



Third Semester B.E Degree Examination, January 2020  
(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	Draw the Longitudinal section, Cross section of a rectangular simply supported RCC beam with the following data. Clear Span=3.5m width of beam=220mm Overall depth of beam=300mm bearing width in support=200mm Main reinforcement =5 Nos-12mm diameter bars with 2 bars bent up at L/7 from centre of support Anchor/hanger bars=2-10 mm diameter Stirrups = 6mm diameter @ 200mm C/C. Materials: M20 grade concrete. (25 Marks)
Q2	A square RCC column 450X450 mm is resting on a sloped RCC square footing .The depth offoundation is 1.5 m below the ground level. The size of footing is 1400 ×1400mm.The depth of footing is reduced to 750 mm at the face of column to 300 mm at the edge of the footing. The Column reinforcement consist of 8 bars of 20mm dia, with 2 legged 8 mm dia stirrups at 200 mm c/c and the footing reinforcement consist of 12 mm dia bars @ 150 mm c/c ,both ways .Draw to scale the following. a. Plan of the footing showing the reinforcement details. b. Vertical section of the column with footing. c. Cross section of column. (25 Marks)
Q3	Draw the cross section of a Divided Highway in urban area having width of pavement 10.8m foot path 3m cycle track 3.8m and reserve space 1.2 metre and area separator or divider 6m in width. (25 Marks)
Q4	Draw the cross section and Plan of a RCC dog legged stair for a building having the following details. Clear stair hall size 2.5X4.5m, width of landing 1.2m, width of each flight 1.2m, Rise=150mm , Tread=150mm,Thickness of waist slab = 150mm Floor to floor height 3.6m. (25 Marks)

**PART B**

Q5	The line diagram of a residential building is given in Fig Q.5. Draw to scale the following: a. Plan at sill level. b. Front elevation. c. Section along XX. d. Schedule of openings. (50 Marks)
Q6	The line diagram of Hospital building is given in Fig Q.6. Draw to scale The following: a) Plan at sill level. b) Front elevation. c) Section along XX d) Schedule of openings (50 Marks)

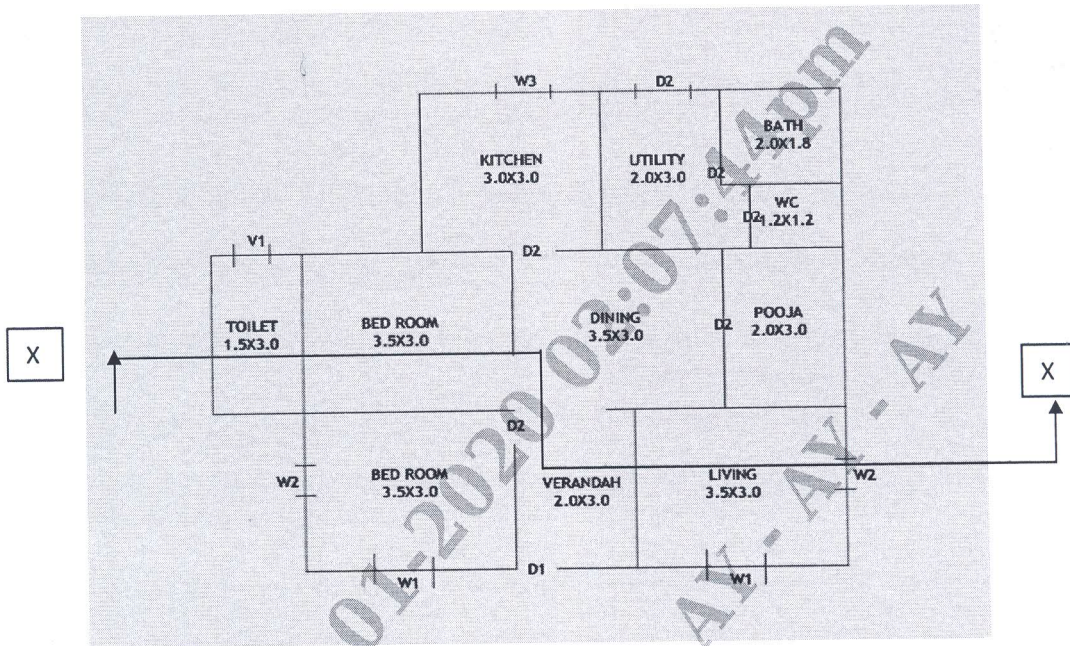


Figure Q.5

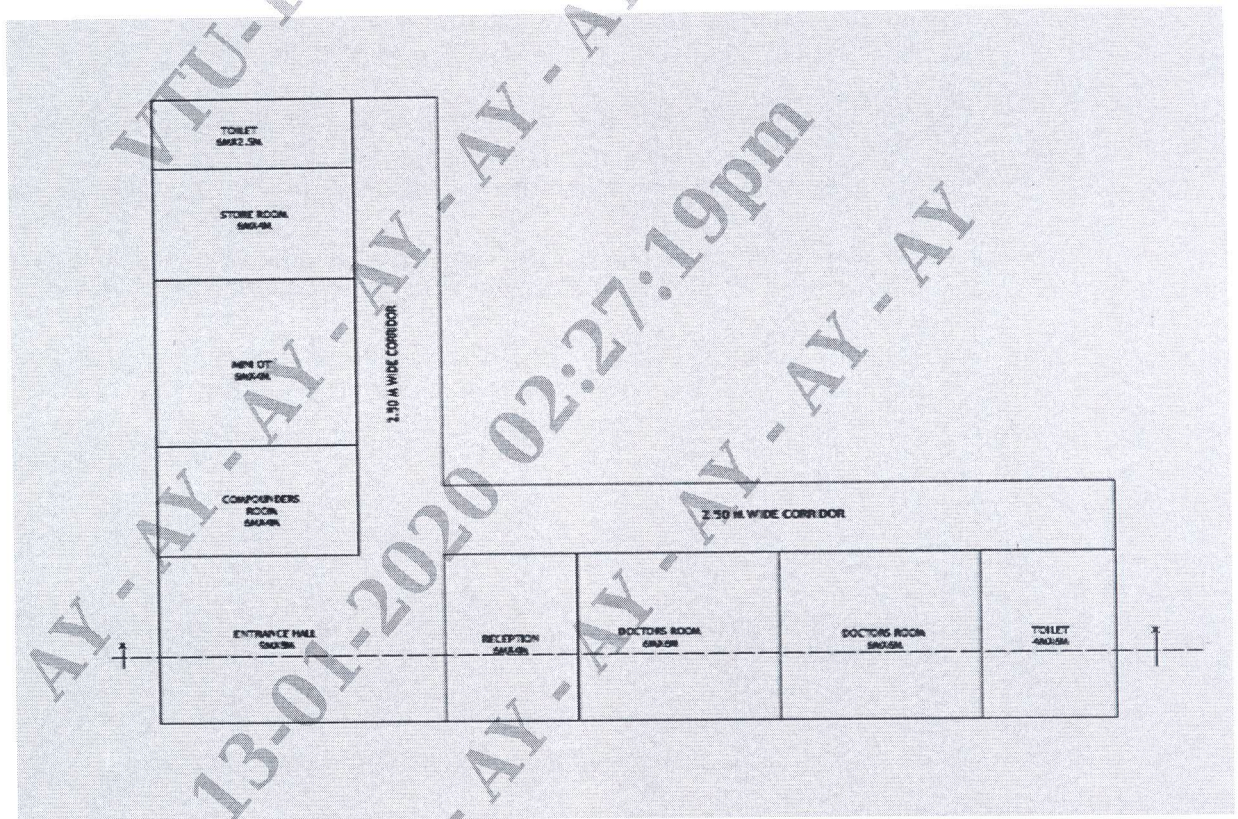


Figure Q6.