

Total No. of Questions : 8]

SEAT No. :

P489

[6003]-710

[Total No. of Pages : 2

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]

OR

- 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]
- 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]

