

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - VII EXAMINATION - WINTER 2025

Subject Code: 3174803

Date: 18-11-2025

Subject Name: Advanced Wireless Technologies and Mobile Systems

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 LANs, MANs, and WANs & PANs?	03
(b) Compare Packet Switching and Circuit Switching.	04
(c) Define channel capacity. Write Shannon and Nyquist capacity formula.	07
Q.2 (a) Describe different types of Antennas.	03
(b) Define the term Multiplexing. Compare TDM and FDM.	04
(c) Describe Direct Sequence Spread Spectrum Technique.	07
OR	
(c) Explain Automatic repeat request in detail.	07
Q.3 (a) Give the comparison between HLR and VLR.	03
(b) Define IMSI, IMEI, and MS-ISDN, and explain the significance of each in mobile communication systems.	04
(c) Draw and explain the GSM architecture.	07
OR	
(a) What are the functions of HLR, VLR & AUC in GSM?	03
(b) Draw the GPRS architecture.	04
(c) Explain the billing and charging in GPRS.	07
Q.4 (a) Explain the role of the Medium Access Control (MAC) layer in IEEE 802.11.	03
(b) Explain the WAP Stack with neat diagram.	04
(c) Explain Mobile IP.	07
OR	
(a) Compare Wi-Fi and Wi-Max.	03
(b) Describe Android Button View Control and Text View Control.	04
(c) Explain the IEEE 802.11 Architecture with the diagram.	07

- Q.5 (a)** Explain power saving states of Bluetooth device. **03**
- (b)** Write a note on piconet and scatternet. **04**
- (c)** Describe Android Architecture. **07**

OR

- (a)** Write use of Manifest file. **03**
- (b)** Discuss various Android Layouts. **04**
- (c)** Draw and Describe Bluetooth Protocol Architecture. **07**
