

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014****Subject code: 2725305****Date: 23-06-2014****Subject Name: Mobile Communication Technologies****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) Discuss process of GSM calling to mobile station. **07**
(b) Explain GSM system architecture. **07**
- Q.2** (a) What is frequency reuse? **07**
(b) What are the Mobile Wireless TDMA Design Considerations? **07**
- OR**
- (b) What are the design challenges for wireless networks? **07**
- Q.3** (a) Whether a data link protocol such as IEEE 802.11 can assist TCP in remaining effective in mobile and wireless networks? Explain the same. **07**
(b) Write short note on HLR and VLR? **07**
- OR**
- Q.3** (a) Differentiate between back-off mechanism of CSMA/CD (802.3) and CSMA/CA (802.11)? **07**
(b) What are the pros and cons of taking larger size contention window from the start in 802.11? **07**
- Q.4** (a) Explain the utilization of Fast-Retransmit and Fast-Recovery while adapting TCP for wireless and mobile setup. **07**
(b) Explain the hand over procedure for GSM. **07**
- OR**
- Q.4** (a) Show the interaction of Mobile IP with Snoop- TCP. **07**
(b) How it is helpful in designing transport layer for wireless and mobile scenario? **07**
- Q.5** (a) Describe OFDM. **07**
(b) Why the reverse tunneling is required in Mobile IP? **07**
- OR**
- Q.5** (a) Describe the problems when CSMA/CD is applied to wireless networks. What method could solve the problems? Describe how it works. **07**
(b) List the entities of mobile IP? **07**
