Total No. of Questions : 4]

SEAT No. : ____

PB-130

[Total No. of Pages : 1

[6269]-344
T.E. (Electronics & Telecommunication) (Insem)
CELLULAR NETWORKS
(2019 Pattern) (Semester-II) (304192)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates :

1) ***Answers Q.1 or Q.2, Q.3 or Q.4.***
2) ***Figures to the right side indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume Suitable data if necessary.***

Q1) a) Define and explain: Path loss, RF signal interference and Fading. **[6]**

b) Explain free space propagation model. Also write an equation of received power in free space propagation. **[5]**

c) Explain Diversity in Wireless Communications. **[4]**

OR

Q2) a) Compute median loss for large city by considering Hata model at a distance of 3Km with carrier frequency of 2.1 GHz and transmitting and receiving antenna height as 20 m and 2 m respectively. **[6]**

b) With neat diagram explain ground reflection in wireless communication system. **[5]**

c) Explain channel estimation techniques. **[4]**

Q3) a) What is concept of OFDM? List the advantages of OFDM. **[5]**

b) Calculate total no. of samples transmitted with cyclic prefix if total no. of subcarrier, N=256 & bandwidth per subcarrier = 15.625 KHz. **[5]**

c) What is importance of cyclic prefix in OFDM? **[5]**

OR

Q4) a) Explain block diagram of multicarrier transmission system used in OFDM. **[5]**

b) Derive an expression for calculation of BER in OFDM system. **[5]**

c) Explain 3×3 MIMO System used in wireless communication. **[5]**

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