# GUJARAT TECHNOLOGICAL UNIVERSITY
### ME – SEMESTER II • EXAMINATION – SUMMER 2017

**Subject Code: 3725103**                    **Date:29/05/2017**
**Subject Name: Information System and Network Security**
**Time:02:30 PM to 05:00 PM**              **Total Marks: 70**
**Instructions:**
      **1. Attempt all questions.**
      **2. Make suitable assumptions wherever necessary.**
      **3. Figures to the right indicate full marks.**

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|---|---|---|---|
| **Q.1** | **(a)** | Explain various architectures for information systems(web based, mainframe, Client server) | **07** |
| | **(b)** | 1). Briefly explain the building block of information security. | **04** |
| | | 2). Discuss security policies and measures in mobile computing. | **03** |
| **Q.2** | **(a)** | Explain OSI security architecture. | **07** |
| | **(b)** | Discuss various classical encryption techniques. | **07** |
| | | **OR** | |
| | **(b)** | What is cryptography? Explain the model of asymmetric cryptosystem. | **07** |
| **Q.3** | **(a)** | Discuss hierarchical relation between policies, standards and guidelines as well types of policies for infosec in organization. | **07** |
| | **(b)** | Explain briefly the steps of DES encryption process. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain and differentiate quantitative and qualitative risk assessment. | **07** |
| | **(b)** | Explain RSA algorithm with an example. | **07** |
| **Q.4** | **(a)** | Explain relation between threats, vulnerabilities, assets and risks. Explain need for risk analysis. | **07** |
| | **(b)** | Explain steps in creation of digital certificate. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain risk analysis/risk management process. | **07** |
| | **(b)** | 1). What are the key requirements of message digest? | **04** |
| | | 2). Describe known plain text attack. | **03** |
| **Q.5** | **(a)** | 1). Discuss credit card fraud in online environment. | **04** |
| | | 2). Define Steganography and non repudiation. | **03** |
| | **(b)** | Discuss sources of information system security threats. Distinguish between network threat and information level threat. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Explain hash function and various uses of it | **07** |
| | **(b)** | 1). Differentiate between passive attack and active attack with example. | **04** |
| | | 2). Explain security threats related to computer abuse | **03** |

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