Code No. 2219

FACULTY OF INFORMATICS

B.E. 4/4 (IT) I-Semester (Main) Examination, November / December 2012

Subject : Wireless and Mobile Communications

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions of Part - A and answer any five questions from Part-B.

PART – A (25 Marks)

1. Define the following terms related to wireless communications systems.
   (a) Full duplex system (b) Mobile stations (c) Roamer
2. Write the features of 2G cellular networks .
3. Express 50w power in dBm.
4. Explain the dependence of surface roughness on frequency and angle of incidence.
5. Discuss various factors that influence the choice of digital modulation as applied to wireless communications.
6. Write the advantages of constant envelope modulation as applied to wireless communications.
7. Differentiate between the characteristics of wireless and fixed Telephone networks.
8. Draw the frame structure of GSM.
9. Write the need for a Mobile IP.
10. Write the problem faced with TCP when applied to mobile networks.

PART – B (5x10=50 Marks)

11. Explain any two methods used for improving capacity and converge of a cellular system in detail.

12. Derive an expression the received power at a distance 'D' from the transmitter and path loss in dB using Two ray ground reflection model.

13. Derive an expression for Pc to evaluate the performance of direct sequence spread spectrum modulations.

14. Explain architecture and channel types in GSM.

15. Explain how a packet is delivered to and from the mobile rod and how an MM finds a foreign agent after moving.

16. (a) Write advantages of mobile TCP.
    (b) Discuss SPMA Techniques in brief.

17. Write short notes on any **two** of the following:
    (a) Micro-cell zones
    (b) Indoor propagation models
    (c) Mobile networks

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