JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT TEST -3 EXAMINATION- 2025

M.Tech-II Semester (SE)

COURSE CODE (CREDITS): 12M1WCE213

MAX. MARKS: 35

COURSE NAME: EARTHQUAKE RESISTANT DESIGN OF STRUCTURES

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

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

Q.No	for solving problems	
Q1	Question (i) Define the function of above 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Marl
QI	(i) Define the function of shear wall and its orientation as per the direction of earthquake load.	2+2
		= 4
02	(ii) Discuss different types of RCC shear wall with diagram.	
Q2	Discuss different steps used in construction of masonary structures for	5
02	earthquake resistant building.	
Q3	Find Dead Load, Live Load and Earthquake Load for the given frame.	10
	Assume: Thickness of slab = 160 mm, M25, Fe415, $A_h = 0.05$	1-12-11
	3 m 500	
	· 3m 6m Soo (Beam)	
	3m 6m 500	
	The state of the s	
04	(Plan) 500 (column)	
Q4	Find the longitudinal reinforcement of the given beam with the given moments	9
	as per IS: 13920. Assume the load combination as 1.2 (DL+LL+EQ). Assume	
	M25, Fe415 as grade of concrete and steel.	
	5m	
	700mm	
	Left Middle Right 300mm	
	DL+LL -50 KNM 30 KNM -20 KNM EQ100 KNM 0 BOKNM	
	EQ -100 KNM 0 BOKUM	
05	01 - 100 (Com 0 00 (Com	average and
Q5	Check the given design for strong column and weak beam as per IS:13920.	7
	Assume $M_u / (f_{ck}bd^2) = 0.23$ for column.	
	70p -> px = 1.24.	
	5 600mm	
	300mm	
to the state of the	Bottom -> by = ngv	
-124-21-4	Percentage of Steel 500, PX = 3.5	
	(by.) 500	