G 1678 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Eighth Semester

Branch : Electronics and Communication Engineering

EC 010 801—WIRELESS COMMUNICATION (EC)

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

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

1. What are the two types of system generated cellular interference ?
2. Find the far field distance for an antenna with maximum dimension of 1.2 m. and operating frequency of 850 MHz.
3. Discuss the non-linear effects in FDMA.
4. Give the classification of multiframes.
5. Explain the modulation technique used in DECT.

(5 × 3 = 15 marks)

Part B

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

6. Distinguish between Fixed channel assignment strategy and Dynamic channel assignment strategy.
7. Explain Brewster angle. Calculate the Brewster angle for a wave impunging of ground having a permittivity of $\varepsilon_r = 5$.
8. Discuss the non-linear effects in FDMA.
9. Explain channel coding for data channels and control channels.
10. Write short note on pacific digital cellular.

(5 × 5 = 25 marks)

Part C

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

11. Explain the method of locating cochannel cells in a cellular system.

Or

12. Explain any *one* technique for improving the coverage and capacity in cellular system.

13. Explain small scale fading effect based on multipath time delay spread.

Or

14. Explain the free space propagation model for predicting the received signal strength, for a transmitter and receiver with clear LOS path in between.

15. Differentiate between FDMA and FHMA.

Or

16. (a) Compare the spectrum of wide band CDMA, narrow band CDMA and hybrid FH/DS system.

(b) Explain SDMA.

17. With a neat sketch, explain GSM system architecture.

18. Briefly explain the frame structure of GSM.

19. Explain the architecture of DECT.

Or

20. Explain forward CDMA channel [illegible] process.

(5 × 12 = 60 marks)