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Printed Page:-2 **Subject Code:- CCSCY0201**

Roll. No:

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: II - THEORY EXAMINATION (2025- 2026)
Subject: Fundamentals of Cyber Security

Time: 2 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.*

SECTION-A 15

1. Attempt all parts:-

(1.1) Which of the following is NOT part of CIA Triad? (CO1,K1) 1

(a) Confidentiality
(b) Integrity
(c) Availability
(d) Authentication

(1.2) Identify the malware that encrypts files and demands payment. (CO2, K2) 1

(a) Spyware
(b) Worm
(c) Ransomware
(d) Adware

(1.3) Authentication is used to: (CO3, K1) 1

(a) Store data
(b) Verify identity
(c) Encrypt files
(d) Transfer data

(1.4) A physical hardware identifier permanently assigned to a network interface card by the manufacturer and used for communication within a local network is known as: (CO4, K1) 1

(a) IP address
(b) MAC address
(c) Port address
(d) DNS name

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(1.5) Protection of a network by filtering incoming and outgoing traffic based on predefined security rules is performed by: (CO4, K2) 1

(a) Switch
(b) Router
(c) Firewall
(d) Hub

2. Attempt all parts:-

(2.1) Define Cyber Security. 2

(2.2) List any two types of malware. 2

(2.3) Differentiate between authentication and authorization. 2

(2.4) Explain OTP working. 2

(2.5) Define phishing attack. 2

SECTION-B 15

3. Answer any three of the following:-

(3.1) Explain the CIA Triad in detail and discuss its significance in cyber security. (CO1, K2) 5

(3.2) Discuss the impact of ransomware attacks on organizations and suggest mitigation strategies. (CO2, K2) 5

(3.3) Analyze strategies for preventing cyber attacks in organizations. (CO2, K4) 5

(3.4) Explain effectiveness of different authentication methods. (CO3, K2) 5

(3.5) List are the steps involved in safe browsing habits and secure downloads in preventing cyber threats. (CO4, K1) 5

SECTION-C 20

4. Answer any five of the following:-

(4.1) Explain the need for Cyber Security focusing on exploit, vulnerability, and risk. (CO1, K2) 4

(4.2) Explain the lifecycle of cyber security with examples. (CO2, K3) 4

(4.3) Discuss MAC, DAC and RBAC. Discuss two in detail. (CO3, K2) 4

(4.4) Discuss the role of cyber security in protecting digital assets. (CO3, K2) 4

(4.5) Describe various Cyber Security Domain. Explain two in detail. (CO1, K2) 4

(4.6) Discuss the importance of security awareness among users. (CO4, K2) 4

(4.7) Identify the difference between DOS and DDOS with examples. (CO2, K2) 4

(4.8) Explain the importance of Backup in cyber security. Discuss two types in detail. (CO4, K2) 4