

PE-848-CV-19
MASTER OF SCIENCE IN INFORMATION TECHNOLOGY (4th Semester)
Examination, June 2022
CYBER SECURITY

Time : Three Hours]

[Maximum Marks : 80
[Minimum Pass Marks : 29

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following objective type questions:

1x10=10

- (a) -----Can be considered as class of computer threats.
(i) Phishing (ii) Soliciting (iii) Dos attack (iv) Both (i) & (iii)
- (b) -----is designed to detect viruses and avoid them.
(i) Adware (ii) Antivirus (iii) Malware (iv) None of these
- (c) -----is a technique that is used to verify a message's integrity.
(i) Protocol (ii) Message digest (iii) Digital Signature (iv) None of these
- (d) -----technique is used to hide information inside a picture.
(i) Rootkits (ii) Bitmapping (iii) Image Rendering (iv) Steganography
- (e) -----symmetric key algorithm which uses a streaming cipher to encrypt information.
(i) SHA (ii) Blowfish (iii) RC4 (iv) MD5
- (f) -----means the protection of data from modification by unknown users.
(i) Integrity (ii) Confidentiality (iii) Authentication (iv) None-repudiation
- (g) -----is not primary objective of cryptography.
(i) Confidentiality (ii) Data integrity (iii) Authentication (iv) Data redundancy
- (h) -----enables a hacker to open a program or application and rebuild it with further features and capabilities.
(i) Social Engineering (ii) Reverse Engineering (iii) Planting malware (iv) Injecting code
- (i) Packet filtering firewall are vulnerable to-----
(i) Hardware vulnerability (ii) Phishing (iii) Spoofing (iv) None of these
- (j) SSL primarily focuses on-----
(i) Integrity and authenticity (ii) Integrity and privacy
(iii) Integrity and non-repudiation (iv) None of these

2. Answer the following short type questions:

2x5=10

- (a) What are challenges of computer security.
- (b) What is message authentication.
- (c) What is finger printing.
- (d) What is honeypots.
- (e) What are the needs of firewall.

Section-B

12x5=60

Solve any one question from each unit:

UNIT-I

3. Explain different symmetric block modes of operation diagrammatically.

OR

Discuss OSI security architecture with their needs and benefits.

UNIT-II

4. Explain RSA algorithm as well as attacks on RSA.

OR

Explain the secure Hash function and properties.

UNIT-III

5. Explain the birthday problem with their solutions.

OR

Discuss the digital signature process and attacks on digital signature.

UNIT-IV

6. Explain different approaches of intrusion detection with proper example.

OR

Write short notes on:-

- (i) Antivirus (ii) Worms

UNIT-V

7. Explain different types of firewall.

OR

8. Write short notes on:-

- (i) Features of Wireshark (ii) Security tools in Kali Linux