Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2170710 **Date: 04/05/2017**

Subject Name: Mobile Computing and Wireless Communication

Time: 02.30 PM to 05.00 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)**	Explain Nyquist theorem? Find the relationship among the following terms Channel Capacity (C), Bandwidth (B) and Signal-to-Noise Ratio (SNR).	**07**
	(b)	What is multiplexing? Explain FDM and TDM in details with one example each.	**07**
Q.2	**(a)**	What is the circuit switching? Explain the communication phases of circuit switching. Differentiate between Datagram and Virtual circuit operation?	**07**
	(b)	Explain OSI model with function of each layer. List the name of layer which implemented the following Bridge, Gateway, and Repeater.	**07**
		OR	
	(b)	What is the principle of frequency reuse in context of cellular networks? List the ways of increasing the capacity of a cellular system?	**07**
Q.3	**(a)**	Explain Delta Modulation with their Transmission and Reception block diagram?	**07**
	(b)	What is Direct Sequence Spread Spectrum technology? How does it work in CDMA technology?	**07**
		OR	
Q.3	**(a)**	What are propagation modes? Explain free Space loss propagation modes in details?	**07**
	(b)	What is the need of ARQ? Explain Automatic Repeat Request (ARQ) in details?	**07**
Q.4	**(a)**	Compare the Following : (i) GSM and GPRS (ii) Wimax and WiFi	**07**
	(b)	Explain functional Architecture of GSM system. And also give different Tele-services provided by GSM.	**07**
		OR	
Q.4	**(a)**	What is handoff and Roaming? Explain the types of handoff in details?	**07**
	(b)	What kind of changes need in GSM to Convert it into GPRS explain that? Explain application of GPRS?	**07**
Q.5	**(a)**	Draw and Explain the IEEE 802.11 Architecture in Details?	**07**
	(b)	What are the needs of Mobile IP? Explain handoff operation in Mobile IP.	**07**
		OR	
Q.5	**(a)**	Explain Android application framework with their components.	**07**
	(b)	Draw and explain Bluetooth Protocol Architecture?	**07**

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