

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019**

**Course Code: CS472**

**Course Name: PRINCIPLES OF INFORMATION SECURITY**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 4 marks.*

		Marks
1	What is brute force attack?	(4)
2	Discuss different types of attacks that can occur in an organization.	(4)
3	Describe discretionary policies for Biba model.	(4)
4	What is phishing? Give an example.	(4)
5	Differentiate between polymorphic and metamorphic worm.	(4)
6	How do you reduce the impact of XSS vulnerabilities?	(4)
7	Describe frame spoofing with a neat diagram.	(4)
8	Describe the security enhancements present in UMTS.	(4)
9	What is SOAP binding? Explain with the help of a HTTP message.	(4)
10	List the security threats in RFID based identification and tracking systems.	(4)

**PART B**

*Answer any two full questions, each carries 9 marks.*

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|----|---|-----|
| 11 | a) What is role based access control. Illustrate with suitable example the concept of role inheritance.   | (4) |
|    | b) Differentiate between Discretionary and Role based access control.   | (2) |
|    | c) Briefly discuss Mandatory access control implemented in a typical secure operating system.   | (3) |
| 12 | a) Demonstrate Chinese wall security model with neat diagram.   | (5) |
|    | b) Classify each of the following as a violation of confidentiality, integrity, availability or some combination thereof. Also justify your answer. | (4) |
|    | i. John copies Mary's homework.   |     |
|    | ii. Paul crashes Linda's system   |     |
|    | iii. Carol changes the amount of Angelo's check from 100 to 1000  |     |
|    | iv. Gina forges Roger's signature on a deed.  |     |

- 13 a) Interpret about the star property in Bell -LaPadula model. (4)  
b) Write Windows access control algorithm. (5)

**PART C**

*Answer any two full questions, each carries 9 marks.*

- 14 a) How Buffer OverFlow (BOF) vulnerability makes software insecure. Explain different ways in which BOF exploitations occur. (5)  
b) Explain XSS vulnerabilities. (4)
- 15 a) Describe Kermack-McKendrick Model of worm propagation. (5)  
b) Explain any two categories of topological worms. (4)
- 16 a) Explain how can you detect and prevent SQL Injection vulnerabilities. (5)  
b) Name any worm that exploited buffer overflow vulnerability. Explain its characteristics. (4)

**PART D**

*Answer any two full questions, each carries 12 marks.*

- 17 a) Explain link level security provided by Bluetooth. (6)  
b) Describe entity authentication and key agreement in GSM Networks. (6)
- 18 a) How security is implemented in online credit card payment systems? (8)  
b) What are the main concerns involved in online credit card payment systems? (4)
- 19 a) Explain MAC generation and encryption in CCMP. (6)  
b) Explain any two technologies for web services. (6)

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