



*Kamball*

# Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

**Bachelor's Degree Examination – November 2025**

**V Semester**

**Class : III UG**

**Major : Computer Applications**

**Time: 3 Hours**

**Max. Marks: 100**

## **23BCADE2 Cyber Security**

### **Course Outcomes:**

CO1: Identify various types of cybercrime, tools used for gathering information about target.

CO2: Assess different types of cyber-attacks, threats and the motives behind them

CO3: Realize the cyber security tools to be precautions.

CO4: Analyze the defense techniques suitable for the system.

CO5: Apply the cryptographic techniques for securing the systems.

### **Part A**

**10 x 1 = 10**

#### **Choose the correct answer**

1. What is a computer virus?  
a. A program that protects the system from malware  
b. A malicious program that can replicate and spread  
c. A hardware component for processing  
d. A type of firewall  
CO1 K1
2. The Information Technology Act 2000 mainly deals with  
a. Protection of intellectual property rights  
b. Regulation of electronic records, digital signatures and cybercrimes  
c. Consumer rights in physical market places  
d. Environmental protection and sustainability  
CO1 K1
3. How do attackers typically perform a SIM swap scam?  
a. Physically stealing your SIM card from the phone  
b. Convincing the mobile provider to transfer your number to a new SIM using social engineering  
c. Sending malware to your PC  
d. Hacking the phone camera  
CO2 K2
4. Which tool is commonly used to access the Dark Net?  
a. Tor Browser  
b. Chrome  
c. Microsoft Word  
d. VPN only  
CO2 K2
5. Which of the following is NOT a type of user authentication?  
a. Password-based authentication  
b. Biometric authentication  
c. Two-factor authentication  
d. Firewall authentication  
CO3 K3
6. What is a digital signature used for?  
a. Encrypting data only  
b. Ensuring data integrity, authenticity, and non-repudiation  
c. Protecting hardware  
d. Slowing down network traffic  
CO3 K2
7. The Caesar cipher works by  
a. Substituting each letter by a fixed number of positions in the alphabet  
b. Multiplying numeric values  
c. Using matrix multiplication  
d. Hashing data  
CO4 K3
8. In asymmetric key cryptography, the public key is used for  
a. Only encryption  
b. Only decryption  
c. Both encryption and decryption  
d. Password hashing  
CO4 K2
9. A stateful firewall  
a. Inspects only the packet header  
b. Monitors the state of active connections  
c. Encrypts traffic  
d. Detects viruses  
CO5 K2
10. A honeypot is  
a. A firewall device  
b. A decoy system designed to attract attackers  
CO5 K1

**Part B**

**5 x 6 = 30**

**Answer ALL Questions**

**Each answer should not exceed 400 words or two pages**

- 11.a. Define cyber-crime. Explain cyber security rules and regulations with example. CO1 K2  
(or)
- 11.b. What is the role of National cyber security policy and Indian cyber space? Explain. CO1 K1
- 12.a. Explain the concepts of Debit /Credit card fraud and Sim Swap scam attack. Discuss how they work with examples. CO2 K3  
(or)
- 12.b. Explain the concepts of cyber bullying and cyber stalking with example. Analyze their impact and provide example. CO2 K3
- 13.a. Discuss in detail about anti-virus and its importance. CO3 K2  
(or)
- 13.b. Write in detail about common cyber security challenges and risk analysis. CO3 K3
- 14.a. Discuss in brief about steganography and brute force attack with example. CO4 K2  
(or)
- 14.b. Explain with example about block cipher design principles. CO4 K2
- 15.a. Discuss in detail about honeypots with example. CO5 K3  
(or)
- 15.b. Explain the concepts of intrusion prevention system. CO5 K2

**Part C**

**5 x 12 = 60**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

- 16.a. Discuss in detail about malware and its common types with example. CO1 K2  
(or)
- 16.b. Describe in detail about cyber law, punishments and the Indian IT Act 2000 and its significance. CO1 K3
- 17.a. Explain the following cyber threats with examples CO2 K3  
i) Social engineering attacks (4)  
ii) Child pornography (4)  
iii) Online job fraud (4)  
(or)
- 17.b. Explain the following cyber threats with examples CO2 K2  
i) Online payment fraud (4)  
ii) MitM attack (4)  
iii) Crypto Jacking (4)
- 18.a. Discuss in detail about digital signature with examples. CO3 K3  
(or)
- 18.b. Write in detail about authentication with example. CO3 K3
- 19.a. Discuss in detail about cryptography with its types and give example. CO4 K2  
(or)
- 19.b. Explain how substitution techniques work in cryptography. Illustrate with a simple example. CO4 K3
- 20.a. Briefly explain the purpose of an Intrusion Detection System with its different types with example. CO5 K1  
(or)
- 20.b. Discuss the purpose of a firewall in network security and discuss the various types of firewalls with example in detail. CO5 K3