2014

(Fourth Semester)

MASTER OF COMPUTER APPLICATIONS

Paper No: MCA 405

(Information Securities)

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

PART-A

(All questions are compulsory-each question carry 2 marks) **(6X2=12)**

1. What security features does Authentication Header add to the IP packet?

2. Differentiate between Digital signature and Public Key Cryptosystem?

3. What is Assertion? Write its format in SQL.

4. Differentiate between Denial of Service attack and Distributed Denial of Service attack.

5. Classify different types of viruses in terms their concealment strategy?

6. What is Remote Procedure Call?

PART-B

(Answer any 4 question-each question carry 12 marks)

(4X12=48)

1. (a) Describe the RSA algorithm for encrypting data by giving a suitable diagram. **6**

   (b) What are the services provided by Network security? Also describe the mechanisms for providing such services. **6**

2. (a) Write and explain the two modes of IPSec by giving a suitable diagram. **6**

   (b) Write a brief notes on different virus countermeasure approaches. **6**

3. Describe how the following malicious program works- **6x2 = 12**

   (a) Worms (b) Trojan Horse

   (c) spyware (d) Backdoors

   (e) Sniffers (f) Macro Virus

4. (a) Write and explain two protocols that provide security at the Transport Layer. **6**

   (b) What is a Virtual Private Network? Explain why it is needed? **6**

5. (a) Describe the fault tolerance approach using redundancy. **6**

(b) What are different classifications of faults? Explain different types of failure models. **6**

6. (a) Write and explain various steps involved in the Two-Phase Commit (2PC) protocol. **6**

(b) Describe the methods of Checkpointing for error Recovery. **6**

7. Explain the following: **6x2 = 12**

(a) Domain Constraints (b) Referential Integrity

(c) Triggers (d) Authorization

(e) Authentication (f) Semaphore

************IV/MCA/405************