

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.	Draw a cross section of a S.S. Masonry foundation to be provided for a load bearing wall 300mm thick in Burnt Brick Masonry in superstructure of a residential building. Use following data: i. Width of foundation = 1.20m ii. Depth of foundation below GL = 1.20m iii. Width of PCC = 1.20m iv. Thickness of PCC in 1:3:6 = 75mm. v. Width of first footing above PCC = 1.05m vi. Depth of first footing above PCC = 0.375m vii. Width of second footing = 0.90m viii. Depth of second footing = 0.375m ix. Width of third footing = 0.75m x. Depth of third footing = 0.375m xi. Width of plinth wall = 0.45m xii. Depth of plinth wall = 0.60m x. Thickness of DPC in 1:2:4 = 100mm <b>(25 Marks)</b>
Q2.	Draw a layout plan of rainwater harvesting and recharging system for a (9 x 12)m area residential building leaving setback of 1.20m on all four sides as per bye laws. Show a cross section details for recharging pit. <b>(25 Marks)</b>
Q3.	Draw longitudinal section and cross section of a cantilever beam from the following data: Clear projection from the face of RCC column = 3m Size of column = 300mm x 300mm Size of beam at fixed end = 300mm x 300mm Size of beam at free end = 300mm x 150mm Reinforcement main bars: #5 - 20 $\phi$ with 2 bars curtailed at 1500mm from the support and show the curtailment plan <b>(25 Marks)</b>
Q4.	Draw the elevation of the given steel roof truss and show the connection details at joint A and E using the data given in figure. i. 8mm thick gusset plate ii. Use 2 numbers of 12 $\phi$ HSBG bolts for each connection iii. Truss is supported on a concrete column of size (500 x 500)mm iv. Thickness of the base plate = 25mm v. Anchor bolts of 450mm length and 25 $\phi$ - 8 numbers at the connection of truss and column. <b>(25 Marks)</b>

### PART B

Q5.	The line diagram of a School building is given in Fig Q.5. Draw to scale the following: a. Plan at sill level. b. Front elevation. c. Section along AB. d. Schedule of openings. <b>(50 Marks)</b>
Q6.	Line diagram of a Residential building is given in Fig Q.6. Draw to scale the following: a. Electrical Services b. Plumbing and Sanitary Services <b>(50 Marks)</b>

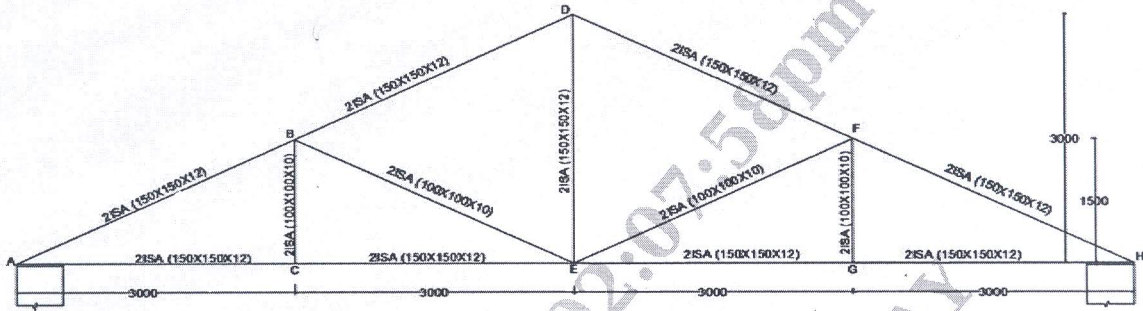


Fig Q.1

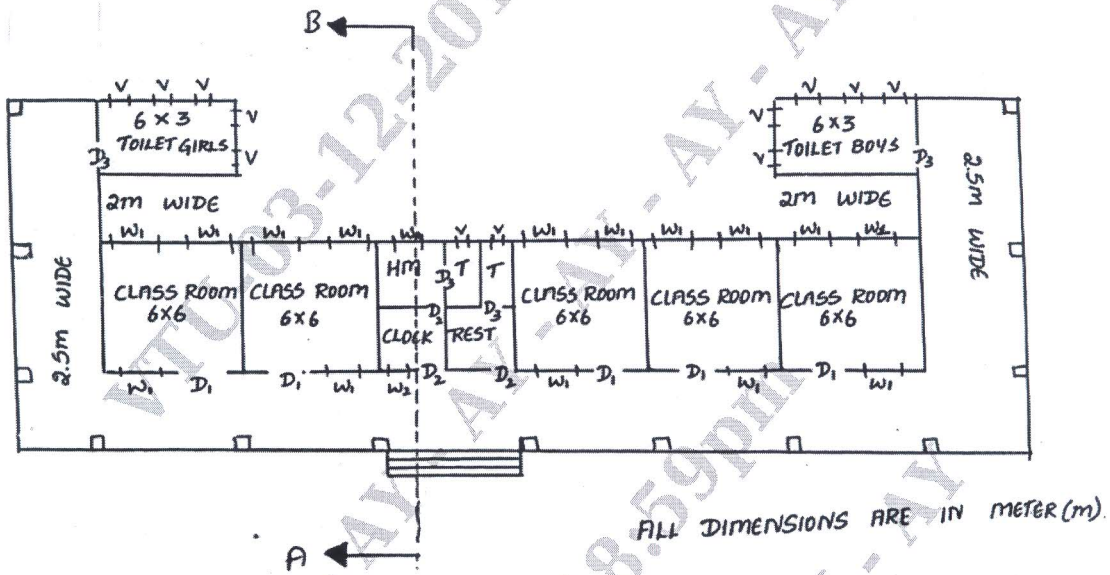


Fig Q.5.

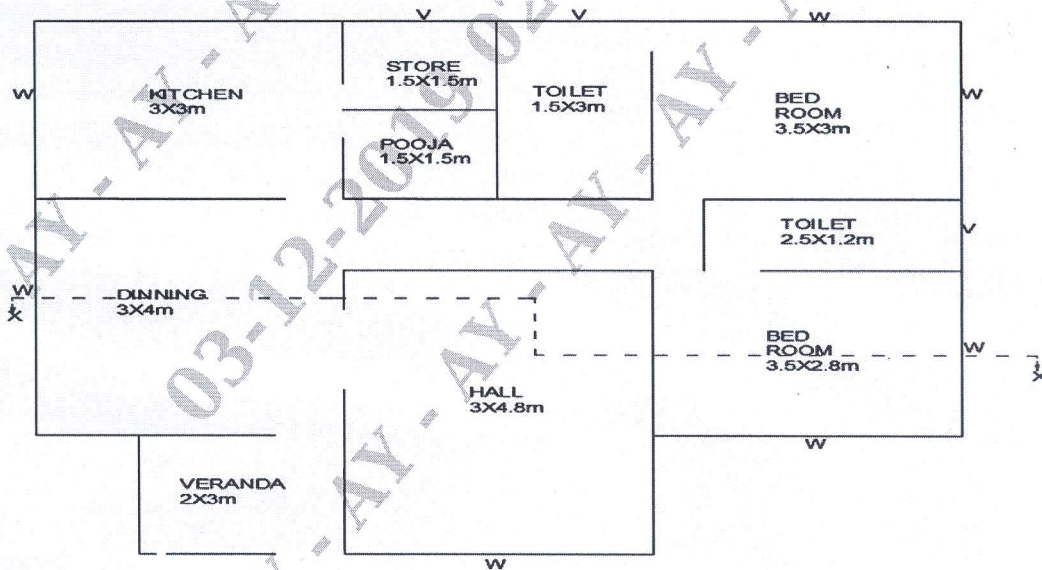


Fig Q.6  
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