

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering - SEMESTER - VII EXAMINATION - WINTER 2025

Subject Code: 2170710

Date: 28-11-2025

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) Define attenuation and noise in transmission.	03
(b) Explain simplex, half-duplex, and full-duplex modes with examples.	04
(c) Compare LAN, MAN, and WAN.	07
Q.2 (a) Explain the concept of frequency reuse in cellular network.	03
(b) List major differences between TDMA and CDMA techniques.	04
(c) Describe fading in mobile environment and techniques to minimize its effects.	07
OR	
(c) Describe the working of FHSS and DSSS techniques.	07
Q.3 (a) Briefly explain: Handoff in cellular network	03
(b) Differentiate between WiMAX and Wi-Fi.	04
(c) Explain the architecture of GSM with a neat diagram, describing each subsystem.	07
OR	
(a) Define tunneling in Mobile IP.	03
(b) Define Home Agent and Foreign Agent in Mobile IP.	04
(c) Explain the architecture of GPRS and describe the role of GGSN, SGSN, and PCU.	07
Q.4 (a) What are the main components of the IEEE 802.11 architecture?	03
(b) Define ACL link and SCO link in Bluetooth communication.	04
(c) Explain the Medium Access Control (MAC) layer mechanism in IEEE 802.11. How does it handle collision avoidance?	07
OR	
(a) Differentiate between WPA and WEP.	03
(b) What is the role of the Logical Link Control and Adaptation Protocol (L2CAP)?	04
(c) Compare different IEEE 802.11 standards.	07

- Q.5** (a) How is EditText different from TextView? **03**
- (b) Write short note on Android manifest file. **04**
- (c) Explain the Bluetooth protocol stack with details of its key layers and their functions. **07**

OR

- (a) Write the difference between error detection and error correction. **03**
- (b) Discuss the authentication and security mechanisms used in GSM. **04**
- (c) List different Layouts available in Android. Demonstrate working of any two Layouts with an example. **07**
