

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

M.Tech-II Semester (CSE/IT)

COURSE CODE (CREDITS):10M11CI213(3)

MAX. MARKS: 25

COURSE NAME: Advanced Software Engineering

COURSE INSTRUCTORS: Palak Aar

MAX. TIME: 1 Hour 30 Min

**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	Design a library management system using OOD principles. Identify the main classes, attributes, and methods.	CO3	[5]
Q2	Design a Z-Schema for a login system that includes user registration, login, logout, and account locking after three failed attempts.	CO3	[7]
Q3	A startup follows an ad-hoc software development approach with inconsistent processes. Using CMMI, identify its current maturity level and describe the steps needed to reach Level 3.	CO2	[5]
Q4	a. Determine the common errors in requirements that lead to project failures? How can validation help avoid them? b. Critically evaluate the effectiveness of Six Sigma implementation in reducing transaction failures in a banking application.	CO2	[2] [3]
Q5	Analyze how the use of software prototyping can help uncover hidden or incomplete system requirements in a web-based application.	CO3	[3]