Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – WINTER 2012

Subject code: 725103 **Date: 01/01/2013**

Subject Name: Information System and Network Security

Time: 10.30 am – 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt to question 1 is compulsory and answer any five questions from the rest..**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q. No. 1 [2 Marks X 10 = 20 Marks]

a. What is Threads classification?
b. Give the difference between block ciphers and stream ciphers.
c. What is masquerading?
d. What are the requirements for digital signature?
e. Brief about Annual Loss Expectancy?
f. Mention the Security Policies and Measures in Mobile Computing?
g. What is meant by polymorphic viruses.
h. What is the purpose of Diffie-Hellman algorithm?
i. Identify any two applications where one way authentication is necessary.
j. What is Conventional Encryption?

Q. No. 2

a. Explain the importance of management role in implementing information security in an organization? [6 Marks]
b. Distinguish between qualitative and quantitative risk assessment method. [4 Marks]

Q. No. 3

a. Explain the types of attacks on double DES and triple DES. [6 Marks]
b. Explain the shift row step of AES encryption? [4 Marks]

Q. No.4

a. Briefly explain about OSI security architecture [6 Marks]
b. Discuss different classical encryption techniques in detail. [4 Marks]

Q. No. 5

a. List the important characteristics of Public key cryptosystems. Explain the essential steps to be followed in the Public key encryption Process with an example. [5 Marks]
b. With an example explain RSA algorithm. [5 Marks]

Q. No. 6

a. Describe the KERBEROS protocol. [6 Marks]
b. Explain the difference between passive attacks and active attacks [4 Marks]

Q. No. 7

a. Describe the steps in the creation of a digital certificate. [5 Marks]
b. What are the key requirements of message digests? Describe the secure hash algorithm[5 marks]

Q. No. 8

a. Explain the various risk mitigation methods with suitable examples? [10 Marks]

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