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February 2025 Session
CA of Database Security Level: 3 Academic year: 2022/2023 Branch: Software
Engineering Duration: **02h**

Section I: Short Answer Questions (11marks)

- 1.** Define database security and describe five main service which are specific to DB security. **(5mks)**
- 2.** what is a security processor explain this using a diagram? **(2mks)**
- 3.** Describe how the SQL statements is typically exploited, and mention one best practice for preventing it. **(4mks)**
 - a.** **SELECT * FROM users WHERE username = '\$username' AND password = '\$password';**
 - b.** **SELECT * FROM products WHERE name LIKE '%\$search%';**

Section II: Practical/Application Question (5 Marks)

Imagine you are a cybersecurity analyst responsible for securing an online e-commerce platform's database.

- a.** Explain the importance of implementing role-based access control (RBAC) in database security. **(1 mark)**
- b.** Describe three ways an attacker could exploit database vulnerabilities and suggest a mitigation strategy for each. **(2 marks)**
- c.** Your company suspects that an attacker is attempting SQL Injection on the login page. Outline a security plan that includes **detection**, **prevention**, and **response** strategies. **(2 marks)**