Code No: **D5808**

**R09**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**
**M.Tech II - Semester Examinations, March/April 2011**
**WIRELESS NETWORKS AND MOBILE COMPUTING**
**(COMPUTER SCIENCE AND ENGINEERING)**

**Time: 3hours**                                                              **Max. Marks: 60**

**Answer any five questions**
**All questions carry equal marks**
**- - -**

1. a)   Describe the layers in Bluetooth protocol.
   b)   What are the services provided in a GSM system? Explain how a mobile station connects
        to and talks with another mobile station.                                    [6+6]

2.      Describe the function of each header in the IP protocol. What do you mean by tunneling,
        encapsulation and decapsulation? How does a tunnel differ from a router? [12]

3.      Describe indirect TCP. Explain modifications of indirect TCP as the selective repeat
        protocol and mobile end transport protocol.                               [12]

4.      Describe digital audio broadcasting. Explain the DAB technology.          [12]

5.      Describe the architecture of J2ME.                                        [12]

6. a)   Why are XML based languages used in mobile applications. Give examples of XML
        based UIS.
   b)   Explain the standards of IEEE 802.11.                                     [6+6]

7.      Describe the security problems in mobile and wireless computing systems and suggest
        their solutions.                                                          [12]

8. a)   Compare IEEE 802.11, HiperLAN2, and Bluetooth with regard to their adhoc
        capabilities. Where is the focus of these technologies?
   b)   Why has a scripting language been added to WML? How can this language help saving
        bandwidth and reducing delay?                                            [6+6]

*****