*Roll No.* .....

# 67194-N

## MCA 4th Semester 2 yr. Course Examination – December, 2024

### CYBER SECURITY & BLOCKCHAIN TECHNOLOGY (i)

Paper : 21MCA24DA1

*Time : Three Hours ]* *[ Maximum Marks : 80*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

*Note :* Attempt *five* questions in all by selecting *one* question from each Unit and Question No. **1** which is ***compulsory***.

**1.** ***Compulsory*** question :

(a) Define cyber terrorism ?

(b) How cyber security elements work ?

(c) What does a packet filter do ?

(d) How web application security is determined ?

(e) What is attack vector analysis ?

(f) Define salami slicing ?

(g) How smart contract works ?

(h) Discuss the creation of sidechain in blockchain.

## UNIT – I

2. (a) Who are cyber criminals ? Explain different categories of cyber criminals.

   (b) What is network sniffer ? How does a sniffer work ? How does a packet sniffer can be detected ? Discuss the packet sniffer mitigation.

3. (a) What is banner grabbing ? Discuss different types of it. How banner grabbing can be prevented ?

   (b) Compare various port and service tools with each other with their functioning.

## UNIT – II

4. (a) What is NAT ? Discuss its different types. Write down the steps to specify the working of NAT.

   (b) What is password manager ? How does it work ? List some of popular password managers.

5. (a) What is web vulnerability ? How it can be exploited ? Discuss the tools used to scan web vulnerabilities.

   (b) What is password cracking ? Discuss the factors on which password cracking depend. Also explain password cracking mechanism in brief.

## UNIT – III

6. (a) What is data contamination ? How it can be controlled ? Explain.

   (b) What important role SQL injection plays as cyber crime investigation approach ? Explain the working of SQL injection.

7. (a) What is Spyware ? Discuss its different categories. How spyware is different from virus ?

   (b) Define Digital forensics. Write down the steps of digital forensics.

## UNIT – IV

8. (a) Why digital signature are required ? Explain Memory hard algorithm in brief.

   (b) What is Ethereum ? How it is constructed ? Discuss.

9. (a) How optimization can be achieved using Merkle Patricia Tree ? Discuss.

   (b) Discuss the use of blockchain in IoT.

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