

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M. E. - SEMESTER – III • EXAMINATION – WINTER • 2013**

**Subject code: 735302**

**Date: 26-11-2013**

**Subject Name: Security in Wireless and Mobile Systems**

**Time: 10.30 am – 01.00 pm**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) i. Define CIA triad. [2]  
ii. Define Digital Signature. [2]  
iii. Explain insider and outsider threat in MANET. [2]  
iv. Explain threat and vulnerability. [2]  
v. What is digital certificate? [2]  
vi. Explain running key cipher. [2]  
vii. Explain Transposition cipher. [2]
- Q.2** (a) Explain Symmetric Key Algorithm and Asymmetric Key Algorithm with an example. [7]  
(b) Explain any 3 types of attack on cryptosystem with suitable examples. [7]
- Q.3** (a) What are DEA and DES? Explain the working of DES. [7]  
(b) Explain the different modes of 3DES. [7]
- Q.4** (a) What is Message Authentication Code? Explain in details. [7]  
(b) Explain hashing in detail. Differentiate between SHA1 and MD5 algorithm. [7]
- Q.5** (a) What is MANET? Discuss their Characteristics. What are the security challenges in MANET? [7]  
(b) List out routing attacks against MANET. Explain any two in details. [7]
- Q.6** (a) i. What is Cryptosystem? What are its components? [4]  
ii. What is work factor in cryptography? [3]  
(b) What do you mean by strength of cryptosystem? Explain the concepts in detail. [7]
- Q.7** (a) Write Short notes on the following  
i. DoS attack and its consequences in MANET. [4]  
ii. Digital Signature. [3]  
(b) Explain active attack and passive attack in detail with relevant examples. [7]

\*\*\*\*\*