

S<sub>3</sub>-CE *Ahmed Sataed P*

TED (10)–4001

Reg. No. 11011326

(REVISION—2010)

Signature .....

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY—MARCH, 2012

**BUILDING PLANNING AND DRAWING**

(Common for CE, QS, EN and WR)

[Time : 3 hours

(Maximum marks : 100)

- [Note: 1. Qn. No. II is Compulsory.  
2. Missing data can be suitably assumed.  
3. Drawings shall be neat and fully dimensioned.  
4. A<sub>2</sub> size drawing sheets to be supplied.]

Marks

PART—A

- I 1. What is meant by the term 'sill' of an opening ?
2. What is a couple roof ?
3. Differentiate between Hip rafter and Vally rafter.
4. What do you mean by service area in a residential building ?
5. What is meant by the term 'grouping' in planning of a residential building ?
6. Write any 3 main classifications of building according to the use or occupancy.
7. Write the minimum height and width of habitable room as per KMBR of a residence.
8. What is an abutment ?
9. What is the minimum distance of a drainage line from the outer wall of a residential building ?
10. What you mean by a service plan ?

(10x1½=15)

## PART—B

Marks

- II (a) Prepare the line plan for a residential building according to NBC and KMBR.

Requirements :

Sit out	—	5 m <sup>2</sup>
Living cum dining	—	25 m <sup>2</sup>
Master bed	—	17 m <sup>2</sup>
Attached toilet	—	5 m <sup>2</sup>
Children's bed	—	12 m <sup>2</sup> each (2 Nos)
Kitchen	—	10 m <sup>2</sup>
Store	—	3 m <sup>2</sup>
Common toilet	—	5 m <sup>2</sup>

Size of plot 16 x 20 m, abut a 3 m wide road on its Northern side.

25

- (b) The line plan shows the layout of a residential building. Develop the fully dimensioned :

(i) Plan

(ii) Section along A A

15

Specifications :

15

Foundation	—	P.C.C. 1:5:10 — 70 x 20 cm
Basement	—	R.R. in cm 1:8 — 60 x 60 cm
Super structure	—	” ” — 45 x 45 cm
	—	Brick in cm 1:6 — 20 cm thick
	—	Height 360 cm
For terraced portion height	—	300 cm, RCC 1:2:4, 10 cm thick
Tiled roofing	—	With MP tiles, rise $\frac{1}{3}$ span, a collar is provided at mid height
Ridge piece	—	5 cm x 15 cm
Collar	—	7 cm x 10 cm
Wall plate	—	10 cm x 7 cm
Common rafter	—	7 cm x 10 cm
Eaves projection	—	60 cm
Eave board	—	2.5 cm x 20 cm
Lintels	—	RCC 1:2:4 20 cm thick
Sunshade	—	60 cm x 10 cm thick
Flooring	—	CC 1:4:8, 10 cm thick with 2 cm floor finishing.

Draw to a scale 1:100.

Missing data can be suitably assumed.

④

Marks

PART—C

(Answer one full question from each unit. Each question carries 15 marks.)

UNIT – I

III (a) Draw to a suitable scale, the elevation of a half glazed door with the following details :

Size of door	—	100 cm x 200 cm
Frame of the door	—	9 cm x 7 cm
Style	—	9.5 cm x 3.5 cm
Glass panel	—	3 mm thick
Lock rail	—	19.5 cm x 3.5 cm
Panel	—	1.6 cm thick
Top rail	—	9.5 cm x 3.5 cm

OR

15

(b) The details of a single collar roof is given below :

Effective span	—	5 m
Common rafter	—	5 cm x 12.5 cm
Collar	—	4 cm x 12.5 cm
Ridge piece	—	8 cm x 20 cm

Draw to a suitable scale :

- C/S of the single collar roof
- Connection of ridge piece and rafter

15

UNIT – II

IV The specification for a single span RC slab culvert are given below :

Roadway width	—	4200 mm
Earth slope for embankment	—	1 : 1
Thickness of weaving coat	—	40 mm
„ Deck slab	—	250 mm
Height of waterway	—	1500 mm
Free board	—	150 mm
Clean span	—	2000 mm

Abutment and wing walls :

Depth of foundation below bed level	—	800 mm
C.C bed for foundation	—	1000 x 300 mm
Thickness up to mid height	—	800 mm
Thickness remaining portion	—	700 mm

Wing walls are return type, projecting 1200 mm from the earth face of abutment.

Flooring : 120 mm thick PCC flooring just below bed level.

Parapet wall : 450 mm thick, ht. 600 mm, size of road kerb is 75 mm x 150 mm.

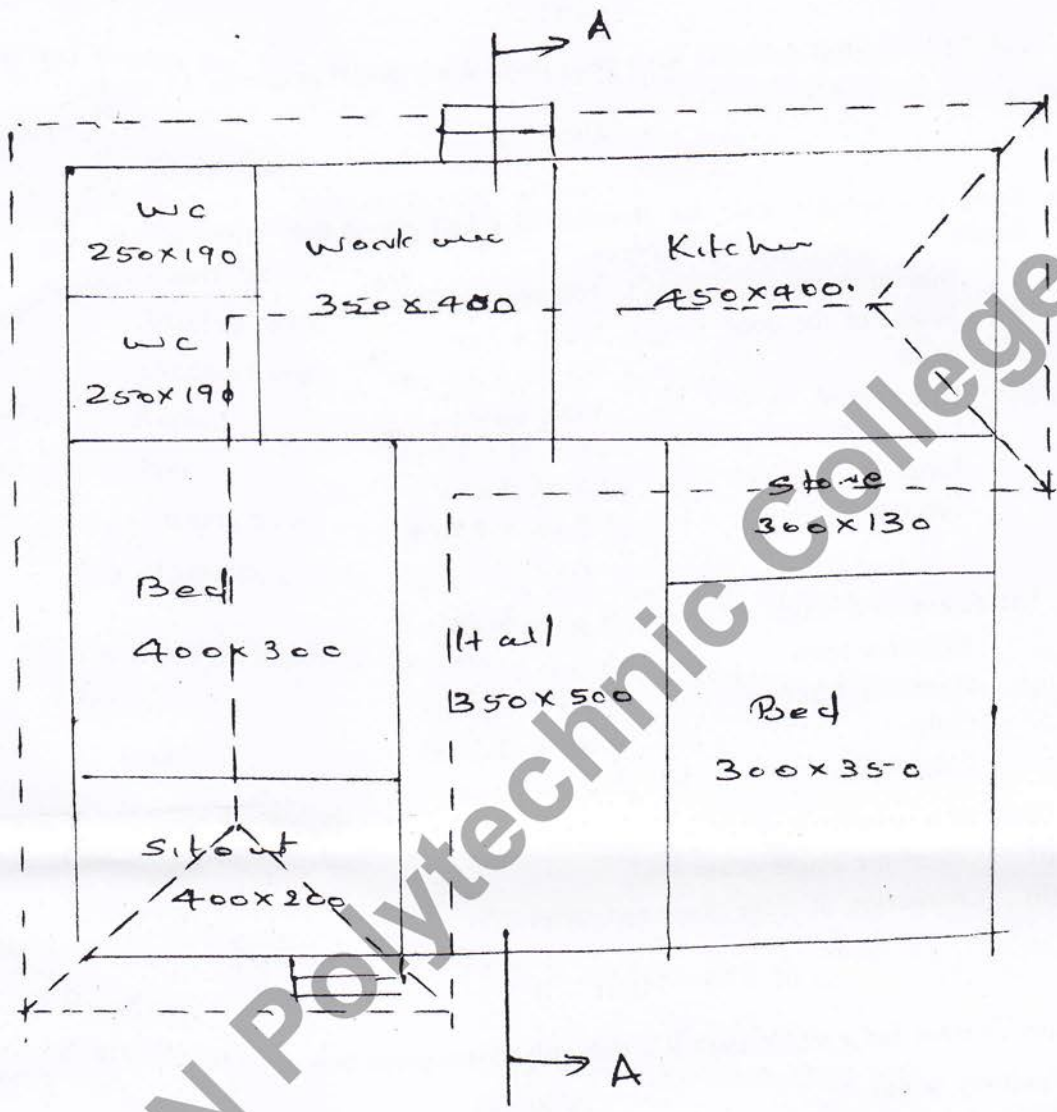
Draw the Half sectional elevation in scale 1:50.

15

OR

3

Marks



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- W1 — 100 x 100
- W2 — 150 x 130
- W4 — 150 x 100
- V — 60 x 45
- D — 90 x 210
- D1 — 100 x 210
- D2 — 80 x 200
- G — 200 x 150

All dimensions are in cm.