PRESIDENCY UNIVERSITY

BENGALURU

<table>
<tr><td colspan="3" align="center">End - Term Examinations – MAY 2025</td></tr>
<tr><td colspan="2">Date: 23-05-2025</td><td>Time: 01:00 pm –04:00 pm</td></tr>
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<table>
<tr><td colspan="2">School: SOCSE</td><td colspan="2">Program: B. Tech (CSI, IST, CBD)</td></tr>
<tr><td colspan="2">Course Code: CSE2060</td><td colspan="2">Course Name: Information Security & Management</td></tr>
<tr><td colspan="2">Semester: IV</td><td>Max Marks: 100</td><td>Weightage: 50%</td></tr>
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CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	24	24	26	26	-

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.   **10Q x 2M=20M**

1.	List out the types of Security.	2 Marks	L1	CO1
2.	What are the components of IS?	2 Marks	L1	CO1
3.	Differentiate between thread vs thread agent.	2 Marks	L1	CO2
4.	What is thread and attacks?	2 Marks	L1	CO2
5.	What is risk threshold?	2 Marks	L1	CO3
6.	Define zero tolerance risk exposure.	2 Marks	L1	CO3
7.	List out the attributes for data assets.	2 Marks	L1	CO3
8.	Define RADIUS.	2 Marks	L1	CO4
9.	List any two access control architecture models.	2 Marks	L1	CO4
10.	What is verification and validation?	2 Marks	L1	CO4

Part B

Answer the Questions.   **Total Marks 80M**

11.	a.	Explain about the components of information system.	20 Marks	L2	CO1
	b.	How does the McCumber Cube framework address modern cybersecurity threats?		L2	CO1
		Or			

12.	a.	In a mid-sized IT organization planning to implement a new risk management strategy, leadership is considering whether to adopt a top-down or bottom-up approach. Explain the concept of organizational hierarchy in this context, and critically analyze how both approaches can impact the effectiveness of decision-making and risk implementation across different levels of the organization. Support your answer with relevant examples.	**20 Marks**	**L3**	**CO1**
13.	a.	Explain some of the potential consequences of insider threats within an organization. Discuss how these threats can impact the confidentiality, integrity, and availability of data, and provide real-world examples to illustrate the risks.	**20 Marks**	**L2**	**CO2**
		Or			
14.	a.	A financial institution has recently experienced a cyberattack that resulted in the exposure of sensitive customer data. The breach occurred due to weak encryption and a lack of proper user authentication. The organization is now looking to strengthen its cybersecurity measures to prevent future attacks. As a security consultant, how would you apply the five core security principles—Confidentiality, Integrity, Availability, Authentication, and Non-Repudiation—within the institution's cybersecurity framework to prevent similar breaches? Provide specific measures and real-world examples for each principle that could enhance the security posture of the institution	**20 Marks**	**L3**	**CO2**
15.	a.	Explain the key components of the Risk Management Framework (RMF) and outline the steps of the Risk Management Process with the help of a clear diagram. Illustrate your explanation using a relevant real-time scenario.	**20 Marks**	**L2**	**CO3**
		Or			
16.	a.	Explain the significance of Executive Governance and Support in the context of risk management. In what ways does active leadership involvement contribute to the effectiveness of an organization's risk management efforts?	**20 Marks**	**L2**	**CO3**
17.	a.	Explain the concept of biometric authentication as an identity verification mechanism. Discuss the various physiological and behavioral traits used in biometric systems, highlighting the characteristics considered truly unique. Describe how biometric systems are evaluated using metrics. Analyze the advantages, limitations, and user concerns associated with the use of biometric authentication in modern security systems.	**20 Marks**	**L2**	**CO4**
		Or			
18.	a.	Explain how Kerberos ensures mutual authentication between clients and servers, and why this is crucial for secure communications.	**20 Marks**	**L2**	**CO4**