Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2013

Subject code: 712304N **Date: 17-06-2013**

Subject Name: Ubiquitous Computing

Time: 10.30 am – 01.00 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)**	Define frequency hopping in spread spectrum. Write note on FDMA, TDMA and CDMA.	**07**
	(b)	Explain functional architecture of GSM system. And also give different tele-services provided by GSM.	**07**
Q.2	**(a)**	Compare I-TCP with S-TCP.	**07**
	(b)	Explain security in GSM.	**07**
		OR	
	(b)	What is Mobile-IP? Explain tunneling and encapsulation in the context of Mobile IP.	**07**
Q.3	**(a)**	Explain concept of Bluetooth architecture. What is the difference between infrastructure and ad-hoc networks?	**07**
	(b)	Explain DECT system and its protocol architecture in detail.	**07**
		OR	
Q.3	**(a)**	What are the possible handover scenarios in GSM? List out the numbers needed to locate a mobile station and to address the mobile station.	**07**
	(b)	Write a note on mobile operating system. Explain any one in detail.	**07**
Q.4	**(a)**	State the requirements of WAP and explain different layers of WAP.	**07**
	(b)	Write a short note on wireless sensor networks.	**07**
		OR	
Q.4	**(a)**	Describe mobile oriented call (MOC) and mobile terminated call (MTC) setup in GSM.	**07**
	(b)	Explain dynamic source routing with suitable example.	**07**
Q.5	**(a)**	Explain problem of hidden and exposed terminal. Explain scheme to solve it.	**07**
	(b)	Write note on advantages and disadvantages of wireless LAN.	**07**
		OR	
Q.5	**(a)**	Write note on wireless network simulators.	**07**
	(b)	Explain 802.11 MAC data frame with frame control fields.	**07**

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