment formats for TCP and UDP and discuss in detail?	07	CO-5	L1
		OR			
	(e)	Explain user datagram protocol and its uses.	07	CO-5	L2
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