GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019

Subject Code: 2171004   **Date: 28/11/2019**

Subject Name: Wireless Communication

Time: 10:30 AM TO 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.**

			MARKS
Q.1*	**(a)**	Define the following terms regarding wireless communication: (1) Full duplex channel (2) Mobile Switching Center (3) Base station	**03**
	(b)	Explain the concept of umbrella cell.	**04**
	(c)	With the help of a neat sketch, describe GPRS architecture.	**07**
Q.2	**(a)**	Explain the concept of Cell Sectoring.	**03**
	(b)	Define: (1) Cell Dragging (2) Handoff (3) Dwell Time (4) RSSI	**04**
	(c)	Write a short note on software defined radio	**07**
		OR	
	(c)	What is ZigBee ? Explain in details ZigBee networks.	**07**
Q.3	**(a)**	Why hexagonal cell shape is preferred in cellular architecture?	**03**
	(b)	Explain the Space diversity techniques briefly.	**04**
	(c)	Explain Free space propagation model with necessary equations.	**07**
		OR	
Q.3	**(a)**	Explain channel assignment strategies.	**03**
	(b)	Explain the Frequency diversity techniques briefly.	**04**
	(c)	Briefly explain knife-edge diffraction model.	**07**
Q.4	**(a)**	Compare FDMA with CDMA technique.	**03**
	(b)	Explain paging system.	**04**
	(c)	Describe: Time Division Multiple Access (TDMA) in detail. Write the equation for efficiency of TDMA and the number of channels in TDMA system.	**07**
		OR	
Q.4	**(a)**	Explain: I-persistent CSMA and p-persistent CSMA.	**03**
	(b)	Illustrate the upgrade paths 2G and 3G cellular networks and describe in brief.	**04**
	(c)	Write a short note on OFDM.	**07**
Q.5	**(a)**	What is diffraction? Explain.	**03**
	(b)	Write a short note on UWB radio.	**04**
	(c)	Describe the Rake receiver in CDMA.	**07**
		OR	
Q.5	**(a)**	What is Scattering? Explain.	**03**
	(b)	Explain wireless Ad-Hoc network.	**04**
	(c)	Draw and Explain GSM system architecture.	**07**

****