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CBCS SCHEME

17CV54

Fifth 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 as per INTERNAL CHOICE.
2. Assume any missing data suitably.

Q1. Prepare a working drawing for an isolated rectangular RCC column and footing has the following details:

Column size: (400 x 600) mm.

Size of footing: 2m x 3m of uniform thickness 450mm.

Depth of foundation below GL = 1.5m

Height of column to be shown above GL = 1.0m

Thickness of PCC bed in 1:3:6 = 75mm

Details of reinforcement:

Column: #8 - 16 ϕ as main bars with 2L - 8 ϕ @ 150 c/c lateral ties

Footing: Longer direction steel - 12 ϕ @ 130 c/c

Shorter direction steel - 12 ϕ @ 220 c/c.

(40 Marks)

OR

Q2. 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 = 5.4m

Bearing over the supports = 300mm

Size = 300 x 800 mm

Main reinforcement tensile: #7 - 25 ϕ . 4 straight and 3 bent up @ 1400mm from Support.

Compression reinforcement: #4 - 25 ϕ .

Spacer bars = 25 ϕ

Side face reinforcement: #2 - 12 ϕ

Shear reinforcement: 2L - 12 ϕ @ 150 c/c for a distance of 1.5m from the support and

2L - 12 ϕ @ 300 c/c for remaining middle portion.

(40 Marks)

Q3. The line diagram of a residential building is given in Fig Q3. Draw to scale the following. Given main wall 230 mm thick, partition wall = 100 mm, floor height = 3.0 m

- Plan at sill.
- Front Elevation.
- Section along A-A.
- Schedule of openings.

(60 Marks)

OR

Q4. The line diagram of a Hostel building is given in Fig Q4. Draw to scale the following.

- Plan at sill.
- Front Elevation.
- Section along A-A.
- Schedule of openings.

(60 Marks)

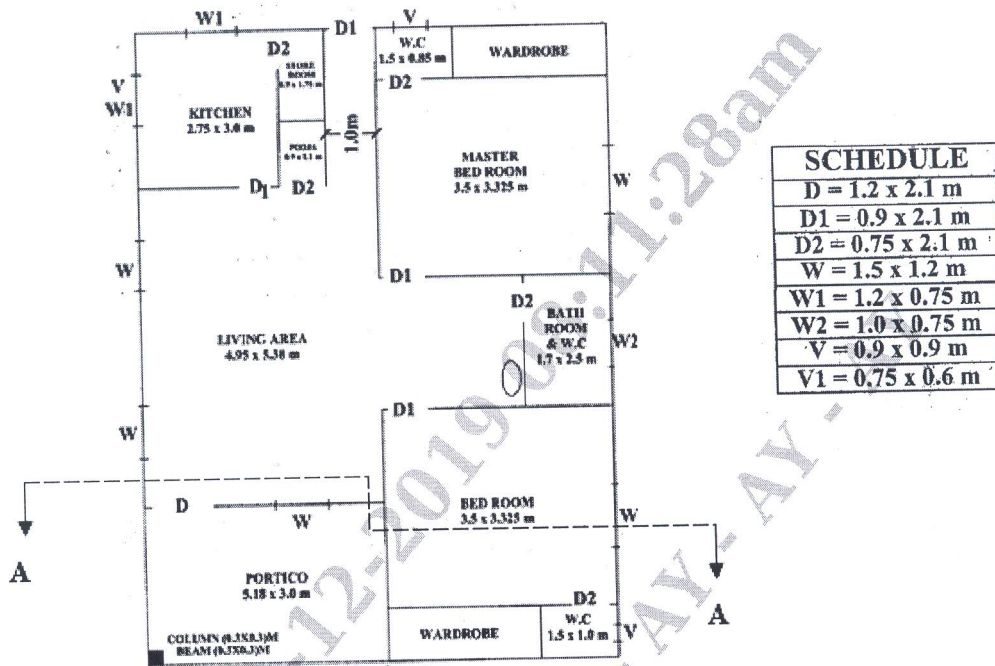


Fig Q3

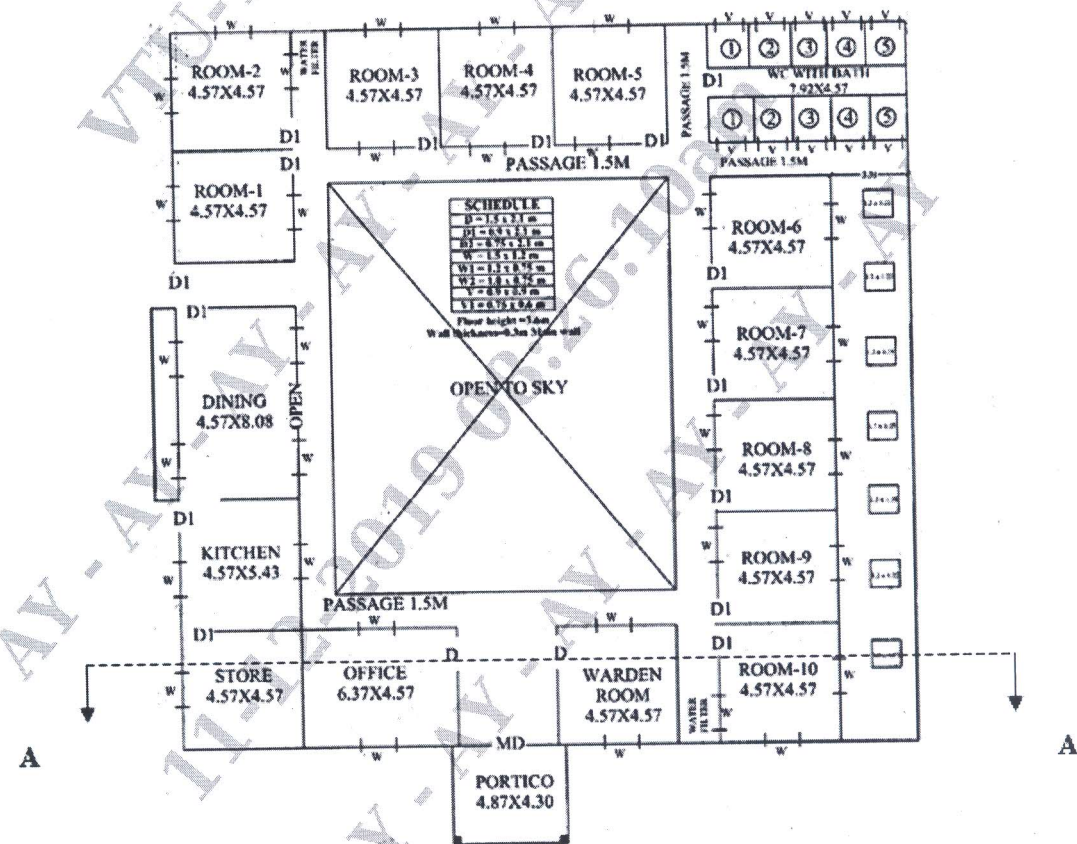


Fig Q4