



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	Sketch the cross section of a Flexible pavement having the following particulars: Width of carriage way = 3.75, Camber (@2%) = 3.75 Width of shoulder = 1.5m Granular sub-base (GSB) thickness = 300mm Base course thickness = 225mm Thickness of Binder course = 70mm Thickness of surface course = 40mm Total thickness of the pavement = 635mm. <b>(25 Marks)</b>
Q2	A One-way roof slab for a hall of internal dimension 4m x 10m has the following details: Thickness of slab = 130mm Bearing wall = 200mm Main reinforcement: 12 $\phi$ @ 250 c/c with alternate bars bent up. Distribution reinforcement: 8 $\phi$ @ 200 c/c. Draw to suitable scale the following 1. Plan showing the reinforcement details 2. Cross section of slab @ mid span along short span <b>(25 Marks)</b>
Q3	Sketch the reinforcement details for the lintel beam with chejja for 3m wide opening. Size of lintel beam 300 x 300 mm. Lintel is provided with 5 no's of 12 $\phi$ bars in tension zone and 2 legged vertical stirrups of 8 $\phi$ @ 150 mm c/c. Chejja details: projection of 1m ; thickness at supports is 110 mm and at end 90 mm ; Main steel provided is 12 $\phi$ @ 150 mm c/c and distribution steel 10 $\phi$ @ 150 mm c/c. <b>(25 Marks)</b>
Q4	Draw plan and sectional elevation of an open newel stair with a rectangular well for an office building with the following data: Clear size of stair hall = 5.4m x 4.5m Height between the floors = 3.6 m Thickness of the floor slab and landing slab is 150 mm Width of landing = 1.5m Width of stair = 1.5m Rise = 150 mm ; Tread = 300 mm Reinforcement details: Main steel 12 $\phi$ @ 150mm c/c spacing and distribution steel 8 $\phi$ @ 250mm c/c spacing. <b>(25 Marks)</b>

**PART B**

Q5	The line diagram of a residential building is given in FigQ5. Draw to scale the following: a. Plan at sill. b. Front Elevation. c. Section along AB. d. Schedule of openings. <b>(50 Marks)</b>
Q6	The line diagram of a School building is given in FigQ6. Draw to scale the following: a. Plan at sill. b. Front Elevation. c. Section along XX. d. Schedule of openings. <b>(50 Marks)</b>

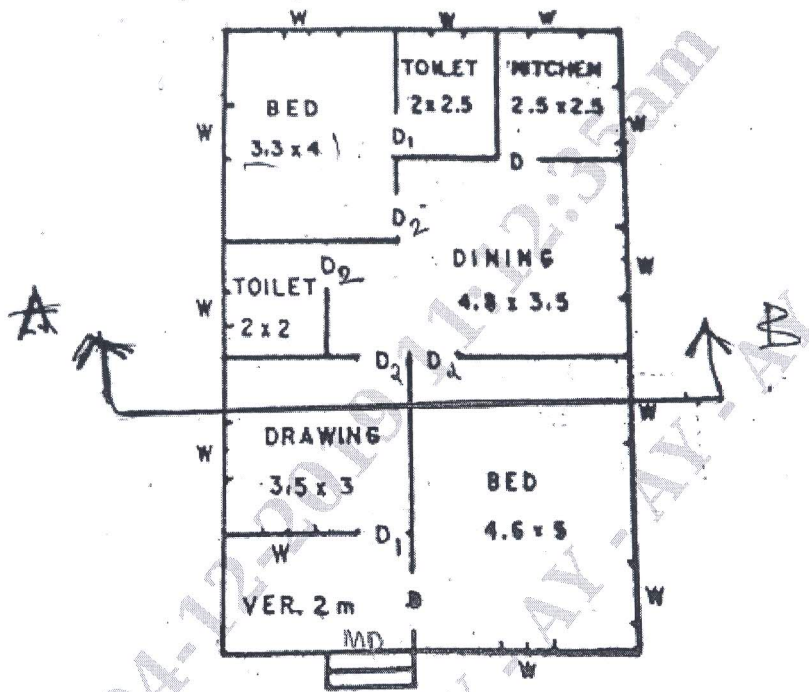


Figure Q 5.

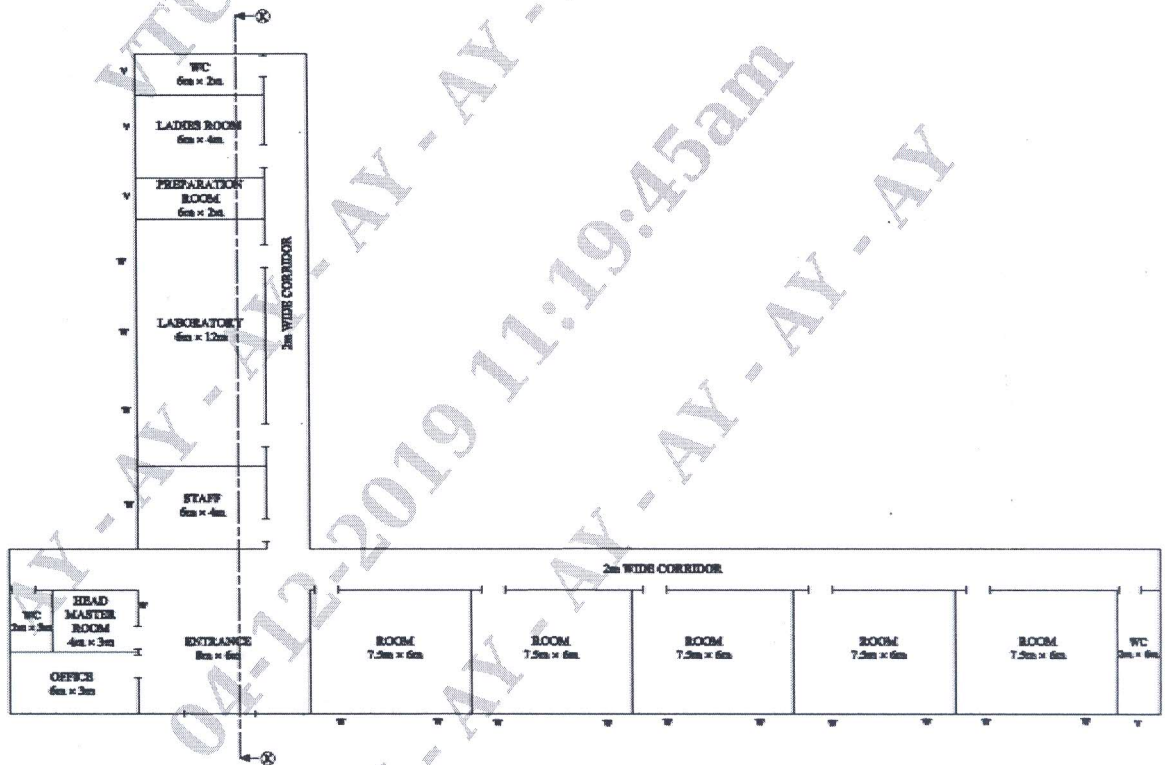


Figure Q 6.