6.7

Reg. No.											

Question Paper Code	11961

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Second Semester

M.E - Computer Science and Engineering

20PCSPC201 - NETWORK DESIGN AND TECHNOLOGIES

(Regulations 2020)

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Compare the features of SLIP and PPP in terms of client server communication.	*2,K2,CO1*
2.	Define Multiplexing.	*2,K1,CO1*
3.	Define the term "WiMAX".	*2,K1,CO2*
4.	Define Best effort service.	*2,K1,CO2*
5.	Compare the network elements and signaling specifications of UMTS and WLAN.	*2,K2,CO3*
6.	What is the functionality of L2CAP at sender and receiver Bluetooth stack?	*2,K1,CO3*
7.	What is the role of BCCH and FCCH channels in GSM.	*2,K1,CO4*
8.	Name the connectionless and connection-oriented service provided by GPRS.	*2,K1,CO4*
9.	State the role of OFDM and DFT pre-coded OFDM in LTE radio access.	*2,K1,CO5*
10.	List down the primary technologies used in 5G networks.	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	(i) Explain the concept of Shared media networks.	*7,K2,CO1*
		(ii) Describe in detail about the remote access technologies and devices.	*6,K2,CO1*
		OR	
	b)	Discuss the functionality of the various internetworking devices and mention their specifications to handle the current network traffic.	*13,K2,CO1*
12.	a)	Discuss in detail about the Mobile WiMAX technologies which improves the performance indices in terms of speed, throughput and capacity.	*13,K2,CO2*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

OR

b) Explain the network architecture and Wireless LAN. *13,K2,CO2*

13. a) (i) Explain in brief about security features adopted in WiMax. *6,K2,CO3*

(ii) How 802.11e adopts WMM to cater the demands of multimedia QoS Specifications? What are the major changes made with IEEE 802.11? *7,K2,CO3*

OR

b) Describe the protocol stack used in Bluetooth, including its different layers and functionalities. *13,K2,CO3*

14. a) Compare Mobility Management and Session Management. *13,K2,CO4*

OR

b) Discuss small screen web browsing is done over GPRS and EDGE. *13,K2,CO4*

15. a) Discuss about LTE Security Architecture in detail. *13,K2,CO5*

OR

b) Explain hybrid 4G wireless networks protocols. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) (i) Mention the various network programmability models. Explain any one in detail with respect to the interaction between the control and data plane in the SDN framework. *8,K2,CO6*

(ii) Write notes on network overlays with its features and advantages. *7,K2,CO6*

OR

b) Identify the suitable network elements, technologies and protocols to design a next generation heterogeneous network scenario with an aim of achieving green wireless infrastructure. *15,K3,CO6*