JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

M.Tech-II Semester (SE)

COURSE CODE (CREDITS): 11M1WCE214 (3) MAX. MARKS: 15

COURSE NAME: THEORY OF PLATES AND SHELLS

COURSE INSTRUCTORS: DR. SAURAV 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	A thin plate is subjected to displacement u and v related to following equation $u = 2x^3 + 3y^2, V = 3x^2 + 4y^3$ The material has the following properties: Young's modulus E=200 GPa Poisson's ratio ν=0.3. Determine the strains σ_x, σ_y and τ_{xy} at point (2,3)	1	5
Q2	Stating assumptions deduce an equation to compute the bending moments M_x and M_y for thin rectangular plates. w= deflection of the plate.	2	5
Q3.	Deduce Navier's Solution to find the Lateral Deflection of Simply Supported Rectangular Plate of size a × b subjected to load q_{xy}	2	5