

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014**Eighth Semester**

Branch : Electronics and Communication Engineering

EC 010 801—WIRELESS COMMUNICATION (EC)

(New Scheme—2010 Admission—Supplementary)

Time : Three Hours

Maximum : 100 Marks

Part A*Answer all questions.**Each question carries 3 marks.*

1. What is handover ? Why it is needed in cellular systems ?
2. What is small scale fading ?
3. What is the basic prerequisite for applying FDMA ?
4. Name some key features of GSM.
5. What is DECT ?

(5 × 3= 15 marks)

Part B*Answer all questions.**Each question carries 5 marks.*

6. Differentiate between co-channel interference and adjacent channel interference.
7. What are the time dispersion parameters of multipath channels?
8. Write a note on FHMA.
9. Explain various types of channels used in GSM.
10. Explain the features of CDMA.

(5 × 5 = 25 marks)

Part C*Answer all questions.**Each question carries 12 marks.*

11. Differentiate cell splitting and cell sectoring techniques.

(12 marks)

Or

12. Briefly explain various hand-off strategies in cellular systems.

(12 marks)

Turn over

13. What is fading ? Explain types of fading based on multi-path time delay spread and Doppler spread.

(12 marks)

Or

14. (a) Explain two-ray ground reflection model. (6 marks)
(b) Find the far field distance for an antenna with maximum dimension of 1m and operating frequency of 900 MHz in case of free space propagation model.

(6 marks)

15. What are various multiple access techniques ? Differentiate between FDMA and TDMA.

(12 marks)

Or

16. (a) What are the advantages of spread spectrum multiple access techniques ? (6 marks)
(b) Compare Pure ALOHA and Slotted ALOHA. (6 marks)

17. Explain GSM architecture. (12 marks)

Or

18. (a) Explain various security services offered by GSM. (6 marks)
(b) Discuss GSM hand off procedures. (6 marks)

19. Explain the following digital cellular standards-PDC and PHS. (12 marks)

Or

20. (a) Compare CDMA with GSM. (6 marks)
(b) Discuss the performance of a CDMA system. (6 marks)

[5 × 12 = 60 marks]