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

Question Paper Code: 45806

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fifth Semester

Information Technology

14UIT506 - WIRELESS COMMUNICATION

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which of the following is the main part of basic cellular system?

   (a) A mobile unit (b) A mobile telephone switching office
   (c) A cell site (d) All of the above

2. Which of the following is a second-generation cellular phone system based on CDMA and DSSS.

   (a) GSM (b) D-AMPS (c) IS-95 (d) none of these

3. Gain is always _____ than directivity.

   (a) Greater (b) lesser (c) Equal to (d) none of these

4. Radiation pattern is _____ dimensional quantity.

   (a) Two (b) Three (c) Single (d) none of these

5. Fading of the received radio signals in a mobile communication environment occurs because of

(a) Direct propagation
(b) Bi-path propagation
(c) Multipath propagation
(d) None of the above

6. Doppler spread refers to

(a) Signal fading due to Doppler shift in the channel
(b) Temporary failure of message transfer
(c) Large coherence time of the channel as compared to the delay constraints
(d) All the above

7. In _____ multiple access is achieved by allocating different time slots for the different users.

(a) TDMA
(b) CDMA
(c) FDMA
(d) FGMA

8. Fading of the received radio signals in a mobile communication environment occurs because of

(a) Direct propagation
(b) Multipath Propagation
(c) Bi-path Propagation
(d) None of these

9. What is IS 95?

(a) a standard for cellular CDMA
(b) a standard procedure for measuring indoor multipath propagation characteristics
(c) the 1995 edition of the conference proceedings on Information Systems
(d) a standard interconnecting base stations

10. The basic GSM is based on _____ traffic channels.

(a) connection oriented
(b) connection less
(c) packet switching
(d) circuit switching

PART - B (5 x 2 = 10 Marks)

11. Define Hand off?

12. What is shadow fading.

13. Define doppler spread.

14. What is MLSE?

15. What is Call handling?

PART - C (5 x 16 = 80 Marks)

16. (a) Explain the evolution of mobile radio communication systems. (16)

Or

(b) Describe the frequency reuse of cellular systems. In what way reuse helps in improving coverage and capacity. Explain with suitable example. (16)

17. (a) Explain the different path loss models in detail. (16)

Or

(b) Explain the radio wave propagation and signaling schemes in detail. (16)

18. (a) Compare the fading effects due to multipath time delay spread and Doppler spread. (16)

Or

(b) Explain the characteristics of mobile multipath channels. (16)

19. (a) Explain the linear and non-linear equalization methods. (16)

Or

(b) Explain Zero forcing and LMS algorithms. (16)

20. (a) Explain the GSM system architecture in detail. (16)

Or

(b) Explain the CDMA channel access schemes in detail. (16)

———————