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Roll No.

TCS-619

B. TECH. (CSE) (SIXTH SEMESTER)

MID-SEMESTER

EXAMINATION, March, 2024

NETWORK AND SYSTEM SECURITY

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Explain about the various security attacks stated in OSI security architecture. Also write about the security services and mechanisms used to implement security in an organization. (CO1)

P. T. O.

(2)

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OR

(b) What do you mean by Stream Cipher ?
Explain about the role of pseudorandom number generator in stream cipher. (CO1)

2. (a) Calculate the value of private and public key pair using RSA algorithm, given that $p=13$; $q=15$. Also show the Encryption and decryption steps using the plain text value of $M=7$. Write all the steps involved. (CO2)

OR

(b) With the help of a diagram briefly discuss the functions performed in S-DES. Explain the key generation and encryption process with the help of necessary block diagram. (CO2)

3. (a) Explain the following : (CO1)
- (i) Masquerading attack
 - (ii) Authentication exchange
 - (iii) DDoS attack
 - (iv) Routing control

(3)

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OR

(b) Explain the following : (CO1)

- (i) Traffic Analysis
- (ii) Digital Signature
- (iii) Cryptanalysis
- (iv) Notarization

4. (a) State the problems faced in DES symmetric algorithm. Explain the working of Double and Triple DES algorithm. (CO2)

OR

(b) Explain with the help of a suitable block diagram how Confidentiality and Authentication is achieved in Message Authentication using Message Encryption Technique. (CO2)

5. (a) State and explain about any *two* security mechanisms. State the relationship between the security services and security mechanism. (CO1)

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OR

(b) What do you mean by Network Security Model ? Write about the various components of the Network Security Models. (CO1)

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