Number of printed page: 1

Semester VII (B.Tech.)

Er. No. 2018308

Academic Year: 2023-24

Jaypee University of Engineering & Technology, Guna

T-2(Odd Semester 2023)

18B14CI744-Ad-hoc Wireless Networks

Maximum Duration: 1 Hour 30 minutes

Maximum Marks: 25

Notes:

1. This question paper has five questions.
2. Write relevant answers only.
3. Do not write anything on question paper except your enrollment no.

		Marks	CO No.
Q1.	Explicate the advantage and disadvantage of the two ray ground reflection model in the analysis of path loss? A receiver is located 10 Km from a 50 W transmitter. The carrier frequency is 900 MHz, free space propagation is assumed, G_t=1, and G_r=2, Find the following: a. the power at the receiver b. the magnitude of the E-field at the receiver antenna c. the rms voltage applied to the receiver input assuming that the receiver antenna has a purely real impedance of 50 Ω and is matched to the receiver.	[05]	CO3
Q2.	What do you mean by interference and its effects on wireless networks? Give a succinct description of the co-channel and adjacent channel along with a suitable diagram. An isotropic antenna is radiating at a frequency of 9 MHz Calculate the free-space path loss at a distance of 3 km from the transmitting antenna.	[05]	CO3
Q3.	List the wireless channel impediments to transmission. Using an appropriate diagram, describe the issues with wireless networking that arise when a station is hidden and exposed.	[05]	CO4
Q4.	How are wireless networks able to implement topology control? Discuss its advantages and various methods of topology control.	[05]	CO4
Q5.	Recognize the differences between wireless networks' logical and physical topologies. Describe the random walk, random way, and random direction wireless mobility models in more detail.	[05]	CO5