GUJARAT TECHNOLOGICAL UNIVERSITY
M.E. – SEMESTER – IV EXAMINATION – OCTOBER 2012

Subject code: 740401   **Date: 25-10-2012**
Subject Name: Wireless and Mobile Network Architectures
Time: 2:30 pm – 5:00 pm   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Describe the GPRS architecture in detail giving the various network entities. **07**
  (b) Discuss the various Handoff strategies in Cellular Mobile Systems. Describe how Inter-BS and Inter System Handoff takes place. **07**

Q.2 **(a)** Why is SS7 classified as Common Channel signaling protocol? Describe the main elements in SS7 architecture? **07**
  (b) Describe the PACS architecture and interfaces. **07**
  OR
  (b) Describe the process of Location tracking and call setup in GSM system. **07**

Q.3 **(a)** Describe the various data services in GSM. **07**
  (b) What is the information stored in HLR and VLR in GSM network? Describe VLR fault restoration process. **07**
  OR
Q.3 **(a)** Describe the SMS architecture for GSM. **07**
  (b) Describe how International GSM call is setup. Give any one solution for reducing the International call delivery cost. **07**

Q.4 **(a)** Describe the WAP network configuration. What is the function of WAP Gateway ? **07**
  (b) Describe the various GPRS Interfaces. **07**
  OR
Q.4 **(a)** What are the advantages of Wireless Local Loop over wire line networks? Describe the functions of various entities of WLL Architecture. **07**
  (b) Discuss the Registration process in Mobile IP. **07**

Q.5 **(a)** Discuss the operation of Mobile IP and Define (a) Mobile Node (b) Home Agent (c) Foreign Agent. **07**
  (b) Discuss the Paradigm Shifts in Third Generation Systems & Compare W-CDMA and CDMA2000 systems. **07**
  OR
Q.5 **(a)** Describe the main architecture entities in CDPD network? Discuss how Radio Resource allocation is performed in CDPD network. **07**
  (b) Describe how security is incorporated in GSM system. **07**

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