U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

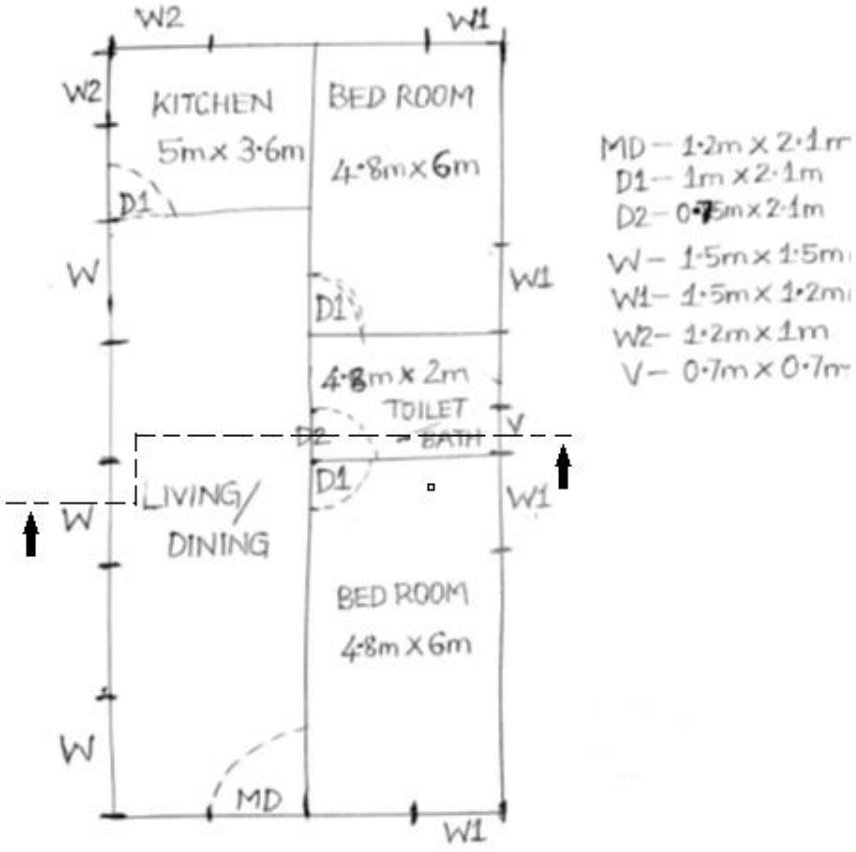
February 2025 Semester End Main Examinations

Programme: B.E. **Semester: IV**
Branch: Civil Engineering **Duration: 4 hrs.**
Course Code: 23CV4ESBDC **Max Marks: 100**
Course: Building Drawing And CAD

Instructions: 1. Answer any three full questions.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT – I			
1		Explain the concept of bubble diagram adopted for functional design of buildings. Considering a single storey residential building explain the interconnectivity of different portions in a typical residential building that contains two bed rooms, 1 kitchen, 1 common toilet/bath, 1 verandah, 1 study room, 1 living/dining with the help of a bubble diagram and develop line diagram for the same to a suitable scale.	*CO* 1	*PO2*	**20**
		UNIT – II			
2		Draft the detailed plan and section of an RCC column and column footing to a suitable scale with the following data: Size of footing - 1200 x 1200 mm and Size of column - 300 x 300 mm. The main longitudinal reinforcement in the column is 8 Nos of 20mm diameter rebars distributed on all faces of the column and the lateral tie reinforcement is 2L- 8mm diameter @ 175mm centre to centre. The reinforcement in the footing is 12mm diameter @ 200mm centre to centre in both directions. Fe500 grade steel and M25 grade concrete is adopted. The overall depth of the RC footing is 475mm. The overall depth of the RC footing is constant throughout. Bed concrete of 1:3:6 having a thickness of 100mm is provided.	*CO* 2	*PO3*	**12**
		Draft to a suitable scale a double shutter single paneled glazed wooden window having an opening size of 2m x 1.5m. The frame has a cross sectional dimensions of 75mmx 85mm. The top and bottom rails have a depth of 75mm and are 30mm thick. Assume other missing details.	*CO* 2	*PO3*	**08**
		OR			
3		Draft to a suitable scale a plan and section of an R.C.C. dog stair case from the following data : Inner clear dimensions of staircase room is 4000 mm x 6500mm Width of each flight – 1500mm, waist slab thickness – 150mm The clear floor to roof height (head room) – 3.3m, Riser - 150 mm height, Tread - 300 mm width.	*CO* 2	*PO3*	**20**

			UNIT - III			
	4		Draw the plan, elevation, section to a suitable scale based on the line diagram of the single storey residential building given. Include schedule of openings. Main wall thickness 230mmm and partition wall thickness 115mm. Floor to roof height is 3.3m. The roof slab is 150mm thick. Include the schedule of openings as a table, sital area, carpet area and super built area. Consider other relevant details appropriately.  	***CO*** 3	***PO3***	**60**

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