Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–IV • EXAMINATION – SUMMER 2015

Subject Code: 740401 **Date: 01/05/2015**

Subject Name: Wireless and Mobile Network Architecture

Time: 2:30 pm to 5:00 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)**		
	(1)	On the basis of which channel measurements, the Hand-off decision should be made? Why?	**04**
	(2)	Compare window averaging and leaky-bucket integration methods of filtering channel measurements.	**03**
	(b)		
	(1)	Compare Non Prioritized Scheme and Reserved Channel Scheme of channel assignment. Under what circumstances is the reserved channel scheme (RCS) more desirable than the others?	**04**
	(2)	What does the term GTT refer to? When is GTT needed?	**03**
Q.2	**(a)**		
	(1)	Compare Soft Hand-off with Hard Hand-off.	**04**
	(2)	Compare MCHO and MAHO link transfer procedures.	**03**
	(b)	Describe the different package and component types in a TCAP message.	**07**
		OR	
	(b)	Describe the PACS architecture and the network interfaces.	**07**
Q.3	**(a)**	Compare the authentication procedure in IS-41 and GSM.	**07**
	(b)	What is tromboning? What is the function of RLC? Describe tromboning elimination solutions utilizing RLC.	**07**
		OR	
Q.3	**(a)**	Describe the Adaptive algorithm AA1 for automatic selection of sharing scheme in real time.	**07**
	(b)	Describe GSM architecture with emphasis on network signaling.	**07**
Q.4	**(a)**	Describe the Resource allocation for CDPD.	**07**
	(b)	Describe the three events that recover VLR record after a VLR fault restoration.	**07**
		OR	
Q.4	**(a)**	Describe the main parts of GSM SMS protocol stack.	**07**
	(b)	Explain the operation of Mobile-IP.	**07**
Q.5	**(a)**		
	(1)	What is GPRS? Explain its architecture.	**04**
	(2)	Describe GSM administration and maintenance.	**03**
	(b)		
	(1)	Describe the WAP protocol stack.	**03**
	(2)	Draw the message flow for the GPRS attach and detached procedures.	**04**
		OR	
Q.5	**(a)**	How does a WLL system work?	**07**
	(b)	Compare W-CDMA and cdma2000 and explain quality of service in 3G.	**07**