

**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**

Q1	<p>A Square RCC column 500X500 mm is resting on a sloped RCC square footing. The depth of foundation is 1.5m below the ground level. The depth of footing is reduced to 750mm at the face of column to 300mm at the edge of the footing. The size of the footing is 1250×1250mm. The column reinforcement consist of 8 bars of 16mm dia, with 2 legged 8 mm dia stirrups at 200 mm C/C and the footing reinforcement consist of 12mm dia bars @ 150 mm C/C both ways. Draw to scale the following.</p> <ol style="list-style-type: none"> <li>a. Plan of the footing showing the reinforcement details.</li> <li>b. Vertical section of the column with footing.</li> <li>c. Cross section of column.</li> </ol> <p style="text-align: right;"><b>(25 Marks)</b></p>
Q2	<p>Draw the plan and Section elevation for a septic tank for the following details.                  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.</p> <p style="text-align: right;"><b>(25 Marks)</b></p>
Q3	<p>Draw the cross section of Lintel beam and chejja for the following details.</p> <p>Size of opening of the window=1.5m                  Bearing of lintel=0.2m                  Thickness of wall=0.23m                  Depth of lintel beam=0.2m                  Projection of chejja=0.6m                  Thickness of chejja at face of lintel=100mm and at end 50 mm.                  Reinforcement details in lintel at bottom= 3#10@ top2/8                  Stirrups 2LVS 8mm dia @ 150 mm C/C                  Chejja main #8@100 mm C/C Distribution 6mm dia @ 150 mm C/C</p> <p style="text-align: right;"><b>(25 Marks)</b></p>
Q4	<p>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× 4.5m, Height between the floors = 3.75m, Thickness of the floor slab and the landing slab =150m, Width of stair =1.5m</p> <p style="text-align: right;"><b>(25 Marks)</b></p>

**PART B**

Q5	<p>The line diagram of a residential building is given in Fig. Q5. Draw to scale the following:</p> <ol style="list-style-type: none"> <li>a. Plan at sill level.</li> <li>b. Front elevation.</li> <li>c. Section along XX.</li> <li>d. Schedule of openings.</li> </ol> <p style="text-align: right;"><b>(50 Marks)</b></p>
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Q6 The line diagram of a residential building is given in Fig. Q6. Draw to scale the following:  
 a. Plan at sill level.  
 b. Front elevation.  
 c. Section along XX.  
 d. Schedule of openings  
 (50 Marks)

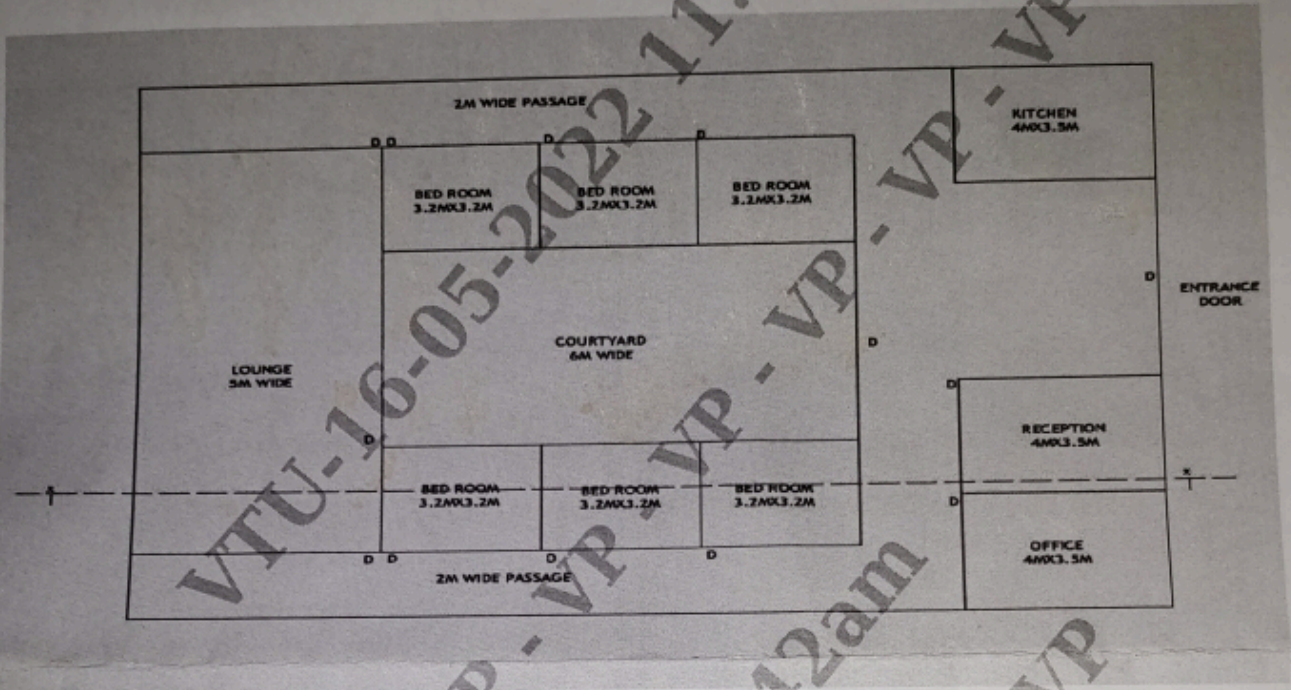


Fig. Q5.

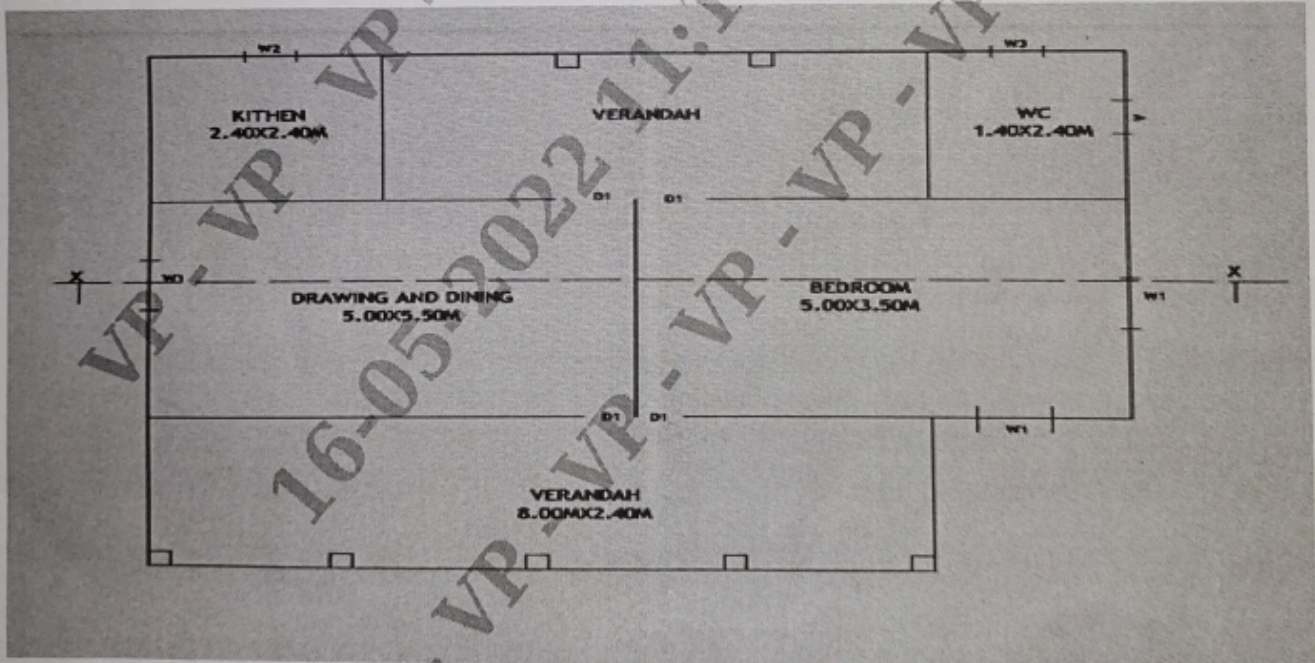


Fig. Q6