10/12/13

B. E. (EXTC) Sem VIII
Wireless Network.

Ash6-D:\Data-29

Con. 8981-13. **LJ-13868**

(REVISED COURSE)

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question **No. 1** is **compulsory**.
(2) Answer any **four** questions out of remaining **six** questions.
(3) Support your answers with **suitable** diagrams.
(4) Assume **suitable** data if **required.**

1. (a) List out of components of sensor nodes. **20**
   (b) What is adaptive multirate coding.
   (c) Explain the concept of hidden node and exposed node with respect to WLAN.
   (d) List out services provided by 3G Networks.

2. (a) Explain park, hold and sniff mode of operations in bluetooth. Draw the complete flow diagram for network connection establishment in bluetooth. **10**
   (b) Compare WAP and imode protocol stack. **10**

3. (a) Explain sensor Network protocol stack in detail. **10**
   (b) Explain the concept of High Speed Downlink packet access in detail. **10**

4. (a) Calculate the uplink cell load factor and number of voice user for a WCDMA system using the following data. What is the pole capacity of the cell? **10**
   - Information rate (Ri) : 12.2 kbps.
   - Chip rate (Rc) : 3.84 Mcps.
   - Required Eb/Nt : 4 dB.
   - Required interference margin : 3 dB.
   - Interference factor due to other cells : 0.5
   - Channel activity factor : 0.65

   (b) Explain transmit diversity present in forward link of cdma 2000. **10**

5. (a) Explain link budget analysis and requirements of wireless networks. **10**
   (b) Explain UMTS network architecture. List important features of the UMTS interface. Support your answer with neat block diagram. **10**

6. Write short notes on :– **20**
   (a) Zigbee Protocol.
   (b) Wimax.

7. (a) Explain LR–WPAN device architecture with suitable diagram. **10**
   (b) State and explain commonly used wireless LAN topologies with diagram. **10**