

Code No: 126AQ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year II Semester Examinations, May 2016

INFORMATION SECURITY

(Computer Science and Engineering)

Time: 3 hours

Max.Marks:75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A**(25 Marks)**

- 1.a) What are the types of security attacks? [2]
- b) Compare substitution ciphers with transposition ciphers. [3]
- c) Compare block ciphers with stream ciphers. [2]
- d) Write about strength of DES algorithm. [3]
- e) What is a digital signature? [2]
- f) What properties must a hash function have to be useful for message authentication? [3]
- g) What are the various PGP services? [2]
- h) What parameters identify an SA and what parameters characterize the nature of a particular SA? [3]
- i) What is cross site scripting vulnerability? [2]
- j) What are the limitations of firewalls? [3]

PART-B**(50 Marks)**

- 2.a) Consider the following:
Plaintext: "PROTOCOL"
Secret key: "NETWORK"
What is the corresponding cipher text using play fair cipher method?
b) What is the need for security? [5+5]
- OR**
- 3.a) Explain the model of network security.
b) Write about steganography. [5+5]
4. Explain the AES algorithm. [10]
- OR**
5. Consider a Diffie-Hellman scheme with a common prime $q=11$, and a primitive root $\alpha=2$.
a) If user 'A' has public key $Y_A=9$, what is A's private key X_A ?
b) If user 'B' has public key $Y_B=3$, what is shared secret key K. [5+5]
6. Explain HMAC algorithm. [10]
- OR**
- 7.a) Explain the DSA algorithm.
b) What is bio-metric authentication? [5+5]

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8.a) Explain PGP trust model.

b) What are the key components of internet mail architecture?

[5+5]

OR

9.a) Explain MIME context types.

b) What are the five principal services provided by PGP?

[5+5]

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10. Explain secure electronic transaction.

[10]

OR

11.a) Explain password management.

b) What are the types of firewalls?

[5+5]

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