Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2024

Semester : Semester V - 2021
Course Code : CSE3094
Course Name : Cyber Security
Program : B.Tech.

Date : 09-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **4 X 5M = 20M**

1. How are we ensuring the confidentiality, integrity, and availability of sensitive data?
(CO1) [Knowledge]
2. How Does a Firewall Device Contribute to Network Security?
(CO2) [Knowledge]
3. What will be the ciphered text if rail fence cipher is used for encrypting the plain text **"UNITED STATES OF AMERICA"** with the key value given to be **3**?
(CO3) [Knowledge]
4. How does copyright protect software and other creative works?
(CO4) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **5 X 10M = 50M**

5. Differentiate between active and passive cyber-attacks. Provide one example for each type of attack.
(CO1) [Comprehension]
6. List and briefly describe common threats that can compromise the security of a network.
(CO2) [Comprehension]
7. Describe the basic principle behind the Columnar Transposition Cipher. .Suppose you want to encrypt the message **"A simple columnar transposition"** using a columnar transposition cipher with a key, say, **"32541"**
(CO3) [Comprehension]

8. Explain the principle behind the Playfair Cipher and discuss its strengths and weaknesses compared to other classical ciphers.

(CO4,CO3) [Comprehension]

9. Briefly discuss the intricate relationship between copyright, patents, and trade secrets within the cybersecurity domain. How do these intellectual property rights intersect, and what legal implications arise when they are violated?

(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **2 X 15M = 30M**

10. Explain brief about Columnar Transposition Cipher .Use a columnar transposition cipher with a rectangular array and keyword "**MATHEMATICIAN"** to encrypt the following message:
"Sample the electronic environment of the east coast of North Korea. Emphasis is intercepting coastal radars"

(CO3) [Application]

11. Describe the primary objectives of cyber forensic tools. Discuss their types and significance in the field of digital investigations and law enforcement

(CO4) [Application]