T.E. I.T.

Computer Network and Security Question Bank

Unit I: Application Layer

- 1. Discuss the client-server and peer to peer architecture in detail.
- 2. Explain DNS, FTP and TFTP in detail.
- 3. Explain HTTP and SMTP protocol in detail.
- 4. Explain POP, IMAP, MIME protocol in detail.
- 5. Write a note on DHCP.
- 6. Explain Telnet protocol in detail.

Unit II: Wireless Standards

- 1. Explain Electromagnetic Spectrum in detail with Spectrum Allocation and Radio Propagation Mechanism.
- 2. Explain IEEE 802.11: Architecture
- 3. Write a note on MAC Sub Layer of IEEE 802.11.
- 4. What is hidden station and exposed station problem in WLAN?
- 5. Explain addressing Mechanism of IEEE 802.11.
- 6. Draw and explain frame format used in WLAN.
- 7. Explain Bluetooth with architecture and services.
- 8. Explain IEEE 802.16 WiMax: Services, Architecture, and Layers.
- 9. Compare IEEE 802.11, Bluetooth and IEEE 802.16.

Unit III: ADHOC and WSN

- 1. Differentiate between infrastructure and infrastructure-less wireless network.
- 2. What are the issues while designing wireless network?
- 3. Explain Adhoc Network MAC Layer with Design Issues, Design Goal and Classification.
- 4. Explain MACAW protocol in detail.
- 5. Write a note on issues in Designing a Routing Protocol for Ad-hoc Wireless Networks.
- 6. Explain DSDV, AODV, DSR protocol in detail.
- 7. Explain sensor network architecture.
- 8. Compare sensor network with wireless network.

Unit IV: Introduction to Network Security

- 1. Differentiate between Active Attacks and Passive Attacks.
- 2. Explain different security principles and security services.
- 3. Explain stream ciphers and transposition ciphers with examples.
- 4. What are the block cipher modes? Explain each in detail.

Unit V: Cryptographic Algorithms

- 1. What is cryptography?
- 2. Explain Data Encryption Standard (DES).
- 3. Explain Advanced Encryption Standard (AES) in detail.
- 4. Write a note on public key encryption and hash function.
- 5. Explain RSA digital signature.
- 6. Explain Diffie-Hellman key exchange algorithm.
- 7. What is Digital Certificate?

Unit VI: Introduction to Cyber Security

- 1. Explain basic cyber security concepts.
- 2. Define and explain Vulnerability, Threat, Malware and Phishing.
- 3. Explain MIM, DOS and SQL Injection attacks.
- 4. Write a note on Computer Criminals, Assets and Threats.
- 5. What are software and hardware attcks?
- 6. Write a note on Cyber Threats.
- 7. Define the terms Cyber Crime, Cyber Stalking, Cyber Terrorism and Cyber Espionage.
- 8. Write a note on Cyber security policy.