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

Second Semester

M.E. -- Computer Science and Engineering (with Specialization in Networks)

20PCNPC202 -- WIRELESS TECHNOLOGIES

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks, K-Level, CO
1.	Differentiate 5G with 4G.	2,K2,CO1
2.	List the Advanced Features of 5G.	2,K1,CO1
3.	What are the types of beamforming techniques	2,K1,CO2
4.	Define precoding	2,K1,CO2
5.	Differentiate FHSS and DSSS.	2,K2,CO3
6.	Name the elements of an IoT application	2,K1,CO3
7.	What are the requirements for M2M in 5G Networks?	2,K1,CO4
8.	Name the existing wireless technologies that support M2M .	2,K1,CO4
9.	What are the features of coverage extension in massive MTC?	2,K1,CO5
10.	List the Massive MTC mMTC requirements	2,K1,CO5

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11.	a)	Explain in detail about 5G Building Blocks with neat diagram.	13,K2,CO1
		OR	
	b)	Explain how IOT can be incorporated into 5g networks.	13,K2,CO1
12.	a)	Describe in detail about Decentralized coordinated transceiver design for massive MIMO with neat diagram.	13,K2,CO2
		OR	
	b)	Illustrate with next diagram explain about Beam forming Architecture, Techniques and finding.	13,K2,CO2
13.	a)	Briefly explain about the various Non-orthogonal schemes for efficient multiple access.	13,K2,CO3
		OR	
	b)	Explain NOMA for future radio access.	13,K2,CO3

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

14.	a)	What is Back hauling? Explain Back haul mechanisms.	13, K2, CO4
		OR	
	b)	Explain Buffer aided relaying in Wireless 5G networks.	13, K2, CO4
15.	a)	Explain the working of D2D communication in cellular networks.	13, K2, CO5
		OR	
	b)	Explain Ultra reliable low latency MTC in detail.	13, K2, CO5

PART - C (1 × 15 = 15 Marks)

16.	a)	Briefly explain about Historical trends and evolution of 5G.	15, K2, CO6
		OR	
	b)	Explain mobility management in 5G networks	15, K2, CO6