Reg. No. :

Question Paper Code:R5D05

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

R21UCB505-INFORMATION SECURITY

Computer Science and Business Systems

(Regulations R2021)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define the term Confidentiality.   CO1- U

2. What is deliberate act of sabotage and vandalism?   CO1- U

3. Brief Access control model.   CO2- U

4. Give an example policy that specifies the access rights of each role in the   CO2- Ana
    healthcare organization's RBAC model.

5. Give an example for malicious code.   CO6- App

6. Define the term user security.   CO6- U

7. Why Database Security is important?   CO6- U

8. Write the Four Critical Elements of Security Architecture.   CO6- U

9. What is web analytics strategy?   CO2- U

10. Analyze the impact of ad relevance on Quality Score in PPC marketing. How CO1- U
    does it affect ad performance and cost?.

PART – B (5 x 16= 80 Marks)

11. (a) Explain the critical characteristics of information in order to   CO2- App   (16)
        achieve security.

                                    Or

    (b) Explain the role of security policies and procedures in maintaining   CO2- App   (16)
        an organization's security posture.

12. (a) Explain any two types of access control model in detail.   CO2- App   (16)

<div align="center">Or</div>

    (b) Give a detailed note on how confidentiality polices is been CO2- App   (16)
practiced.

13. (a) Write a detail note on design principles in information security.   CO2- Ana   (16)

<div align="center">Or</div>

    (b) Explain the role of system design principles in implementing CO2- Ana   (16)
effective information security measures.

14. (a) A company uses a cloud-based storage system to store sensitive CO2- Ana   (16)
customer data, including credit card information. One day, an
employee receives an email that appears to be from the company's
IT department, requesting that they enter their login credentials to
verify their account. The employee enters their credentials without
realizing that the email was a phishing attempt. Apply type of
malicious behavior occurred in this scenario, the potential
consequences of this action.

<div align="center">Or</div>

    (b) You are a security analyst for a large organization. The CO2- Ana   (16)
organization's IT department recently upgraded the operating
system on all of the organization's computers, and you have been
tasked with ensuring the security of the new operating system. One
of the organization's employees reports that their computer has
been infected with malware. You discover that the malware was
able to exploit a vulnerability in the operating system. Apply steps
would you take to prevent similar incidents from occurring in the
future and improve the security of the organization's operating
systems?

15. (a) Give a detail note on database auditing.   CO1- U   (16)

<div align="center">Or</div>

    (b) What are the key components of a database security architecture CO1- U   (16)
and how do they work together to protect a database system?