TED (15/19) 3014
(Revision – 2015/19)

N22 – 08830

Reg. No……………………
Signature ………………….

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2022

BUILDING PLANNING AND DRAWING

[Maximum Marks: **100**] [Time: **3** Hours]

Note:-
1. Question number **II** is compulsory
2. Missing data may be suitably assumed.
3. Drawing shall be neat and fully dimensioned.
4. A2 size drawing sheet to be supplied

PART-A
(Maximum marks: **15**)

I. .Answer ***all*** questions in one or two sentences. Each question carries **1**½ marks.

1. Define the term set back line.
2. Define the term access.
3. State the minimum and maximum size of kitchen as per NBC
4. List different types of culvert.
5. List any three classification of building based on
6. State the purpose of mezzanine floor.
7. Differentiate between hip roof and gable roof.
8. Define floor area ration (FAR).
9. Mention the requirement regarding the front yard, rear yard and side yard for buildings up to 10m in height as per KMBR.
10. Define service plan. (10 x1½ = 15)

PART-B
(Maximum marks: **85**)

II. (a) Prepare the line plan for a residential building to suit for a plot of 18mx22m size based on the rules and regulations of KMBR. The plot abuts a road of 5m width, which passes along N-S direction.

Bed room 16m^2	-	2 No
Kitchen	-	12m^2
Verandah	-	9 m^2
Porch	-	14 m^2
Toilet	-	2Nos -7 m^2
Drawing and dining	-	24 m^2

(25)

(b) The line plan gives the arrangement of room of a residential building. Prepare its

1) plan 2) section along AA (15+15)

Specification: Bed concrete for foundation P.C.C 1:4:8, 80cm x 20cm

Foundation in RR masonry in cm 1:8, 60cm x 60cm

Basement in RR masonry in cm 1: 8 , 45cm x 45cm

Super structure, brick work 20cm with CMl: 6 heights - 300cm

Lintel- 15cm thick. R.C.C roofing 10cm thick

Door D1= 100x210cm

D2 = 80x 210cm

Window W1= 150x150cm W2- 150X120cm

Ventilator V=90x45cm Missing data can be suitably assumed.

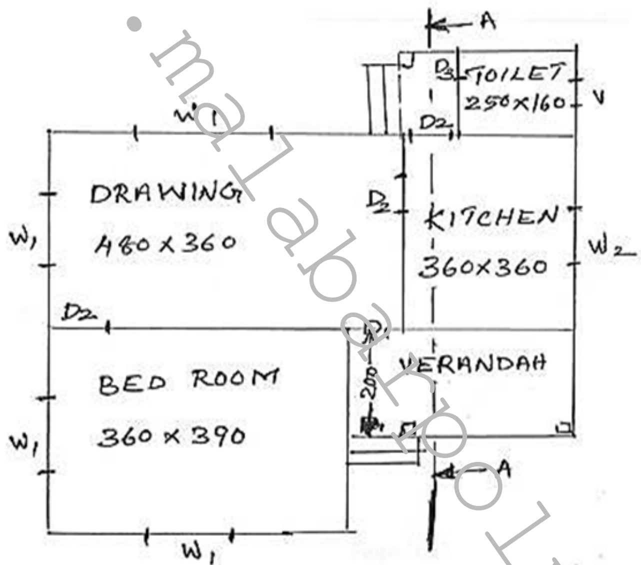

FIG.1

III. Draw to a suitable scale, the elevation of a closed couple roof of the following details

Wall thickness	-	30cm
Rafter	-	5xl2.5cm
Clear span	-	500cm
Tie joist	-	4xl2.5cm
Ridge piece	-	8x20cm
Eave board	-	3x15cm
Eave projection	-	60cm
Wall plate	-	15x10cm

(15)

OR

IV. The details of an R.C.C column and footing is given below

Column - 40x40cm

Footing- R.C.C 300Cmx300cm thickness of footing at edges 30cm and at column face 70cm with uniform tapering.

Reinforcement in column: 20mm dia. bar 4nos with 8mm dia lateral ties at 10cm c/c

Reinforcement in footing: 12mm dia bars at 15 cm c/c both ways.

Base concrete: C.C 1:4:8, 10cm thick

Draw to a suitable scale the plan and sectional elevation showing reinforcement details. (15)

V. Draw the half sectional elevation along the centre line of the road of a slab culvert designed for a road way across a stream with the following details.

Clear span 2m

Abutment in brick work 1:6cm, width of first step 60cm depth 120cm and second step 50cm,

Foundation P.C.C. 1:5:10, 40cm deep and 90cm thick.

Square return walls 350cm length from the water face of abutment.

Water way lined 20cm thick, stone pitching.

Deck slab 30cm thick RCC, M_{20} grade with bearing of 20cm on abutment.

Provide parapets and railing etc.

Top level of culvert slab -100.00m

Top level of stone pitching - 98.00m

Top level of PCC - 97.40m

Height of parapet wall - 50cm. (15)

OR

VI. Prepare an electrical service plan, the position of various electrical fittings and connections should be clearly indicated in the line plan given in figure. 1 (15)

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