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Roll No.

TCS-591

**B. TECH. (CSE) (FIFTH SEMESTER)
END SEMESTER**

EXAMINATION, Jan., 2023

COMPUTER SYSTEM SECURITY

Time : Three Hours

Maximum Marks : 100

- Note :** (i) All questions are compulsory.
(ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.
(iii) Total marks in each main question are **twenty**.
(iv) Each sub-question carries 10 marks.
1. (a) What do you mean by Buffer overflow attack ? Explain with the help of a block diagram the three important phases of buffer overflow attack. Also state the steps to stop this attack (CO1)

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(b) Explain in detail about the following :

(CO1)

(i) Fuzzing

(ii) Access Control and Identity management

(c) Write in detail about the tools and techniques used for writing robust application software. (CO1)

2. (a) Explain in detail about the following :

(CO2)

(i) Format String Vulnerability

(ii) Return-to-libc attack

(b) Explain about race condition vulnerability and its protection measures. (CO2)

(c) Explain in detail about the following :

(CO2)

(i) Dirty COW Attack

(ii) Heartbleed Attack

3. (a) Explain the importance of web security in modern day applications. State *two* types of attack related to web security (CO3)

- (b) What do you mean by Cross Site Scripting attack ? How can we detect and solve cross site cripting attacks ? (CO3)
- (c) Explain the concept of HTTPS, SSL /TLS and SSH with regards to web security. (CO3)
4. (a) Explain the Android Security Model in detail with suitable block diagrams. (CO4)
- (b) Explain how smartphone is attacked by spywares and botnets. Also state how can we protect the mobile devices from spyware and botnet ? (CO4)
- (c) What do you mean by Repackaging attack in Android Mobile phone ? How can we protect mobile devices against this attack ? (CO4)
5. (a) Explain in detail about Meltdown and spectre attack and its protection measures. (CO5)

(4)

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- (b) Explain in detail about SCADA security and also write how it is different from other security measures. (CO5)
- (c) What do you mean by Access Control List ? Give *one* example of Access Control List implementation. (CO5)