

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2015**

**Subject Code: 170702N**

**Date: 08/05/2015**

**Subject Name: Wireless Communication & Mobile Programming**

**Time: 02.30pm-05.00pm**

**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) What are the different tiers in three-tier architecture of mobile computing? Describe the functions of these tiers. **07**
- (b) Briefly describe the following networks with example and application **07**
1. Wired network
  2. Wireless network
  3. Ad hoc network

- Q.2** (a) What are the essential functional differences between 1<sup>st</sup> generation, 2<sup>nd</sup> generation and 3<sup>rd</sup> generation of networks? **07**
- (b) Describe protocol stack of Bluetooth **07**

**OR**

- (b) What is Mobile IP? Explain tunneling in the context of Mobile IP **07**
- Q.3** (a) Draw and explain System architecture of GSM **07**
- (b) Describe different GSM addresses and identifiers **07**

**OR**

- Q.3** (a) What is handover/handoff? How handoff is different from roaming? **07**
- (b) Explain and differentiate between SM MT and SM MO **07**
- Q.4** (a) What is the difference between GSM and GPRS? How is data routing done in GPRS? **07**
- (b) Explain how mobile transport layer is different from TCP/IP transport layer **07**

**OR**

- Q.4** (a) Explain Direct sequence spread spectrum with example **07**
- (b) List types of wireless LAN. Differentiate between Ad hoc versus infrastructure mode. **07**
- Q.5** (a) Discuss 3G versus Wifi **07**
- (b) Explain Session Initiation protocol **07**

**OR**

- Q.5** (a) What is Mobile VoIP? Explain **07**
- (b) Explain security frameworks for mobile environment **07**