GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3170710   **Date:08-12-2023**
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.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Explain LAN, MAN and WAN.	03
	(b)	Differentiate: Circuit Switching and Packet Switching.	04
	(c)	Explain GSM architecture and role of it components.	07
Q.2	**(a)**	Define IMSI, IMEI and MS-ISDN and write their use.	03
	(b)	What is GPRS? How is billing and charging done in GPRS?	04
	(c)	Define channel capacity. Write Shannon and Nyquist capacity formula. State the key factors that affect channel capacity.	07
		OR	
	(c)	What is fading? Differentiate i. Fast and slow fading ii. Flat and selective fading.	07
Q.3	**(a)**	What is hidden terminal problem? How it can be avoided?	03
	(b)	Write a short note on selective repeat ARQ.	04
	(c)	Discuss the network elements in GPRS that are different from GSM. Also discuss applications and limitations of GPRS.	07
		OR	
Q.3	**(a)**	Explain the Wireless Session Protocol Primitives and Parameters.	03
	(b)	Define the term Multiplexing. Explain the FDM and TDM with one example each.	04
	(c)	Draw and Explain the IEEE 802.11 Architecture in Details?	07
Q.4	**(a)**	Write a note on Transmission Media.	03
	(b)	Discuss DECT frame format.	04
	(c)	Explain Mobile IP.	07
		OR	
Q.4	**(a)**	Write a note on piconet and scatternet.	03
	(b)	Differentiate the GSM and GPRS.	04
	(c)	Draw and explain Bluetooth Protocol Architecture?	07
Q.5	**(a)**	Shortly explain handover in GSM.	03
	(b)	Describe the Error Control Coding in detail.	04
	(c)	Define Android layout. Explain various Android layouts.	07
		OR	
Q.5	**(a)**	What are HLR and VLR? Describe its functions in Call Routing and Roaming.	03
	(b)	Shortly explain 1G, 2G, 2.5G and 3G Mobile communications	04
	(c)	Explain Android application framework with its components.	07

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