

USN

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

18CVL37

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**

- Q1 Depth of lintel beam: 0.2m  
Projection of chejja: 0.6m  
Thickness of chejja at face of lintel: 100mm and at end 50mm  
Reinforcement details in lintel beam and bottom: 3#12 @top 2#10  
Stirrups 2LVS 8mm dia @ 140mm c/c  
Chejja main reinforcement # 8 @ 100mm c/c. Distribution 6mm dia at 150mm c/c **(25 Marks)**
- Q2 Draw the Cross section of a Divided Highway in urban area having width of pavement 10.5m ,  
footpath: 3m, cycle track: 3.8m, reserve space 1.2 m , area separator or divider 6m in width. **(25 Marks)**
- Q3 Draw a cross section of a S.S. Masonry foundation to be provided for a load bearing wall 300mm thick in  
Burnt Brick Masonry in superstructure of a residential building. Use following data:
- i. Width of foundation = 1.20m
  - ii. Depth of foundation below GL = 1.20m
  - iii. Width of PCC = 1.20m
  - iv. Thickness of PCC in 1:3:6 = 75mm.
  - v. Width of first footing above PCC = 1.05m
  - vi. Depth of first footing above PCC = 0.375m
  - vii. Width of second footing = 0.90m
  - viii. Depth of second footing = 0.375m
  - ix. Width of third footing = 0.75m
  - x. Depth of third footing = 0.375m
  - xi. Width of plinth wall = 0.45m
  - xii. Depth of plinth wall = 0.60m
  - xiii. Thickness of DPC in 1:2:4 = 100mm. **(25 Marks)**
- Q4 Draw plan and sectional elevation of RCC dog legged staircase for an office building which measures 3m x  
5.5m. The vertical distance between the floor is 3.3m (including landing). Thickness of the floor 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. Reinforcement details: main steel: 10 $\phi$  @125 c/c spacing and distribution: 8 $\phi$   
@ 250 c/c spacing. **(25 Marks)**

**PART B**

- Q5 Line diagram of Single Storey residential building is given in Fig. Q5. Draw to scale the following:
- a) Plan at sill
  - b) Front elevation
  - c) Section along XX.
  - d) Schedule of Openings **(50 Marks)**
- Q6 Line diagram of Single Storey residential building is given in Fig. Q6. Draw to scale the following:
- a) Plan at sill
  - b) Front elevation
  - c) Section along AA.
  - d) Schedule of Openings **(50 Marks)**

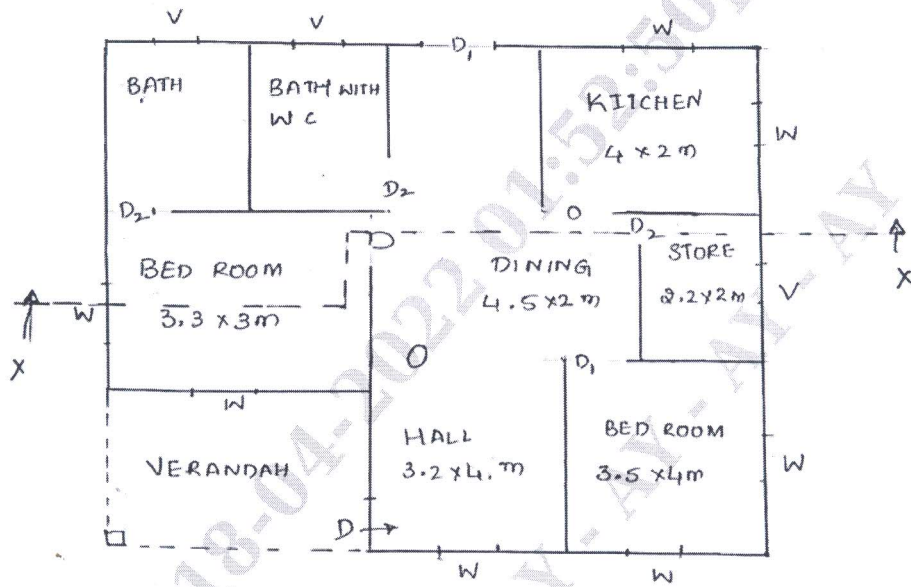


Fig. Q5

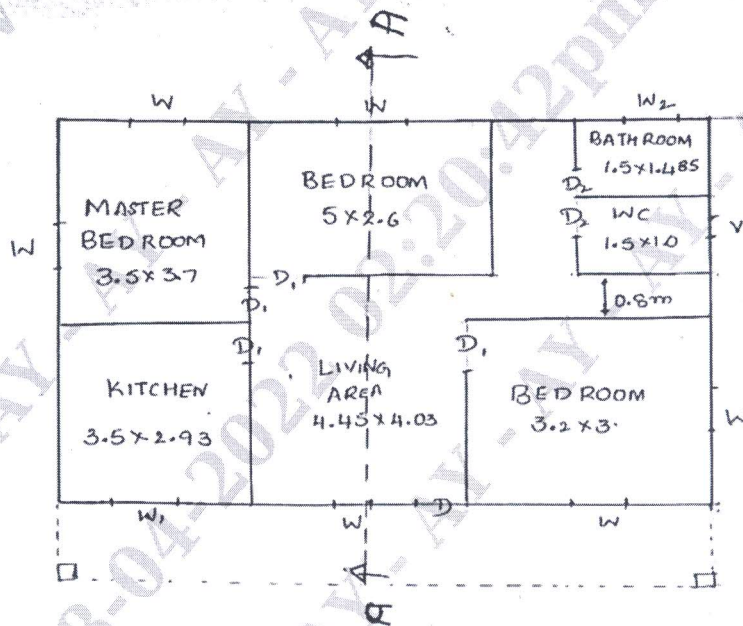


Fig. Q6