

[5254]-189

**B.E. (Information Technology) (Semester - I)**

**MOBILE COMPUTING**

**(2008 Pattern) (Elective - II)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) Answers 3 questions from Section - I and 3 questions from Section - II.*
- 2) Answers to the two sections should be written in separate answer books.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Assume suitable data, if necessary.*

**SECTION - I**

**Q1) a)** What is cell splitting? Explain the two cell splitting methods with appropriate example. **[10]**

b) Compare hard hand off and soft hand off. **[6]**

OR

**Q2) a)** Draw the general PCS architecture and explain it. **[8]**

b) What are the effects of Fading? Explain distance dependent fading, Rayleigh fading, shadow fading. **[8]**

**Q3) a)** Explain with diagram A3, A5 and A8 algorithm in GSM. **[8]**

b) What are the functions of HLR VLR, EIR and AuC in GSM? **[8]**

OR

**Q4) a)** Compare the authentication procedure in IS-41 and GSM. **[8]**

b) Draw GSM MAP Service Framework and explain it. **[8]**

**Q5) a)** Draw and explain SMS protocol stack. **[8]**

b) Elucidate the techniques used to reduce the International Call Delivery Cost? **[10]**

**P.T.O.**

OR

- Q6)** a) What is the number portability? Describe three types of number portability.[10]  
b) Compare between Prepaid mobile service and Postpaid mobile service.[8]

**SECTION - II**

- Q7)** a) Explain Wireless Application Protocol (WAP) model in detail. [8]  
b) Compare GPRS with CDPD. What are the fundamental differences between the two services and what are the design guidelines shared by them? [8]

OR

- Q8)** a) Describe the GPRS architecture and protocols. [8]  
b) Explain W-CDMA in detail. [8]

- Q9)** a) Explain in detail IP Packet delivery. [8]  
b) Write a note on any one routing protocol in MANET : destination sequence distance vector, dynamic source routing. [8]

OR

- Q10)**a) Explain Various features and header format of IPv6. [8]  
b) Explain Dynamic source routing in MANET. [8]

- Q11)**a) Explain in detail Wireless Broad Band (WiMAX) technology. [8]  
b) Define Bluetooth.  
Explain in detail Bluetooth technology with protocol stack. [10]

OR

- Q12)**a) What is UMTS? Draw its architecture and explain its radio interface.[10]  
b) Write a short note on: (Any 2) (4 Marks Each) [8]  
i) RFID  
ii) W-LAN  
iii) Java Card

