

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

**Subject Code:3171608****Date:12-12-2023****Subject Name: 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.

- Q.1** (a) Explain Piconet and Scatternet **03**  
 (b) Explain S/I ratio **04**  
 (c) Explain the GSM Architecture **07**
- Q.2** (a) Write a short Note: Bluetooth protocol stack **03**  
 (b) Explain Handoff **04**  
 (c) Explain the Evolution of Mobile Communication **07**
- OR**
- (c) Draw and explain the GPRS transmission plane protocol model **07**
- Q.3** (a) Define IMSI, IMEI and MSISDN **03**  
 (b) Differentiate: CDMA technology and GSM technology **04**  
 (c) Explain Hexagonal geometry cell and concept of frequency reuse, **07**
- OR**
- Q.3** (a) What are the advantages of WLAN. **03**  
 (b) Differentiate NLOS and LOS systems **04**  
 (c) Differentiate TDMA, FDMA and CDMA **07**
- Q.4** (a) Explain the Small scale multipath propagation. **03**  
 (b) Discuss the network elements in GPRS that are different from GSM. **04**  
 Also discuss limitations of GPRS  
 (c) Write Short note on : ZigBee Networks **07**
- OR**
- Q.4** (a) What is Micro cell zone concept? **03**  
 (b) Compare and contrast WiMAX and WiFi technologies **04**  
 (c) What is wave propagation? Discuss various modes of propagation with example **07**
- Q.5** (a) What is Wireless Adhoc Network **03**  
 (b) Explain Voice and Data Routing in GPRS with proper diagram. **04**  
 (c) Explain CDMA2000 cellular technology **07**
- OR**
- Q.5** (a) Explain L2CAP protocol of Bluetooth. **03**  
 (b) Explain the power saving states of Bluetooth device **04**  
 (c) Write Short note on Security issues and challenges in a Wireless network. **07**

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