P489

[6003]-710

T.E. (Information technology)
COMPUTER NETWORK AND SECURITY
(2019 Pattern) (Semester - II) (314451)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *All Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indicate full marks.*
4) *Assume suitable data if necessary.*

Q1) a)   Explain MACAW protocol in details.   **[9]**

b)   Explain with diagram Layered Architecture for Sensor Network.   **[9]**

OR

Q2) a)   Explain the issues in designing a routing protocol for Ad-hoc Wireless Network.   **[6]**

b)   What are hidden station and exposed station problem in WLAN.   **[6]**

c)   Explain different issues and Challenges in Designing a Sensor Network.**[6]**

Q3) a)   What is stream cipher? Explain encryption process using stream cipher with suitable example.   **[8]**

b)   What is Cipher Block Chaining (CBC)? Explain the process of CBC with suitable diagram.   **[9]**

OR

Q4) a)   Describe the following network security threats.   **[5]**
  i)   Unauthorized access
  ii)   Distributed Denial of Service (DDoS) attacks

b)   Describe the following fundamental principles of Information security **[6]**

  i)   Integrity
  ii)   Authentication
  iii)   Authorization and Access Control

c)   What is Cipher Feedback Mode(CFM) and Electronic Code book (ECB)?   **[6]**

P.T.O.

Q5) a) Explain Data Encryption Standard Algorithm in detail with suitable diagram. **[9]**

b) Explain Diffie-Hellman key exchange algorithm. **[9]**

OR

Q6) a) Explain Private Key Management. **[9]**

b) Explain following terms. **[9]**
   i) PKIX Model
   ii) Digital Signature
   iii) Digital Certificate

Q7) a) Write a short note on Software attacks & hardware attacks with example. **[8]**

b) Explain the threats and vulnerabilities of the information security system. **[9]**

OR

Q8) a) Explain Layers of Cyber Security in detail. **[8]**

b) What is a man-in-the-middle attack (MIM)? Explain in detail. **[9]**

◆◆ ◆◆ ◆◆