



Third Semester B.E Degree Examination, December 2019

(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.	<p>Draw plan and sectional elevation of the septic tank. The details are given below: 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 height of 4m. Width of tank wall in brick work =0.3m for a height of 0.5m Width of tank wall in brick work =0.2 for a height of 0.7m The tank consists of a RCC precast slab of thickness 7.5cm Also show the Provisions for inlet and outlet pipes.</p>	(25 Marks)
Q2.	<p>A Square RCC column 450X450 mm is resting on a sloped RCC square footing. The depth of foundation is 1.2m 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 1200×1200mm. 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">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.	<p>Draw to scale the elevation and cross section of English bond and Flemish bond with all the details for 10 courses.</p>	(25 Marks)
Q4.	<p>Draw a detailed longitudinal section, a cross section near the supports and a section at the middle of the span of a simply supported doubly reinforced beam for the following data: Clear span = 5.8m Bearing over the supports = 300mm Size = 300 x 800 mm Main reinforcement tensile: #7 - 25ϕ. 4 straight and 3 bent up @ 1400mm from support. Compression reinforcement: #4 - 25ϕ. Spacer bars=25 ϕ Side face reinforcement=#2-12ϕ Shear reinforcement: 2L - 12ϕ @ 150 c/c for a distance of 1.5m from the support and 2L - 12ϕ @ 300 c/c for remaining middle portion.</p>	(25 Marks)

PART B

<p>Q5.</p>	<p>The line diagram of a residential building is given in Fig Q5. Draw to scale the following: a. Plan at sill. b. Front Elevation. c. Section along AA. d. Schedule of openings.</p> <p style="text-align: right;">(50 Marks)</p>
<p>Q6.</p>	<p>The line diagram of a hostel 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.</p> <p style="text-align: right;">(50 Marks)</p>

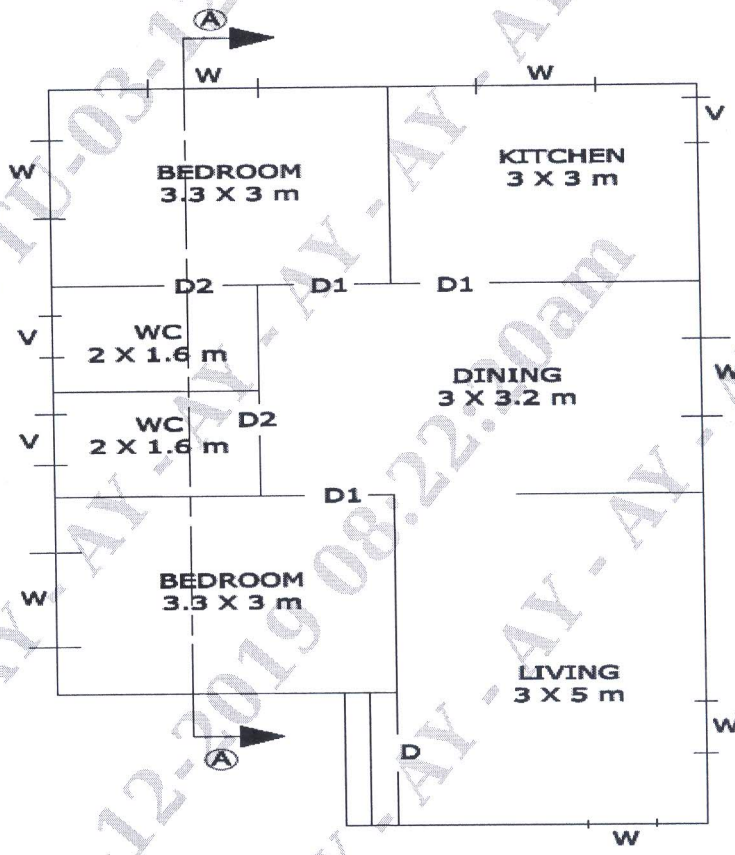


Fig. No. Q5

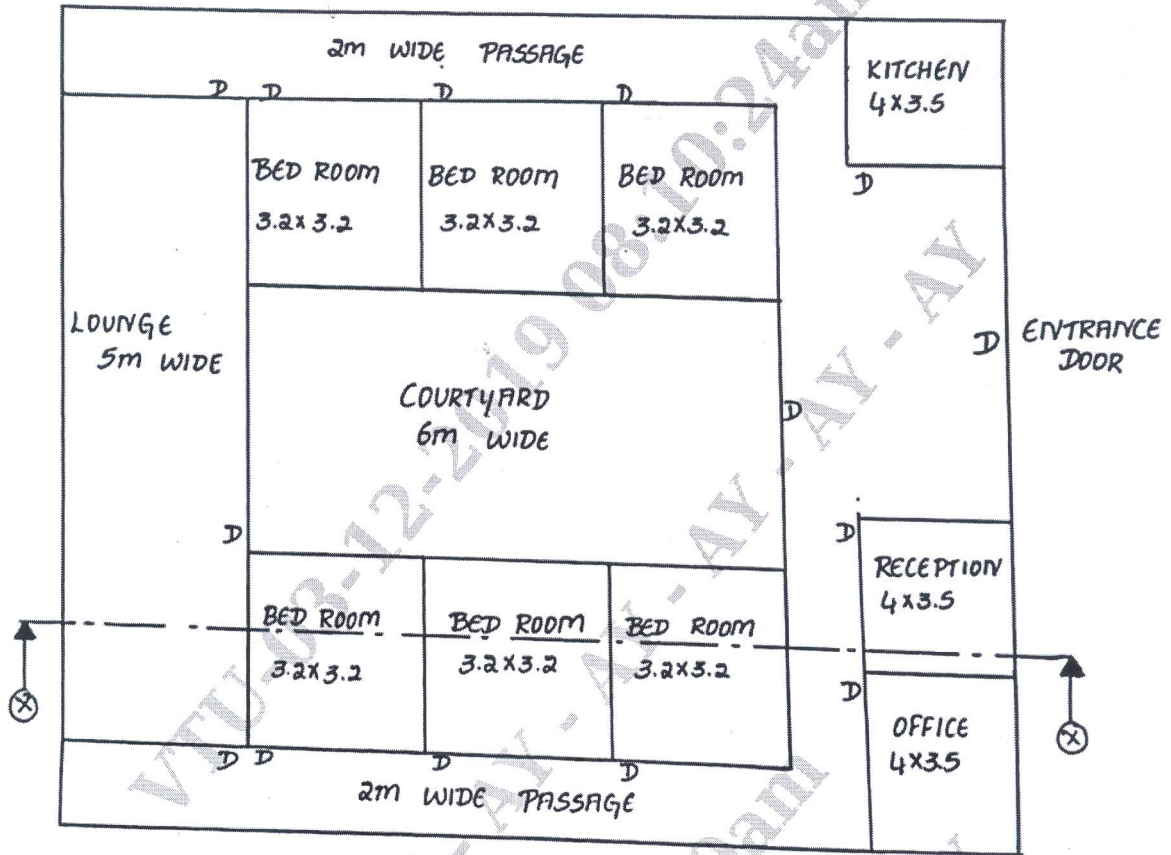


Fig. No. Q6