

FACULTY OF ENGINEERING

B.E. 4/4 (ECE) I – Semester (Main) Examination, November/December 2012

Subject: 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. Give a brief description of frequency hopped multiple access (FHMA) system. (2)
2. Differentiate between pure ALOHA and slotted ALOHA. (2)
3. What are the advantages of 'Frequency Reuse' concept? (2)
4. How power control is important for reducing interference in cellular mobile system? (2)
5. Explain briefly, how a call is established in cellular telephone system. (3)
6. What are the basic propagation mechanisms in cellular mobile telephony? (3)
7. Explain 'Cordless Telephone system' as an example of wireless communication system. (3)
8. What is 'log-distance path loss model' of mobile radio propagation? (3)
9. Describe the methods to reduce adjacent channel interference. (3)
10. Expand the following terms. (2)
a) = DECT b) = PACS

PART – B (5x10 = 50 Marks)

- 11.(a) Discuss Packet Radio Protocols. (5)
(b) Write a short note on Space Division Multiple Access (SDMA) and differentiate with impact to TDMA & FDMA. (5)
- 12.(a) Compare the standards for 2G and 3G. (5)
(b) Explain WLAN. Its standard and functioning. (5)
13. Explain AMPS with regard to air interface specifications, traffic and control channels and call handing. (10)
- 14.(a) What is Hand off? Explain the factors which influence the choice of hand off margin. (5)
(b) Explain the concept of micro cell zone. (5)
- 15.(a) Which various factors influence 'Small-Scale fading'? (5)
(b) Give the advantages of cell splitting and cell sectorization. (5)
- 16.(a) Explain SSMA technology. What are the advantages over FDMA & TDMA? (6)
(b) Explain various channel assignment strategies, their advantages and disadvantages in detail. (4)
- 17.(a) Discuss about trunking and grade of service in cellular mobile system. (5)
(b) Write UMTS radio interface? (5)