

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – SUMMER 2013**

**Subject Code: 170702****Date: 24-05-2013****Subject Name: Mobile Computing****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) How does a new Bluetooth device discover a Bluetooth network? Describe the security principles in Bluetooth. (7)
- (B) What are three ways of content and behavior adaptation? Mention various types of context information used for content adaptation. (7)
- Q.2** (A) What are various strengths of SMS? Explain each of them. Also, state the various applications areas where these strengths can be used? (7)
- (B) Explain the following in brief in context of GSM networks: (7)
- |                    |          |          |         |
|--------------------|----------|----------|---------|
| (a) Mobile station | (b) BSS  | (c) NSS  | (d) OSS |
| (e) IMSI           | (e) IMEI | (f) MSRN |         |
- OR
- (B) In GSM network, explain the role of Network and Switching subsystem. (7)
- Q.3** (A) What is the difference between GSM and GPRS? What are the network elements in GPRS that are different from GSM? What are the limitations of GPRS. (7)
- (B) Explain call routing in the context of GPRS networks. (7)
- OR
- Q.3** (A) Explain the changes needed for implementing an edge system. (7)
- (B) How is data routing done in GPRS? In what respect is data routing different from voice routing? (7)
- Q.4** (A) How is MMS different from Short Message Service and Extended Message Service? (7)
- (B) What is Direct Sequence Spread Spectrum technology? How does it work in CDMA technology? (7)
- OR
- Q.4** (A) Describe the contrast between 3G and Wi-Fi technologies. (7)
- (B) Give six functional differences between CDMA and GSM. (7)
- Q.5** (A) What are different elements in a VoIP architecture? Discuss the role of such elements. (7)
- (B) Describe the WAP protocol stack while enumerating the functions of different layers. (7)
- OR
- Q.5** (A) What is Mobile IP? Explain the tunneling in context of Mobile IP. (7)
- (B) Explain three tier architecture of Mobile Computing. (7)

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