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Reg. No. : | | | | | | | | | | |

Question Paper Code: U4202

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth Semester

Computer science and Engineering

21UCS402- COMPUTER NETWORKS

(Regulations 2021)

(Common to Information technology and Computer science and Design Engineering branches)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (5 x 1 = 5 Marks)

1. Whichlayer is responsible for source to destination delivery of packets across the multiple network links to the physical or logical arrangement of a network? CO1- U

   (a) Transport (b) Network (c) Session (d) Data link

2. The _____Protocol has both flow control and error control. CO1- U

   (a) Stop-and-Wait (b) Selective-Repeat ARQ

   (c) Go-Back-N ARQ (d) both (b) and (c)

3. Transmission from Earth to satellite is called the CO1- U

   (a) Up-link (b) Down-link (c) Low-link (d) High-link

4. The 4 byte IP address consists of CO1- U

   (a) network address (b) host address (c) both (a) and (b) (d) none of the above

5. A piece of icon or image on a web page associated with another webpage is called _____ CO1- U

   (a) URL (b)Hyperlink (c)Plugin (d) extension

PART – B (5 x 3= 15Marks)

6. Draw a hybrid topology with a ring backbone and three bus networks CO1- U

7. Explain why collision is an issue in a random access protocol but not in controlled Access or channelizing protocols. CO1- U

8. Define IP address. CO1-U

9.		Give the difference between UDP and TCP	CO1-U	
10.		What is a digital Signature?	CO1-U	

PART – C (5 x 16= 80 Marks)

11.	(a)	(i) Suppose a computer sends a frame to another computer on a bus topology LAN. The physical destination of the frame is corrupted during transmission. What happens to the frame? How can the sender be informed about the situation?	CO1-U	(8)
		(ii) Explain various topologies and give their merits and demerits.	CO1-U	(8)
		OR		
	(b)	Discuss the various transmission media that are employed in a network.	CO1-U	(16)
12.	(a)	Write short notes on CSMA/CD with proper diagram.	CO1-U	(16)
		OR		
	(b)	Explain the various services in IEEE 802.11 Wireless WAN Technologies	CO1- U	(16)
13.	(a)	Explain in detail about IPV4 and IPV6 header format.	CO1-U	(16)
		OR		
	(b)	Explain in detail about ICMP and IGMP	CO1- U	(16)
14.	(a)	Explain UDP in detail	CO1-U	(16)
		OR		
	(b)	What are the various congestion control algorithms? Explain in detail.	CO1-U	(16)
15.	(a)	Explain SNMP in detail	CO1-U	(16)
		OR		
	(b)	Explain Email in detail with its merits and demerits.	CO1-U	(16)