

Roll No



**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING  
END TERM EXAMINATION - JUN 2023**

**Semester :** Semester VI - 2020

**Course Code :** CSE2040

**Course Name :** Sem VI - CSE2040 - Cyber Threats for IOT and Cloud

**Program :** CCS

**Date :** 12-JUN-2023

**Time :** 9.30AM - 12.30PM

**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**

**10 X 2 = 20M**

1. Write a short note on Routing Attack with respect to Network Layer in IoT. (CO1) [Knowledge]
2. Explain in brief, how remote recording plays an important role in cyber security? (CO2) [Knowledge]
3. Describe How a Malware can affect any personal computer? (CO1) [Knowledge]
4. Define the concept of Lightweight Cryptography with an example. (CO1) [Knowledge]
5. Define man in the middle attack. (CO1) [Knowledge]
6. List out any four IoT development platform. (CO1) [Knowledge]
7. Mention all the 7 layers of OSI reference model. (CO1) [Knowledge]
8. Write a short note on Ransomware. (CO1) [Knowledge]
9. What are the IEEE standards used in Ethernet and Wireless LAN? (CO1) [Knowledge]
10. What is the service provider provides the highest level of service ? (CO2) [Knowledge]

## PART B

### ANSWER ALL THE QUESTIONS

5 X 10 = 50M

11. An insecure API refers to an application programming interface that has vulnerabilities or weaknesses that can be exploited by malicious actors. Explain any 5 common issues with respect to an Insecure API. (CO2) [Comprehension]
12. Draw the cloud infrastructure diagram depicting all the features of cloud computing. Explain the roles and responsibilities of each layer in cloud infrastructure. (CO4) [Comprehension]
13. Diffie-Hellman Key exchange is used to authenticate between two end parties in an insecure network. This Algorithm works on the concept of prime number, a primitive root and a random number. Man in the Middle attack can easily applicable to this approach. Justify your answer using relevant inputs. (CO2) [Comprehension]
14. Explain the concept of Distributed System with an architecture diagram. What are the important characteristics of a Distributed System? Explain in brief with any distributed system example. (CO2) [Comprehension]
15. An Internet of Things environment will work on the four different layers. Explain all these layers with appropriate diagram. Also explain how you are working with IoT devices by taking a suitable example. (CO4) [Comprehension]

## PART C

### ANSWER ALL THE QUESTIONS

2 X 15 = 30M

16. Consider the following case studies.  
Case 1: A server is used by several sites to interpret the address to a recognizable title: google.com. A DNS server, or DNS, is the server that transforms 192.156.65.118 to google.com.  
Case 2 : These target network layer or transport layer protocols using flaws in the protocols to overwhelm targeted resources. A SYN flood can send the target IP addresses a high volume of "initial connection request" packets using spoofed source IP addresses.  
Give justification for the following questions.
  - a. Which attacks are depicted in both the cases?
  - b. How these attacks are experienced in real time networking scenarios?
  - c. How can you prevent these attacks? Justify with a proper diagram. (CO3) [Application]
17. A Router is a Network Layer device which is responsible for routing the packets with the help of a Routing Table. Consider the following topology from CISCO packet tracer and answer accordingly.
  - a. Highlight the contents of routing table and compare with given topology.
  - b. There are two routers in the given topology Router 0 and Router 1. Explain Static Routing with respect to router 0.
  - c. When there is any issues in configuring the Router 0, does it lead to any attack? Justify your answer.
  - d. Compare and Contrast between Static and Dynamic Routing. (CO3) [Application]

