Reg. No. : | | | | | | | | | | |

Question Paper Code: 31462

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Sixth Semester

Electronics and Communication Engineering

01UEC602 - WIRELESS COMMUNICATION SYSTEMS

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the different types of services in wireless communication?
2. Mention the significant of frequency reuse in cellular networks.
3. Define Snell's law.
4. Distinguish between narrowband and wideband systems.
5. State advantages of offset-QPSK.
6. Define cyclic prefix.
7. What are the basic principles of combining diversity?
8. Differentiate linear and decision feedback equalizers.
9. State effects of multipath propagation on CDMA.
10. What is frequency hopping spread spectrum?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the requirements for the services, multipath propagation and spectrum limitations of wireless communication. (16)

Or

(b) Distinguish different types of noises in wireless systems. (16)

12. (a) (i) Explain the free space path loss model and derive the gain expression. (8)

(ii) Describe the time variant two ray model of a wireless propagation channel. (8)

Or

(b) What are narrow band models, explain the significance of each model. (16)

13. (a) Explain with neat diagram about Quadrature Phase Shift Keying (QPSK) based transmission and reception technique. (16)

Or

(b) (i) Derive the expression for probability of error in Flat-Fading channel. (8)

(ii) Explain the concept of cyclic prefix in OFDM. (8)

14. (a) (i) Explain the types of selection diversity techniques. (8)

(ii) Explain in detail about decision feedback equalizer. (8)

Or

(b) Explain in detail about: (i) Frequency diversity (ii) Polarization diversity. (16)

15. (a) Draw a block diagram and explain in detail about direct sequence spread spectrum. (16)

Or

(b) Explain code division multiple access and compare its performance with TDMA. (16)

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