



Reg. No. : .....

Name : .....

**Fourth Semester B.Tech. Degree Examination, May 2014  
(2008 Scheme)  
Branch : CIVIL  
08.406 : Building Planning and Drawing**

Time: 3 Hours

Max. Marks: 100

- Instructions :** 1) Answer **all** questions in Part – A (**Compulsory**).  
2) Answer **any one** question in **full** from Part – B.  
3) Answer Part – A in **answer book** and Part – B in the **drawing sheet** supplied.

PART – A

1. State the specifications for planning a stair for a residential building. Sketch the plan of a stair room for the following data :  
Stair room dimensions 7.2 m × 3.1 m  
Floor to floor height 3.10 m. Give all dimensions in the sketch.
2. List and explain the data required for preparation of layout plan for a house drainage system. Assuming suitable data sketch a house drainage plan.
3. Write short note on rain water harvesting.
4. Name different types of Culverts. Explain the functions of a culvert. (4×5=20 Marks)

PART – B

5. The line plan of a building is given in fig. 1. Positions and sizes of doors, windows etc. are to be provided. All dimensions are in meters. The specifications are as follows :
  - a) Foundation : P.C.C. 1 : 4: 8, 20 cm thick and 80 cm wide for footing over with R.R masonry in CM 1 :6, 60 cm wide and 60 cm deep.
  - b) Basement : R. R masonry in CM 1 : 6, 50 cm wide and 45 cm deep.



- c) Super structure : Brick in CM 1 : 6, 20 cm thick. Height 3 m, with RCC lintel provided through out provide sunshades wherever necessary.
- d) Roof : RCC slab 12 cm thick over verandah and study portion M.P. tiled roofing with  $Y_3$  slope for remaining portion.

All dimensions are in m

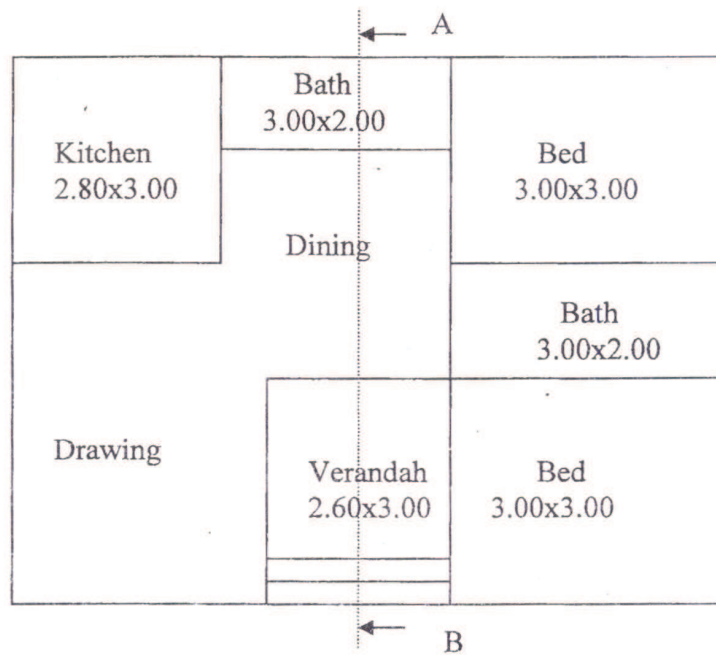


Fig 1

Prepare :

- |  |    |
|--|----|
| a) a plan.                                   | 25 |
| b) Section AB as indicated in the line plan. | 30 |
| c) Front Elevation of the building           | 15 |
| d) A table showing specification and index.  | 10 |



6. A box culvert is having inside dimension 2.60 m × 2.60 m. The thickness of slabs is 30 cm.

Reinforcement details : Inner side of slabs – 20 mm dia bars at a spacing of 8 cm.

– outside of slabs – 20 mm dia bars at a spacing of 12 cm

Distribution reinforcement on both sides – 8 mm bars at 6 cm spacing.

The other details are given below :

Levels :

Bed level – + 100.000

Foundation level – + 98.60

Road formation level – + 104.20

Abutment :

Top width – 60 cm

Bottom width – 90 cm

Water facing side – vertical, sloping inside surface

Turn walls at 45° to the abutment in plan

Suitable footing of P.C.C. 1 : 3 : 6 for walls and base of box culvert.

Embankment : Slope 1.5 horizontal to 1 vertical, Road pavement in bitumen 360 cm, in water bound Macadam 200 cm on either sides

Parapet : Parapet of RCC hand rails (3 no.s) 8 × 15 fixed to 2 No.s of RCC posts 15 × 20 at 1.1 m spacing. Brick pillars 30 cm × 30 cm at the ends all, 90 cm tall.

Assume other details needed :

Draw to a suitable scale :

- 1) The plan of the culvert indicating the positions of reinforcement
  - 2) The cross sectional elevation of the box culvert
  - 3) Details of RCC box duct.
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