Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VIII EXAMINATION – SUMMER 2020

Subject Code: 2170710 Date:28/10/2020

Subject Name: MOBILE COMPUTING AND 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)**	Explain any three addresses and identifiers used in GSM with example.	**03**
	(b)	Explain Android EditText and TextView control with an example.	**04**
	(c)	Draw and explain the GPRS transmission plane protocol model.	**07**
Q.2	**(a)**	Given a channel with an intended capacity of 50 Mbps, the bandwidth of the channel is 5 MHz. What signal-to-noise ratio is required to achieve this capacity?	**03**
	(b)	Discuss the manifest file with example.	**04**
	(c)	What is wave propagation? Discuss various modes of propagation with example.	**07**
		OR	
	(c)	Explain frequency hopping spread spectrum.	**07**
Q.3	**(a)**	What is Direct Sequence Spread Spectrum technology?	**03**
	(b)	Explain any two various signal multiplexing techniques.	**04**
	(c)	Draw and explain Bluetooth protocol stack.	**07**
		OR	
Q.3	**(a)**	Explain L2CAP protocol of Bluetooth.	**03**
	(b)	How DSSS does works in CDMA technology?	**04**
	(c)	Draw and explain the IEEE 802.11 architecture in detail.	**07**
Q.4	**(a)**	Define spreading sequence.	**03**
	(b)	List different categories of spreading sequences. Explain Walsh code with example.	**04**
	(c)	Discuss Mobile IP.	**07**
		OR	
Q.4	**(a)**	Define channel capacity. Write Shannon capacity formula.	**03**
	(b)	State the key factors that affect channel capacity.	**04**
	(c)	Explain GSM architecture.	**07**
Q.5	**(a)**	What is the need of ARQ?	**03**
	(b)	Explain Automatic Repeat Request (ARQ) in details.	**04**
	(c)	List all and explain any five IEEE 802.11 services.	**07**
		OR	
Q.5	**(a)**	Explain piconet and scatternet.	**03**
	(b)	Write a note on DECT frame format.	**04**
	(c)	Define Android layout. Explain various Android layouts.	**07**

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