

**GUJARAT TECHNOLOGICAL UNIVERSITY****ME - SEMESTER-IV • EXAMINATION- WINTER • 2014****Subject Code: 740401****Date: 26-11-2014****Subject Name: Wireless and Mobile Network Architecture****Time: 02:30 pm - 05:00 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) Which are the issues need to be considered for handoff management? Discuss any one issue in detail. **07**
- (b) Why is SS7 classified as a common channel signaling protocol? Describe SS7 signaling protocol layers. Also explain different types of SS7 interconnection between a PCN and the PSTN. **07**
- Q.2** (a) Describe the different control channels in GSM. Explain the authentication and encryption process in GSM. **07**
- (b) What is handoff? What is roaming? Describe roaming management in detail. **07**
- OR**
- (b) What is soft handoff? Describe the procedures for adding and removing BSs with MAHO soft handoff. **07**
- Q.3** (a) Explain Without-sharing (WS) and Sharing (S) schemes for authentication in IS-41. When would you use the without-sharing and sharing scheme? **07**
- (b) Describe the PACS network elements and PACS network interfaces. **07**
- OR**
- Q.3** (a) Describe the main architecture entities in a CDPD network. What is the major concept behind CDPD in terms of using cellular radio resource? **07**
- (b) What is VLR overflow? Explain VLR overflow control algorithms. **07**
- Q.4** (a) Draw and explain SMS protocol hierarchy. **07**
- (b) What is TMN? Draw and explain GSM OA&M architecture. **07**
- OR**
- Q.4** (a) Describe the GPRS functional groups and architecture. **07**
- (b) Describe the WAP protocol stack. In which situation is WTP not used? **07**
- Q.5** (a) Discuss quality of service in 3G. Describe wireless operating system for 3G handset. **07**
- (b) Describe the different terminology used in the mobile IP documents. **07**
- OR**
- Q.5** (a) Draw and explain WLL architecture in detail. **07**
- (b) Explain the operation and message formats of mobile IP. **07**

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