

FACULTY OF ENGINEERING
B.E. 4/4 (ECE) (Semester – I) (Main) Examination, December 2011
MOBILE CELLULAR COMMUNICATION

Time : 3 Hours]

[Max. Marks : 75

Note : Answer *all* questions from Part A. Answer *any five* questions from Part B.

PART – A**(25 Marks)**

1. Expand the following terms :
 - a) DECT
 - b) PACS
2. What is digital cellular standard (IS-95) ? Explain.
3. Write a short note on TDMA technology.
4. Give a brief description of Frequency Hopped Multiple Access (FHMA).
5. Discuss how reflection, diffraction and scattering mechanisms effects the propagation in cellular mobile communication.
6. What is the effect of partition losses (on same floor), in mobile radio propagation ?
7. Explain 'Cordless Telephone System' as an example of wireless communication system.
8. What are the advantages of WLL and how does it work ?
9. Explain the concept of Adjacent Channel Interference.
10. How does 'power control' plays an important role in reducing interference in cellular mobile system ?

PART – B**(50 Marks)**

11. a) What is co-channel interference and co-channel interference reduction factor ?
- b) Explain the channel assignment strategies used in cellular mobile telephony.

12. a) How does Bluetooth technology works ? What are its features ? 5
b) Give a comparison between conventional telephone system and cellular telephone system. 5
13. a) Explain Hata Model of outdoor propagation models. 5
b) Derive received power P_r in free space propagation model. 5
14. a) Discuss Packet Radio Protocols. 5
b) Write a short note on Space Division Multiple Access (SDMA). 5
15. What are various features of advanced mobile telephone system (AMTS) ? Explain in detail. 10
16. a) What are the various factors influencing small-scale fading ? 5
b) What are upgraded features of 2.5 G over 2 G ? Also explain the new features added in 3 G. 5
17. a) Discuss about trunking and grade of service in cellular mobile system. 5
b) What is UMTS radio interface ? 5
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