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

**Autonomous Institute Affiliated to VTU**

## June 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.

| | | | UNIT - I | *CO* | *PO* | Marks |
|---|---|---|---|---|---|---|
| | 1 | | Prepare a bubble diagram for a proposed PWD office building with the following requirements;<br>i. AEE room 4m × 3m with attached toilet (2.5m × 1.4m).<br>ii. AE room 3m × 3m with attached toilet (2.5 m × 1.4 m).<br>iii. Manager room 4m × 3m.<br>iv. Technical staff room 4m × 4m.<br>v. Drafting room 4m × 6m.<br>vi. Clerical staff room 4m × 3m.<br>vii. Accountant and related staff room 4m × 3m.<br>viii. Store keeper and related staff room 6m × 4m.<br>ix. Toilet block for men and women separately. | *CO1* | *PO2* | **20** |
| | | | **OR** | | | |
| | 2 | | Draw the interconnectivity diagram and line plan to a suitable scale of school building located at district headquarters. | *CO1* | *PO2* | **20** |
| | | | **UNIT - II** | | | |
| | 3 | | Prepare a working drawing for an isolated rectangular RCC column and footing has the following details:<br>Column size: (400 × 600) mm. Size of footing: 2m × 3m of uniform thickness 450mm. Depth of foundation below GL = 1.5m, Height of column to be shown above GL = 1.0m,<br>Thickness of PCC bed in 1:3:6 = 75mm,<br>Details of reinforcement:<br>Column: #8 - 16φ as main bars with 2L - 8φ @ 150 c/c lateral ties,<br>Footing: Longer direction steel- 12φ @ 130 c/c, Shorter direction steel - 12φ @ 220 c/c | *CO2* | *PO3* | **20** |
| | | | **OR** | | | |
| | 4 | | Draw plan and sectional elevation of RCC dog legged staircase for an office building which measures 3m × 5.5m. The vertical distance between the floor is 3.3m (including landing). Thickness of the floor | *CO2* | *PO3* | **20** |

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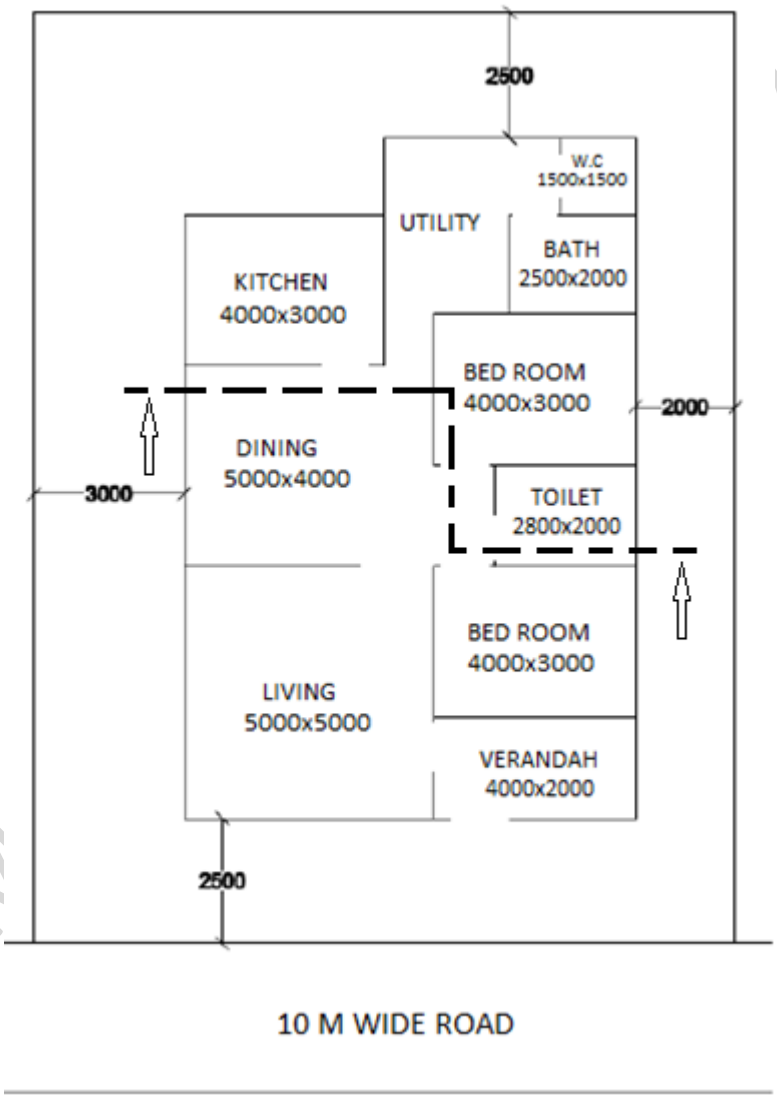
| | | | slab is 150mm. Provide steps with tread of 300mm and rise of 150mm. Thickness of waist slab and landing slab is 150mm. Width of stair is 1.5m. | | | |
| | | | **UNIT - III** | | | |
| | 5 | | The line sketch of a residential building is shown in Figure 1. Draw the following to a suitable scale. Also provide the details of schedule of openings, plot coverage and FAR. Take load bearing walls are of 300 mm thick and internal walls are of 100 mm thick.<br><br>i) Plan<br>ii) Front elevation and<br>iii) Section showing maximum details.<br><br>  <br><br>Figure 1 | *CO1* | *PO1,2* | **60** |

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