Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

	U	t code: 712702N Date: 26-12-2013	
	•	t Name: 3G Mobile Communication	
		10.30 am – 01.00 pm Total Marks: 70 etions:	
1117	1. 2.	. Attempt all questions Make suitable assumptions wherever necessary Figures to the right indicate full marks.	
Q.1	(a)	What is 3G? List different standards used in 3G. and explain any one of with all required detail.	07
	(b)	Give overview of spread spectrum technology used in CDMA. Also Draw and Explain Rake Receiver block diagram	07
Q.2	(a)	What do you mean by transport channel? Properly explain multiplexing of transport channel in detail.	07
	(b)	List different types of channels used in WCDMA. Also explain their Mapping and synchronization.	07
		OR	
	(b)	List different types of CDMA techniques used in 3G and explain any two system in detail.	07
Q.3	(a)	List different spreading codes used in CDMA and explain any two codes in detail with their specialty.	07
	(b)	List different block codes is used in channel coding. Also explain channel coding of the UTRAN in detail.	07
		OR	
Q.3	(a)	What is MAC? List MAC function and services and explain them with required detail.	07
	(b)	List all core network protocols used in the air interface and compare all of them in detail.	07
Q.4	(a)	Draw UMTS network structure and explain each parts of UMTS network structure with its function.	07
	(b)	List different types of interface used in the UMTS network and explain any two of them in detail. OR	07
Q.4	(a)	What is the importance of network planning? Also explain network planning terminology and process in detail.	07
	(b)	Properly explain architecture of network management and list different types of management required in network management and explain any one in detail.	07
Q.5	(a)	List five new concept used in UMTS network to improve location based services and explain any two of them in detail.	07
	(b)	What is Multimedia Messaging Services? Also explain MMS element and protocol in detail.	07
		OR	
Q.5	(a)	List different types of services provided by 3G and explain any two of the services in detail.	07
	(b)	List different types of application of the 3G and explain any two application in detail.	07