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Roll No.

TCS-391

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

EXAMINATION, Jan., 2023

FUNDAMENTAL OF CYBER 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 penetration testing ?
Write the importance and significance of each steps of penetration testing. (CO1)
(b) Explain about the following : (CO1)
(i) Ethical Hacking
(ii) CIA Triad

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- (c) What do you mean by hackers ? Explain any *three* types of hackers. (CO1)
2. (a) Why Linux is considered as a more secured operating system compared to other operating systems like Windows. Write the Linux commands to do the following : (CO2)
- (i) Creating a user
 - (ii) Creating a file
 - (iii) Removing a user
 - (iv) Deleting a file
- (b) Write short notes on the following : (CO2)
- (i) chmod
 - (ii) useradd
 - (iii) mv
 - (iv) sudo
- (c) Write a program in python to input a string from the user and print it in reverse order. (CO2)
3. (a) What do you mean by Virtualization ? Write *five* advantages of using virtualization. What are the different types of Networking possible in a virtual machines ? (CO3)

- (b) Find out the Network/subnet id and broadcast id of the following : (CO3)
- (i) 192.168.129.3 255.255.255.0
 - (ii) 172.16.255.254 255.255.0:0
 - (iii) 10.255.0.1 255.0.0.0
 - (iv) 10.255.0.1 255.255.0.0
 - (v) 10.255.0.1 255.255.255.0
- (c) Explain the calculations for 3 Bitclass C subnetting for the network id 192.168.10.0 255.255.255.0. (CO3)
4. (a) What do you mean by Cross Site Scripting attack ? How can we detect and solve cross site scripting attacks ? (CO4)
- (b) What do you mean by SQL injection attack ? What are the different ways to stop this attack ? (CO4)
- (c) Explain the importance of Java script in web site development. How is java script used for conducting attack in a browser ? (CO4)

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5. (a) Write about any *four* types of malware. State in your own words how Malware is one of the important threat to Computer systems now-a-days. (CO5)
- (b) What is a VPN ? Write about the different types of VPN available with suitable diagrams. State how VPN technology has reduced the cost and increased the security of establishing a long distance network. (CO5)
- (c) Explain about the following : (CO5)
- (i) Birthday Attack
 - (ii) Buffer over flow attack