JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

M.Tech-II Semester (CSE)

COURSE CODE (CREDITS): 18M1WCI116 (3)   MAX. MARKS: 15

COURSE NAME: Security Design and Architecture

COURSE INSTRUCTORS: Mr. Saurav Singh   MAX.TIME: 1 Hour

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	Layering and Abstraction are two key principles in secure system design.Compare and contrast layering and abstraction in the context of system security.	CO1	3
Q2	Discuss the role of memory protection in secure hardware architecture. How do process isolation and hardware segmentation contribute to system security?	CO2	3
Q3	Explain the concept of virtual memory? How do swapping and paging functions within a system, and what issues might arise if excessive swapping occurs?	CO3	3
Q4	Discuss the benefits and security challenges of virtualization. How does virtualization escape pose a threat to system security, and what measures can be taken to mitigate this risk?	CO4	3
Q5	What are Thin clients, and how do they differ from traditional computing systems? Explain their advantages and security concerns, particularly in terms of centralized data storage and application management.	CO4	3