Code: 22ECMC1T2

I M.Tech - I Semester – Regular Examinations - MARCH - 2023

MODERN WIRELESS COMMUNICATIONS
(MICROWAVE & COMMUNICATION ENGINEERING)

Duration: 3 hours   Max. Marks: 60

Note: 1. This paper contains 4 questions from 4 units of Syllabus. Each unit carries 15 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level   CO – Course Outcome

			BL	CO	Max. Marks
		UNIT-I			
1	a)	Explain about Wireless Communication Environment.	L2	CO1	7 M
	b)	List out the families of 3G and 4G and give some salient features of them.	L1	CO1	8 M
		OR			
2	a)	Differentiate 2G Wireless communication standards with examples.	L2	CO1	7 M
	b)	Analyse BER Performance of Wireless Communication Systems.	L4	CO1	8 M

UNIT-II

3	a)	Explain in detail about Intuition for Diversity.	L2	CO2	7 M
	b)	Define Diversity and Analyse Multiple Receive Antenna System Model in wireless communication.	L1	CO2	8 M

OR

4	a)	Analyse a Simpler Derivation in Multiple Antenna Systems.	L4	CO1	8 M
	b)	Examine Diversity Order in Wireless Communication System.	L3	CO2	7 M

UNIT-III

5	a)	Explain the following terms: i) RMS Delay Spread ii) Average Delay Spread in Outdoor Cellular Channels.	L2	CO3	8 M
	b)	Examine Doppler Impact on a Wireless Channel.	L3	CO3	7 M

OR

6	a)	Explain in detail about Coherence Time of the Wireless Channel.	L2	CO3	7 M
	b)	Analyse Coherence Bandwidth in Wireless Communications.	L4	CO3	8 M

UNIT-IV

7	a)	Explain about Peak-to-Average Power Ratio (PAPR) in OFDM with suitable diagrams.	L2	CO4	7 M
	b)	Explain the following terms i) Multicarrier Transmission ii) Impact of Cyclic Prefix on Data Rate.	L2	CO4	8 M

OR

8	a)	Define SC-FDMA? Explain in detail about SC-FDMA Receiver.	L1	CO4	8 M
	b)	Examine the Bit-Error Rate for OFDM.	L3	CO4	7 M