PRANVEER SINGH INSTITUTE OF TECHNOLOGY KANPUR

Odd Semester Session 2022-23 Pre-University

B. Tech. III[rd] Semester

Computer System Security (KNC-301)

CO Number	Course Outcome
CO1	**Understand [L1.Knowledge]** fundamentals of system security, vulnerabilities and attacks
CO2	**Describe [L2. Comprehension]** attack scenarios to web browsers, web servers, mobile software and malicious software posing system security threats.
CO3	**Apply [L3.Application]** mitigation techniques and recreate exploits for software posing system security threats.
CO4	**Analyze [L4.Analysis]** the need of system security in critical computer systems, networks, world wide web and well known cyber attack incident.

Time: 3 Hrs. M. M. 100

Section A

Q1. Attempt all questions: **(2X10 =20 Marks)**

a) Explain computer security problem. CO2

b) Explain CIA for computer system security. CO2

c) Describe detour used in Unix user ids and process ids. CO2

d) Write short notes on Software Fault isolation (SFI). CO1

e) Discuss the characteristics and features of Unix. CO2

f) Define the term identification , authentication , authorization, non-repudiation. CO1

g) Define Hash algorithm. CO2

h) Write short notes on secret key cryptography. CO1

i) Explain Domain name system? CO2

j) Explain about DDoS attack. CO2

Section B

Q2. Attempt all questions. **(10X3 = 30 Marks)**

a) Explain any five attacks on Computer System security. CO2

b) Define Control Hijacking with an example. Explain the term of Buffer overflow in control hijacking. CO2

OR

c) Describe cookies and frame busting. CO2

d) Illustrate email security certification in brief. CO3

OR

e) Illustrate routing security. Also, discuss various routing security protocols. CO3

Section C

Q3. Attempt all questions: **(10X5 = 50 Marks)**

a i) Discuss Error 404 hacking digital India part 1 chase in computer system security. CO2

OR

ii) Describe common types of non-physical threats in computer system security. CO2

b i)	Explain Access Control list(ACL) and technologies used in it.,	CO2
	OR	
ii)	Explain Confinement Principle in CSS.	CO2
c i)	Illustrate about Browser Isolation.	CO3
	OR	
ii)	Illustrate Cross site request forgery and explain defenses against it.	CO3
d i)	State RSA algorithm. Investigate encryption and decryption using RSA for p=17,q=11, e=7 , m =	CO4
	OR	
ii)	Examine Digital signature in detail.	CO4
e i)	Examine Intrusion detection system. Explain different types of IDS.	CO4
	OR	
ii)	Explain different types of Firewall and also investigate the working of packet filtering firewall.	CO4