

Roll No. ....

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CMCS/M-24

**24544**

CYBER SECURITY AND BLOCKCHAIN  
TECHNOLOGY  
MS-20-43(iii)

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. **1** is compulsory.

**1.** Answer the following questions in brief : **5×3=15**

- (a) What is cyber security ?
- (b) How can phishing attacks be used for identity theft ?
- (c) What is the function of packet filtering in firewall ?
- (d) Define Bitcoin. Mention any two operations that are performed on a Bitcoin.
- (e) List out the areas in which Blockchain are applied extensively.

**Unit I**

- 2.** (a) Define cybercrime and explain its origins. How has the evolution of technology contributed to the growth of cybercrime ? **10**

(b) What is steganography and how is it used in cybercrimes ? 5

3. (a) What is a buffer overflow vulnerability, and how can it be exploited by cybercriminals to execute malicious code ? 9

(b) Explain the concepts of Trojans and backdoors. 6

### Unit II

4. What are phishing toolkits, and how are they used by cybercriminals ? Discuss the concept of spy phishing and its implications for information security. 15

5. Describe the concepts of Network Address Translation (NAT) and port forwarding in firewall configurations. How do these features enhance network security ? 15

### Unit III

6. (a) What is Block in Blockchain ? Write a working procedure of Blockchain Block. 10

(b) What are the disadvantages of Cryptocurrency over digital currency ? 5

7. (a) Discuss briefly about Hash pointer and how is it used in Merkle tree ? 10

(b) What are the advantages and disadvantages of public key cryptography ? 5

### Unit IV

8. Explain Block mining in detail including the different types of mining. 15

9. Write short notes on the following : 15

(a) Proof of Stake

(b) Proof of Burn

(c) Proof of Elapsed Time.