

Roll No. ....

**23072**

**M.E./M. Tech. 2<sup>nd</sup> Semester (CSE)**

**Examination – June, 2013**

**MOBILE & WIRELESS COMMUNICATION**

**Paper : MTCE-606A**

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt any *five* questions. All questions carry equal marks.

1. (a) Why multiplexing schemes are used in GSM and what is the purpose being used ? Enumerate also of other layers apart from the physical layer. 10
- (b) What are the advantages and problems of forwarding mechanisms in Bluetooth networks regarding security, power saving and network stability ? 10

2. (a) What is the need for spreading a spectrum ?  
Explain different types of scatter spectrum. 10
- (b) Explain architecture of Bluetooth. Exemplify  
Bluetooth with regard to their ad hoc  
capabilities. 10
3. What are various multiple access techniques ?  
Differentiate between FDMA, TDMA and SDMA.  
Also explain their significance. 20
4. (a) Explain how authentication and encryption  
achieved in mobile system ? Define the different  
types of CSMA protocols. 10
- (b) How to determine the frame structure of GSM ?  
Explain the different services supported by GSM.  
10
5. (a) Describe reference architecture of IEEE 802.11. 10
- (b) What do you mean by GRPS and higher data  
rates ? Explain. 10
6. (a) What restricts a wireless in local loop (WLL)  
services to be regarded a mobile cellular services ?  
Compare both to highlight technological  
differences or similarities. 10

- (b) Define bandwidth efficiency and relate it with error correction capability in bandwidth limited application. Discuss any block code encoder and decoder used for error correction. 10
7. (a) Describe digital audio and video broadcasting. 10
- (b) What do you understand by tunneling ? In which technique use to reverse tunneling in mobile IP ? 10
8. Explain the following : 20
- (a) Wireless transaction protocol,
- (b) Mobile satellite communication,
- (c) Universal mobile telecommunication systems,
- (d) CDPD.