Roll No. | | | | | | | | | | | | |

Total No. of Pages : 2

Total No. of Questions : 07

B.Sc.(IT) (2015 & Onward) (Sem.–5)

INFORMATION SECURITY

Subject Code : BSIT-501

Paper ID : [74375]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**
3. **Use of non-programmable scientific calculator is allowed.**

SECTION-A

1. Answer briefly :

a. What are the potential threats posed by Denial of Service attacks?

b. What is confidentiality?

c. Define data perturbation.

d. What requirements must a public key cryptosystem fulfill to be a secure algorithm?

e. What is flooding attack?

f. What are the approaches used for implementing Information Security?

g. Discuss Issues in Key distribution.

h. Define digital signature.

i. How are AES, DES and triple DES different on the basis of design and features? Also describe the operation of AES algorithm.

j. What is injection attack?

SECTION-B

2. What are the different principles of access control? Explain with the concept of access control with suitable example. (10)

3. What is symmetric encryption? Explain the different types of symmetric encryption algorithms. (10)

4. a. What are the various Software security issues that must be taken in account while working with the software's? (5)

   b. Describe Firewall characteristics and types. (5)

5. What are Denial-of-Service attacks? Discuss distributed Denial-of-Service attacks. How to defend against Denial-of-Service attacks and how to respond to Denial-of-Service attack? (10)

6. a. Differentiate between virus classification by target and virus classification by concealment strategy. (5)

   b. Explain the steps involved in the process of security maintenance. (5)

7. a. State the complete Information Security Life Cycle. Explain the relevance of each phase. (5)

   b. Describe the SSL architecture and Record protocol. (5)