

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Make-up Examination-Nov-2025

COURSE CODE (CREDITS): 25M11CE112

MAX. MARKS: 25

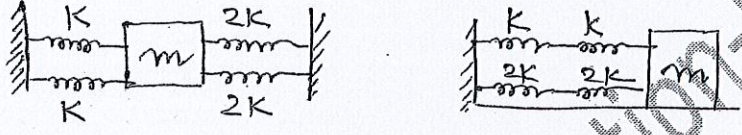
COURSE NAME: Structural Dynamics

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam

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	Find the time period of the given spring mass system. 	CO-1	5
Q2	Derive the general solution for displacement equation from the differential equation of Single Degree Freedom system which is free and undamped.	CO-1	5
Q3.	Find the damped natural period and damping of a building whose amplitude reduces from 0.8m to 0.1m in 6 cycles in 12 seconds.	CO-2	5
Q4.	A RCC circular slab having diameter 4m and thickness 130mm is supported by 3 rectangular columns having width 300mm, depth 500 and length 4m. Assume M30 grade of concrete. Find (i) Total Mass of the system (ii) Total stiffness of the system (iii) Natural frequency and time period the system (iv) Damped natural frequency and time period if the critical damping ratio is 5%.	CO-3	10