JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Make-up Examination-Nov-2025

COURSE CODE (CREDITS): 24B11CI312 (3)　　　　　　　　MAX. MARKS: 25

COURSE NAME: INFORMATION AND CYBER SECURITY FOUNDATIONS

COURSE INSTRUCTORS: AAYUSH SHARMA　　　　　　　　MAX. TIME: 1 Hour 30 Minutes

Note: Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required

for solving problems

Q.No	Question	CO	Marks
Q1	Briefly explain each layer of OSI model and draw OSI model and TCP/IP model contrasting there architecture differences.	[CO1]	5
Q2	Briefly explain the working of Operating System including OS startup sequence and Process Management system; Draw a OS stack to explain the architecture of the OS startup sequence.	[CO3]	5
Q3	Compare Direct Prot Forwarding and Reverse Port Forwarding; Explain proxy servers.	[CO2]	5
Q4	What is a peer to peer network, how is it different from proxy servers and VPNs, give an example of peer to peer network other than torrent.	[CO2]	5
Q5	You are working on an authorized training system in a cybersecurity lab. The machine is reachable over a non-default SSH port (2222), password for the machine is "Hello@080", write commands for the following operations: A) Connect to the remote machine using SSH. Then display your current directory and logged-in username. B) Locate a file named mission.txt anywhere inside your home directory and show its first five lines without using an editor. C) Display the permissions and ownership of mission.txt. If it is not readable, modify it so that only the owner can read and write. D) Find all .log files under /var/log that were modified within the last 3 days, and compress them into a single archive named /tmp/logs-backup-<YYYY-MM-DD>.tar.gz. E) Exit the machine.	[CO2] [CO3]	5