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

Question Paper Code: 31462

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

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. List the three most important effects of small-scale multipath propagation?
2. Define range in cellular systems.
3. Compare slow fading and fast fading.
4. Define coherence bandwidth.
5. Why QPSK is preferred for wireless communication?
6. List the advantages of Orthogonal Frequency Division Multiplexing (OFDM) technique.
7. State the principle of diversity.
8. Write the principle of selection diversity.
9. What is a PN sequence? Give its significance in spread spectrum modulation technique.
10. Mention the advantages of CDMA technique.

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the types of services, requirements, spectrum limitations and noise considerations of wireless communications. (16)

Or

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

12. (a) Explain in detail about large scale fading. (16)

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) Explain the generation and detection of MSK with a neat diagram. Derive the expression for probability of error in MSK. (16)

14. (a) Explain with diagram, the different techniques available for signal combining. (16)

Or

(b) Describe any two adaptation algorithms for mean square error equalizers. (16)

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

Or

(b) Compare and contrast 2G, 3G and 4G wireless network standards with its merits and demerits. (16)

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