GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3170710   **Date:30-11-2024**
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)	What are the important characteristics of a periodic signal?	03
	(b)	Explain how synchronous time division multiplexing (TDM) works.	04
	(c)	Explain the difference between datagram and virtual circuit operation. Explain the different switching techniques.	07
Q.2	(a)	Explain the operation of TCP.	03
	(b)	What is the major function of the network access layer?	04
	(c)	Define channel capacity. Write Shannon and Nyquist capacity formula.	07
		OR	
	(c)	Explain Automatic repeat request in detail.	07
Q.3	(a)	Give the comparison between HLR and VLR.	03
	(b)	Draw the GSM architecture.	04
	(c)	Explain the authentication and security issues during handover in GSM.	07
		OR	
Q.3	(a)	Describe the different applications of GPRS.	03
	(b)	Draw the GPRS architecture.	04
	(c)	Explain the billing and charging in GPRS.	07
Q.4	(a)	Discuss the network elements in GPRS that are different from GSM.	03
	(b)	Draw and explain Bluetooth Protocol Architecture.	04
	(c)	Explain the IEEE 802.11 Architecture with the diagram.	07
		OR	
Q.4	(a)	What is the difference between flat and selective fading?	03
	(b)	Compare Wi-Fi and Wi-Max.	04
	(c)	Describe Direct Sequence Spread Spectrum Technique.	07
Q.5	(a)	What two key elements comprise error control?	03
	(b)	Describe Android Button View Control and Text View Control.	04
	(c)	Explain Mobile IP.	07
		OR	
Q.5	(a)	What is the role of AUC? How is authentication done in a GSM network?	03
	(b)	Discuss various Android Layouts.	04
	(c)	Explain Android application framework with its components.	07

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