NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech.

SEM: III - THEORY EXAMINATION (2022 - 2023)

Subject: Cyber Security

Time: 3 Hours   Max. Marks: 50

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of three Sections -A, B, & C. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

<div align="center">SECTION A   15</div>

1. Attempt all parts:-

1-a.   Passive attacks are : (CO1)   1

                 (a) Release of message content

                 (b) Replay

                 (c) Denial of service

                 (d) none

1-b.   Name the 1st computer virus . (CO2)   1

                 (a) Creeper

                 (b) Blaster

                 (c) Sasser

                 (d) None

1-c.   Data backup security can be implemented by (CO3)   1

                 (a) Assigning,Accountability and responsibilities to the managers

                 (b) Forcing the responsibilities on application developers

                 (c) Applying firewalls

(d) All of the above

1-d.   A process which verifies the identity of a user who wants to access the system. (CO4)   1

        (a) Authentication

        (b) Integrity

        (c) Non-repudiation

        (d) None

1-e.   This indicates one type of Intellectual Property. (CO5)   1

        (a) Copyright

        (b) Government property

        (c) Personal privacy

        (d) All the above

2. Attempt all parts:-

2.a.   Explain Zero day attack.(CO1)   2

2.b.   Differentiate in between symmetric and asymmetric cryptography. (CO2)   2

2.c.   Define application security. (CO3)   2

2.d.   Explain stream ciphers. (CO4)   2

2.e.   Write a short note on intangible property. (CO5)   2

SECTION B   15

3. Answer any three of the following:-

3-a.   List all the phases involved in waterfall model also discuss limitations of this model. (CO1)   5

3-b.   You have a small startup business that has one office each in India and Japan. What possible cyber security tools would you use to protect your confidential information exchange between two offices? (CO2)   5

3.c.   Elaborate the term access control in context with cyber security. (CO3)   5

3.d.   Discuss the importance of prime numbers in public key cryptography. Explain with an example.(CO4)   5

3.e.   Explain the need for Information Security Policies. How to protect email messages.(CO5)   5

SECTION C   20

4. Answer any one of the following:-

4-a.   Describe some important guidelines to generate a secure password. (CO1)   4

4-b.   Discuss an example of Denial of service attack. (CO1)   4

5. Answer any <u>one</u> of the following:-

5-a.   Explain Network layer firewall in detail. (CO2)   4

5-b.   Discuss the threats to e-commerce. (CO2)   4

6. Answer any <u>one</u> of the following:-

6-a.   Explain security issues with downloadable devices. (CO3)   4

6-b.   Intrusion detection system and closed circuit televisions plays an important role in providing   4
         physical security to our information system how ? (CO3)

7. Answer any <u>one</u> of the following:-

7-a.   What do you mean by Virtual Private Network? Discuss authentication mechanism used in   4
         VPN. (CO4)

7-b.   Explain concept of digital signature with example. (CO4)   4

8. Answer any <u>one</u> of the following:-

8-a.   Enlist the recent trends in cyber security. What is security auditing? (CO5)   4

8-b.   Why we need security policies. Discuss email security policy in detail. (CO5)   4