CONTINUOUS INTERNAL EVALUATION- 3

Dept: CV	Sem / Div: 5th	Sub:Design of RCC Structural Elements	S Code:18CV53
Date: 13/01/2021	Time: 9:30-11:00 am	Max Marks: 50	Elective:N
Note: Answer any 2 full questions, choosing one full question from each part.			

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QN		Questions	Marks	RBT	COs
		PART A			
1	a	Design a two way slab for a room of size 5m x 6m. Assume a live load of 3kN/m^2. Use M20 concrete and Fe415 steel. Assume corners held down. Take width of bearing as 300mm. Draw the reinforcement details.	25	L4	CO 2,3,4
		OR			
2	a	Design a RCC dog legged staircase for an office building in a room measuring 2.8m x 5.8m. Vertical distance between the floors is 3.6m. Width of flight = 1.25m. Allow a live load of 3kN/m^2. Use M20 concrete and Fe415 steel. Assume the stairs are supported on 230mm thick walls and the end over the edges of landing slab. Also sketch the details.	25	L4	CO 2,3,4
		PART B			
3	a	Design an isolated footing for a RC column of size 230mm x 230mm carrying a vertical load of 600kN. Take SBC of soil as 200kN/m^2. Use M20 concrete and Fe415 steel. Sketch the reinforcement details.	25	L4	CO 2,3,4
		OR			
4	a	Design an axially loaded short column of size 500mm x 500mm for a service load of 2000kN. Use M20 concrete and Fe415 steel.	10	L4	CO 2,3,4
	b	A column of size 300mm x 400mm has an effective length of 3.6m. It is subjected to a factored load of 1100kN and a factored moment of 150kNm about the major axis. Design the column using M25 concrete and Fe415 steel. Sketch the details.	15	L4	CO 2,3,4

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