

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM**  
**IV B. Tech I Semester Advanced Supplementary Examinations March 2025**

**WIRELESS NETWORK SECURITY**

(Computer Science & Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**  
All Questions Carry Equal Marks

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**UNIT-I**

1. a) Explain the major security threats faced by wireless networks and how they have evolved. [7M]  
b) Explain the concept of Man-in-the-Middle (MITM) attacks in wireless networks and their countermeasures. [7M]

(OR)

2. a) Explain how Denial of Service (DoS) jamming impacts wireless communications and what mitigation strategies can be used. [7M]  
b) Discuss the role of rogue network access points in wireless security threats and their countermeasures. [7M]

**UNIT-II**

3. a) Explain how the OSI Model is applicable to wireless network security, and what modifications are needed for secure communication. [7M]  
b) Explain the significance of SSL/TLS in securing wireless networks and the risks associated with SSL/TLS interception. [7M]

(OR)

4. a) Compare WEP, WPA, and WPA2 in terms of encryption methods and vulnerabilities. [7M]  
b) Explain the concept of 802.1x authentication and its role in improving wireless network security. [7M]

**UNIT-III**

5. a) Explain the role of physical in protecting wireless networks from unauthorized access. [7M]  
b) Discuss the risks of information leakage in wireless devices and their countermeasures. [7M]

(OR)

6. a) Explain the key security concerns associated with wireless devices like laptops and PDAs. [7M]  
b) Compare TDMA and CDMA in terms of security threats and their respective countermeasures. [7M]

**UNIT-IV**

7. a) Explain the concept of Cellular Digital Packet Data (CDPD) architecture and its role in ensuring security. [7M]  
b) Compare the security implications of Ultra-Wide Band (UWB) Radio and traditional wireless technologies. [7M]

(OR)

8. a) Explain the Mobitex Security Architecture and its significance in securing wireless communications. [7M]  
b) Illustrate how OFDM and Spread Spectrum technologies contribute to wireless network security. [7M]

**UNIT-V**

9. a) Explain how enterprise campus designs differ from small office/home office (SOHO) networks in terms of security requirements. [7M]  
b) Illustrate the key challenges and solutions in designing a secure Wireless IST infrastructure. [7M]

(OR)

10. a) Explain the major security considerations when deploying a Wireless LAN (WLAN) in an enterprise environment. [7M]  
b) Discuss the role of wireless network security in retail and manufacturing environments. [7M]

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