# **GUJARAT TECHNOLOGICAL UNIVERSITY** M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

# Subject code: 725103Date: 03-06-2013Subject Name: Information System and Network SecurityTime: 10.30 am - 01.00 pmTotal Marks: 70Instructions:

- 1. Attempt to question 1 is compulsory and answer any five questions from the rest.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures mentioned on the right hand side of each question indicate marks.

## Q. No. 1

- a. Define Risk management?
- b. Define Authorization.
- c. What is Threads classification?
- d. What is repudiation attack?
- e. What is Steganography?
- f. Define threat agent.
- g. Explain known plain text attack.
- h. What is a preventive control?
- i. What is residual risk?
- j. Give any four uses of Hash functions?

### Q. No. 2

a.	Describe an information system, types and how it helps organizations?	[6 Marks]
b.	Explain digital signature and its use	[4 Marks]
O No	3	
Q. 110.		
a.	Explain briefly the steps of DES encryption process?	[6 Marks]
b.	Explain the difference between passive attacks and active attacks.	[4 Marks]

- Q. No. 4
  - a. Explain cryptography and explain the three functions that characterize the cryptographic systems [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 essent	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. b.	Brief on Message Authentication code? Explain the Cipher-block chaining mode of operation used in block cipher?	[6 Marks] [4 Marks]
Q. No.	.7	
a.	Brief on Business continuity planning.	[5 Marks]
b.	Brief on use of hash functions?	[5 Marks]

### Q. No. 8

a.	Explain the various risk mitigation methods with suitable examples?	[10 Marks]
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[2 Marks X 10 = 20 Marks]