Seat No.:	Enrolment No.
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## GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER - I • EXAMINATION - SUMMER • 2014

Su	bject	code: 712304N Date: 24-06-2014	
Su	bject	Name: Ubiquitous Computing	
Ti	me: 0	2:30 pm - 05:00 pm Total Marks: 70	
In	struc	ctions:	
	2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	Explain the following signal propagation effects.  (I) Shadowing  (II) Diffraction  (III) Refraction	07
	(b)	(I) What are the disadvantages of small cells in cellular system? Define two possible models to create cell patterns with minimum interference. What are the disadvantages of small cells in cellular system? Define two possible models to create cell patterns with minimum interference.  (II) What are the advantages and disadvantages of infrared?	05
Q.2	(a) (b)	Explain DECT System and its protocol architecture in detail.  How mobility is restricted using WLANs? What additional elements are needed for roaming between networks, how and where can WLANs support roaming?  OR	07 07
	(b)	With a focus on security, what are the problems of WLANs? What level of security can WLANs provide, what is needed additionally and how far do the standards go?	07
Q.3	(a)	What is Spread Spectrum technology? How DSSS and FHSS are implemented? Discuss in detail.	07
	(b)	In time division multiple access, explain demand assignment multiple access with explicit reservation and with implicit reservation.	07
Q.3	(a) (b)	OR Give advantages of Bluetooth technology. Explain Bluetooth protocol stack architecture. Explain classical Aloha, Slotted Aloha and reservation Aloha in detail. Do they guarantee maximum delay or minimum throughput?	07 07
Q.4	(a)	Explain Mobile Terminated Call (MTC) and Mobile Originating Call (MOC) stepwise in detail.	07
	<b>(b)</b>	Explain DHCP protocol architecture in detail.  OR	07
Q.4	(a)	How Routing takes place in Ad-hoc Network? Explain the routing difference between Wired network and Ad-hoc wireless network.	07
	<b>(b)</b>	Explain agent discovery in mobile IP.	07
Q.5	(a)	List the advantages and disadvantages of various classical enhancements to TCP for mobility.	07
	<b>(b)</b>	Explain WAP 2.0 architecture in detail.	07
0.5	(-)	OR	0.7
Q.5	(a)	What are WML features? What are the additional capabilities offered by WML Script than WML?  Write note on wireless sensor networks	07
	<b>(b)</b>	Write note on wireless sensor networks	07

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