

Total No. of Questions : 12]

SEAT No. :

P3015

[Total No. of Pages : 3

B.E. (Computer Engineering) (Semester - I)
MOBILE COMPUTING
(2008 Pattern) (Elective - II)

*Time : 3 Hours]**[Max. Marks : 100**Instructions to the candidates:*

- 1) *Answers to the two sections should be written in separate answer books.*
- 2) *Answer any three questions from each section.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*

SECTION - I

- Q1)** a) Enlist and explain the Teleservices and supplementary services provided by GSM. [8]
- b) Explain channel layout and frequency bands of operation in GSM system. What are the different categories of mobile telephone units specified for the European GSM system? [8]

OR

- Q2)** a) What are the technical requirements of GSM? [8]
- b) Explain the following terms. [8]
- i) MSC
 - ii) VLR
 - iii) AUC

- Q3)** a) Explain the time and frequency domain layout of a GSM system with the help of a diagram. [8]
- b) Explain in details Frequency Hopping. [8]

OR

- Q4)** a) Explain in details Logical Control Channel. [8]
- b) Explain the structure of a TDMA slot with a frame for following bursts: [8]
- i) Frequency Correction burst
 - ii) Access burst

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- Q5)** a) Discuss the Location Updates with the help of a diagram. [8]
 b) What are the steps in the establishment of MS-MS call? Explain the call set-up with suitable signal and response diagram. [10]

OR

- Q6)** a) Explain in details “GSM Signaling Protocols”. [10]
 b) Explain following steps in the formation of a call setup [8]
 i) Paging Procedure
 ii) Authentication

SECTION - II

- Q7)** a) What are four basic security services provided by GSM? Explain any two of them. [8]
 b) For what reasons PIN number is used? What is its main purpose? What is PUK number? List important items stored in SIM. [8]

OR

- Q8)** a) Describe following terms in the context of Security management in GSM system. [8]
 i) Encryption
 ii) Authentication
 b) Explain the Characteristics of SIM. [8]

- Q9)** a) Explain the functioning of TDMA system. [8]
 b) Explain the functioning of CDMA system. [8]

OR

- Q10)** a) Explain the functioning of FDMA system. [8]
 b) Derive the multiple access efficiency of FDMA system. [8]

- Q11)a)** Explain in detail the Mobility Management Common procedure. **[10]**
- b) Explain in following Application Layer. **[8]**
- i) RR Layer
 - ii) MMLayer

OR

- Q12)a)** Discuss Physical layer of GSM system and the interfaces with the physical layer. **[8]**
- b) Explain in details MAP Protocol. **[10]**



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