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**Presidency University**

**Bengaluru**

 **School Of Computer Science and Engineering & Information Science**

**Summer Term End-Term Examinations, August 2024**

**Date**:06/08/2024

**Time**: 9:30 AM-12:30 PM

**Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSE3097

**Course Name**: WEB SECURITY

**Department:** CSE

 **Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

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| **Q.No** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. List out the vulnerabilities in web security and discuss any two.
 | 4 | CO1 | L1 |
| 1. With a suitable example explain the white list and black list validation
 | 6 | CO1 | L2 |
| 1. A friend of yours sends an e-card to your mail. You have to click on the attachment to get the card. What will you do? Justify your answer.
 | 10 | CO1 | L3 |
| OR |
| 2 | 1. Describe some ways to secure web authentication.
 | 4 | CO1 | L1 |
| 1. What makes 2FA different from other security measures? How reliable is 2FA?
 | 6 | CO1 | L2 |
| 1. Illustrate the entire login process of Single Sign-On Solution(SSO).
 | 10 | CO1 | L3 |

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| 3 | 1. Define Authentication, what do you mean by two factor Authentication.
 | 4 | CO2 | L1 |
| 1. Discuss the Design Flaws and Implementation Flaws in Authentication Mechanisms.
 | 6 | CO2 | L2 |
| 1. Explain the use of cookies in Web applications.
 | 10 | CO2 | L3 |

OR

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| 4 | 1. What are various validating criteria for passwords?
 | 4 | CO2 | L1 |
| 1. Discuss in detail about any three encoding schemes
 | 6 | CO2 | L2 |
| 1. Discuss in detail about web authorization with neat diagram .Explain each layer in authorization.
 | 10 | CO2 | L3 |

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| 5 | 1. Explain Forceful browsing
 | 4 | CO3 | L1 |
| 1. Explain the difference between Discretionary Access Control (DAC) and Mandatory Access Control (MAC) and give examples of situations where one would be preferred over the other?
 | 6 | CO3 | L2 |
| 1. Discuss in detail about weakness in session token generation and session token handling
 | 10 | CO3 | L3 |

OR

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| 6 | 1. Describe the common vulnerabilities, attacking and securing access control
 | 4 | CO3 | L1 |
| 1. With a neat diagram explain how to secure the session management.
 | 6 | CO3 | L2 |
| 1. Interpret the cross-site scripting and cross site request forgery
 | 10 | CO3 | L3 |

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| 7 | 1. What are some common techniques used for injecting into interpreted contexts?
 | 4 | CO4 | L1 |
| 1. How does Content Security Policy (CSP) help in mitigating XSS attacks?
 | 6 | CO4 | L2 |
| 1. What measures can be taken to protect cookies from being exploited by attackers?
 | 10 | CO4 | L3 |

OR

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| 8 | 1. What techniques and tools are commonly used to find XSS vulnerabilities in web applications?
 | 4 | CO4 | L1 |
| 1. What are some best practices for preventing SQL injection vulnerabilities in a web application?
 | 6 | CO4 | L2 |
| 1. How does NoSQL injection differ from SQL injection, and what are its unique challenges?
 | 10 | CO4 | L3 |

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| 9 | 1. What are some general rules of thumb for securing web applications
 | 4 | CO1 | L1 |
| 1. Discuss in detail about the basic components of Security
 | 6 | CO1 | L2 |
| 1. How can attackers exploit captured user data, and what can be done to mitigate these risks? Handling Client-Side Data Securely
 | 10 | CO1 | L3 |

OR

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| --- | --- | --- | --- | --- |
| 10 | 1. How does salting and hashing enhance password security?
 | 4 | CO2 | L1 |
| 1. Discuss the advantages and disadvantages of using Basic HTTP authentication.
 | 6 | CO2 | L2 |
| 1. How can multi-factor authentication be effectively implemented to enhance security?
 | 10 | CO2 | L3 |