(Please write your Exam Roll No.) Exam Roll No. 01224802020

END TERM EXAMINATION

SIXTH SEMESTER [BCA] JULY-2023

Paper Code: BCA-314 **Subject: Computer Network & Information Security**

Time: 3 Hours **Maximum Marks:75**

Note: Attempt five questions in all including Q. no.1 which is compulsory. Select one question from each unit.

Q1 Answer any five of the following: **[5x5=25]**

(a) What is a Denial of Service (DoS) attack, and how can it impact a network? Discuss common mitigation techniques? **[5]**

(b) What is the difference between symmetric and asymmetric encryption algorithms? Explain with example. **[5]**

(c) Describe the concept of a Virtual Private Network (VPN) and its role in securing network communications. **[5]**

(d) What is a Man-in-the-Middle (MitM) attack? Describe the techniques used and how to prevent them **[5]**

(e) Describe the principles and advantages of using a strong password policy to enhance network security? **[5]**

(f) Explain the working of Digital Signature Scheme? **[5]**

UNIT-I

Q2 (a) What is Information Security and explain its attributes in detail. **[6]**

(b) What is the concept of network access control? Discuss the various techniques and technologies used for network access control? **[6.5]**

Q3 (a) What is Cipher? Differentiate between stream and block ciphers. **[6.5]**

(b) Write short notes on: **(any two)** **[2x3=6]**
(i) Trojan Horse
(ii) Logic bombs
(iii) Cryptography

UNIT-II

Q4 (a) Write short notes on: **[2.5x3=7.5]**
(i) Public Key Infrastructure
(ii) Authentication & Authorization
(iii) Hash Functions

(b) Explain RSA algorithm with an example? **[5]**

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Q5 (a) Explain the public key cryptography principles and its applications. **[6]**

(b) Explain different ways of message authentication? **[6.5]**

UNIT-III

Q6 (a) Explain briefly Internet Control Message Protocol? **[3.5]**

(b) Write short notes on: **[3x3=9]**
(i) IP Spoofing
(ii) Buffer Overflow
(iii) Teardrop Attacks

Q7 (a) Explain in detail TCP session hijacking with the help of diagram. **[6]**

(b) Describe the concept of a Virtual Private Network (VPN) and its role in securing network communications. **[6.5]**

UNIT-IV

Q8 Explain the architecture of Simple Network Management Protocol and its components? **[12.5]**

Q9 (a) Write notes on: **[2x3=6]**
(i) SSL/TLS (ii) Requirements of SET

(b) Explain the design principles and types of firewalls? **[6.5]**

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