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Question Paper Code : 20273

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Seventh Semester

Electronics and Communication Engineering

EC 2401/EC 71/10144EC701 – WIRELESS COMMUNICATION

(Common to PTEC 2401 – Wireless Communication for B.E (Part – Time)
Sixth Semester Electronics and Communication Engineering – Regulation 2009)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the different types of multiple Access schemes?
2. Mention the significance of frequency reuse in Cellular Networks.
3. List the different types of wireless channels.
4. What is frequency selective fading? How to avoid fading problem?
5. List the advantages of QPSK.
6. Differentiate between MSK and GMSK.
7. List the different types of Speech coding techniques.
8. State the significance of linear and decision feedback equalizer.
9. State effects of multipath propagation on CDMA.
10. List a few wireless network standards.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain in detail Wide Area Data Services and Broadband Wireless Access services offered to Wireless networks. (10)
(ii) What are Paging Systems? Explain. (6)
- Or
- (b) (i) With a neat block diagram, explain the Cellular Network Architecture. (10)
(ii) Explain any one type of Multiple Access scheme. (6)

12. (a) (i) Explain the free space path loss and derive the gain expression. (8)
(ii) Describe in detail Two Ray Model propagation mechanism. (8)

Or

- (b) (i) Define the following Auto-correlation, Cross correlation and Power spectral density for narrow band fading model. (8)
(ii) What is the need for link calculation? Explain with suitable example. (8)
13. (a) Explain with neat signal diagrams, the modulation and demodulation technique of QPSK. (16)

Or

- (b) (i) Describe with a block diagram Offset-Quadrature Phase Shift Keying and its advantages. (8)
(ii) Explain the concept of GMSK and mention its advantages. (8)
14. (a) (i) With a neat block diagram, explain the principle of diversity. (8)
(ii) Explain in detail Decision feedback equalizer. (8)

Or

- (b) (i) Explain any one method of channel coding. (8)
(ii) What are the advantages of speech coding? Explain any one technique of speech coding (8)

15. Explain:

- (a) Code Division Multiple Access (CDMA) and compare its performance with TDMA. (16)

Or

- (b) What is orthogonal frequency division multiplexing? Explain OFDM technique and mention its merits, demerits and application. (16)