

Third Semester B.E Degree Examination, Feb./Mar. 2022

(CIVIL ENGINEERING)

**COMPUTER AIDED BUILDING PLANNING AND DRAWING**

Time: 3 Hours

Max. Marks: 100

NOTE:

1. Answer any *TWO* full questions from **PART A** and any *ONE* full question from **PART B**.
2. Assume any missing data suitably.

**PART A**

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| Q1 | A one way slab for a hall of internal dimension $7.0 \times 11.77\text{m}$ has the following details.<br>Thickness of slab = 150mm<br>Wall Thickness = 230mm<br>Main steel along short span = 10 mm # @ 100mm c/c<br>Distribution steel = 8mm # @ 150mm c/c<br>Draw to suitable scale the following<br>a. Plan showing the reinforcement details.<br>b. Cross section of slab at mid span along short span.<br>c. Cross section of slab at mid span along long span. <span style="float: right;">(25 Marks)</span>                                   |
| Q2 | The scale the elevation and cross section of English bond and Flemish bond with all the details for 12 courses. <span style="float: right;">(25 Marks)</span>  |
| Q3 | Draw the plan and Section elevation for a septic tank for the following details.<br>Depth of tank= 1.75m, Length of PCC bed=4.7m, width of PCC bed 1.9m, Thickness of PCC bed 0.15m. Width of tank wall in brick work above PCC bed=0.4m for a height of 0.4m. Width of tank wall in brick work=0.3m for a height of 0.5m. Width of tank wall in brick work=0.2m for a height of 0.7m. The Tank consists of a RCC pre cast slab of thickness 7.5cm. Also show the provision for inlet and outlet pipes <span style="float: right;">(25 Marks)</span> |
| Q4 | Draw to scale the plan and sectional elevation of both the flight of a open navel stair with rectangular well for an office building with the following data. Inside dimension of staircase = $6 \times 4.5\text{m}$ , Height between the floors = 3.75m, Thickness of the floor slab and the landing slab =150mm, Width of stair =1.5m <span style="float: right;">(25 Marks)</span>  |

**PART B**

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| Q5 | The line diagram of a residential building is given in Fig. Q5. Draw to scale the following:<br>a) Plan at sill level.<br>b) Front elevation.<br>c) Section along XX.<br>d) Schedule of openings. <span style="float: right;">(50 Marks)</span> |
| Q6 | The line diagram of Residential building is given in Fig. Q6. Draw to scale the following:<br>a) Plan at sill level.<br>b) Front elevation.<br>c) Section along XX.<br>d) Schedule of openings. <span style="float: right;">(50 Marks)</span>   |



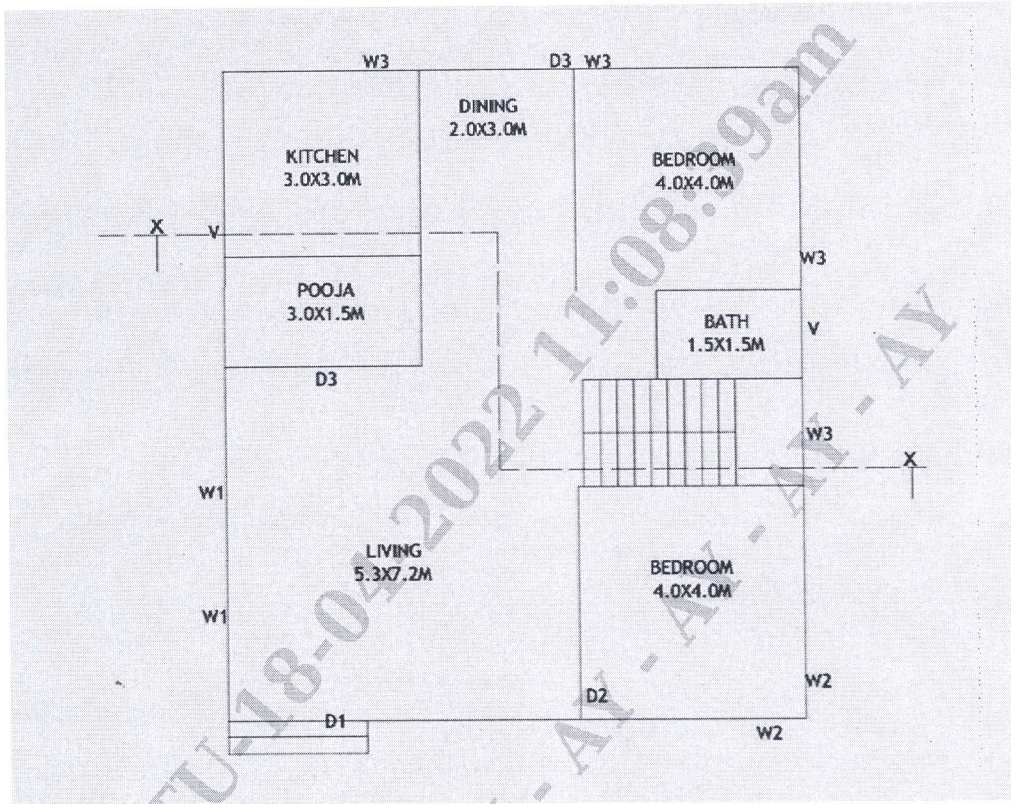


Fig. Q5

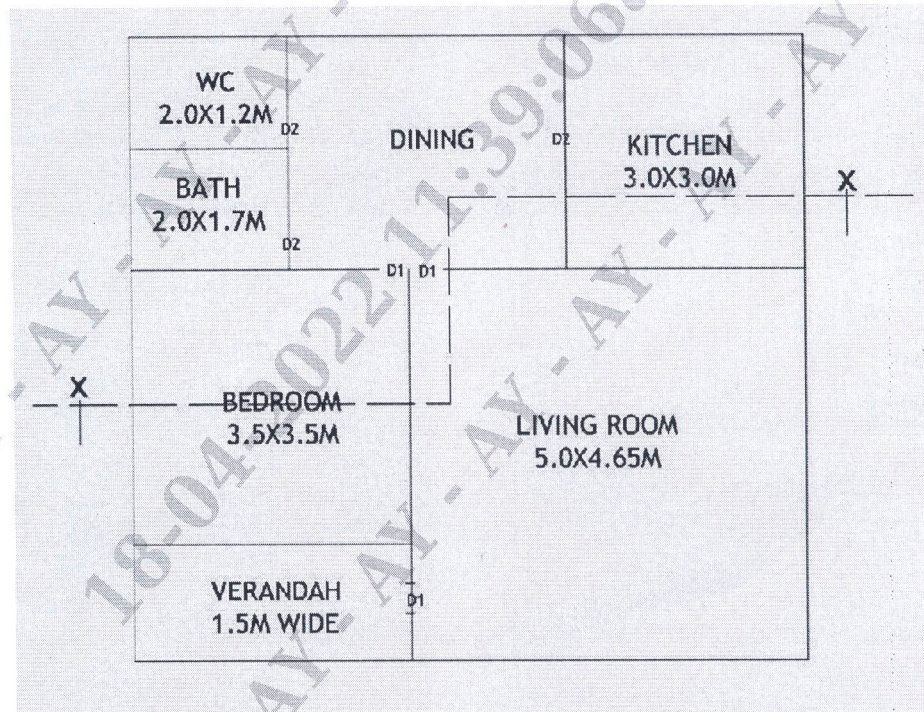


Fig. Q6