



Third Semester B.E Degree Examination, Jan./Feb. 2021

(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.	A RCC column 500×500 mm is resting on a RCC SQUARE FOOTING. The column carries a total load of 80 tonnes. The SBC of the soil is 20 t/m <sup>2</sup> . The depth of foundation is 1.5 m above the ground level. The depth of footing is reduced to 700 mm at the face of column to 300 mm at the edge of the footing. The size of footing is 1400×1400 mm. thickness of PCC bed is 150 mm. The column reinforcement consist of 8 bars of 16 mm dia, with 2 legged 8 mm dia stirrups at 200 mm c/c and the footing reinforcement consists of 12 mm dia bars @ 150 mm c/c, both ways. Draw to scale the following: <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> </ol>	<b>(25 Marks)</b>
Q2.	Draw to scale a singly reinforced beam for the following details. Size of the beam 400mm × 550mm, clear span 4500mm, the beam is reinforced with 4 no's of 16mm dia bars as main reinforcement, two hanger bars of 12 mm dia, and 8mm dia 2L VS at 140 mm c/c, supported on wall 230mm thick. <ol style="list-style-type: none"> <li>a. Longitudinal section showing the reinforcement details.</li> <li>b. Cross section of beam at center and at face of support.</li> </ol>	<b>(25 Marks)</b>
Q3.	Draw to scale the elevation and cross section of English bond and Flemish bond with all the details for 10 courses.	<b>(25 Marks)</b>
Q4.	Draw the cross section of a Divided Highway in urban area having width of pavement 10.5 m, foot path 3m, cycle track 3.8 m and reserve space 1.2m and area separator or divider 6m in width.	<b>(25 Marks)</b>

**PART B**

Q5.	The line diagram of a residential building is given in FigQ5. Draw to scale the following: <ol style="list-style-type: none"> <li>a. Plan at sill.</li> <li>b. Front Elevation.</li> <li>c. Section along AA.</li> <li>d. Schedule of openings.</li> </ol>	<b>(50 Marks)</b>
Q6.	The line diagram of a School building is given in FigQ6. Draw to scale the following: <ol style="list-style-type: none"> <li>a. Plan at sill.</li> <li>b. Front Elevation.</li> <li>c. Section along XX.</li> <li>d. Schedule of openings.</li> </ol>	<b>(50 Marks)</b>

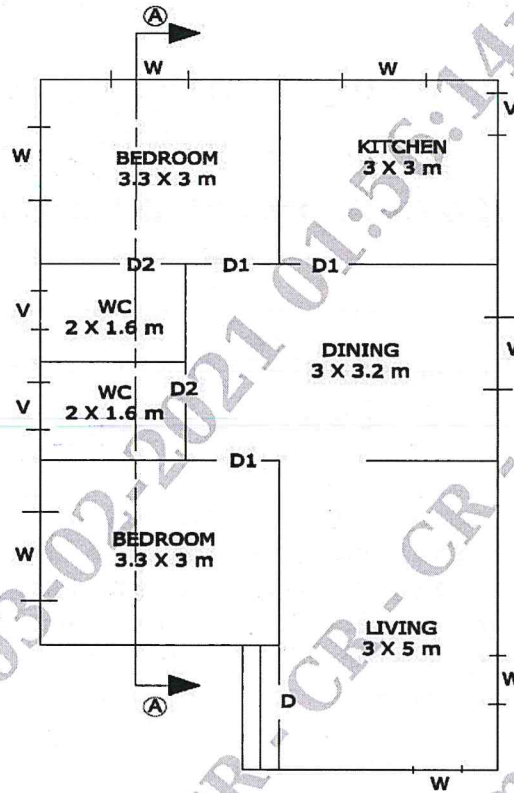


Fig. Q5

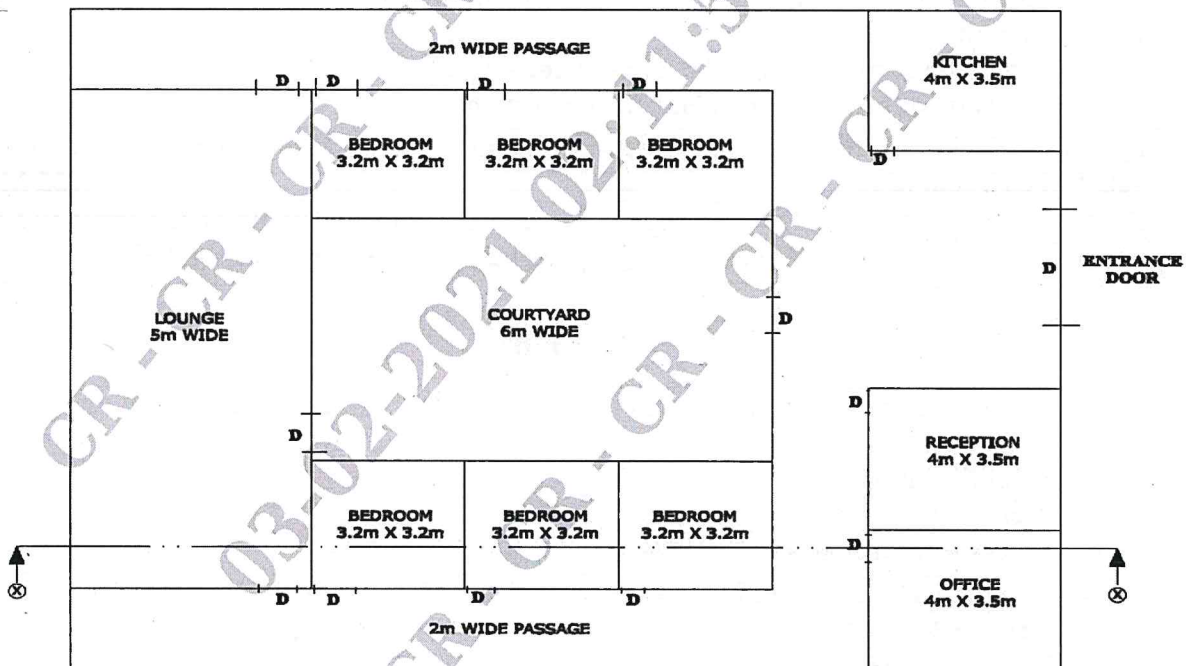


Fig. Q6