

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

BUILDING PLANNING & DRAWING

[Time : 3 hours

(Maximum marks : 100)

- [Note :— 1. Question No. 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)

Marks

I Answer the following questions in one or two sentences. Each question carries 1½ marks.

1. Draw the conventional signs of partition blocks and 15 AMPS 3 pin socket.
2. Write the minimum depth of foundation and plinth height of a building.
3. Give the value of maximum permissible F A R of residential building having maximum permissible ground coverage as 50% of plot area.
4. For a assembly hall, how many number of seat is provided for one car parking.
5. Give the height exceeding to provide a lift in a building.
6. Give the minimum value of tread and maximum rise of a group occupancy type building.
7. How will you determine the length of a ridge piece having rectangular tiled roof ?
8. What do you understand 10 W 12 ?
9. List three nos. of sanitary fittings.
10. State the service plan of a building.

(10 × 1½ = 15)

PART — B

- II (a) Prepare the line plan for residential building according to N B C and K M B R requirements :

Living room	=	21 m ²
Bed room	=	15.75 m ² (2nos.)
Kitchen	=	12.25 m ²
Car porch	=	14.25m ²
Toilet	=	430 m ²
Work area	=	6.30 m ²

The size of plot 19 m × 16 m. The width of plot facing the road of 3 m wide.

25

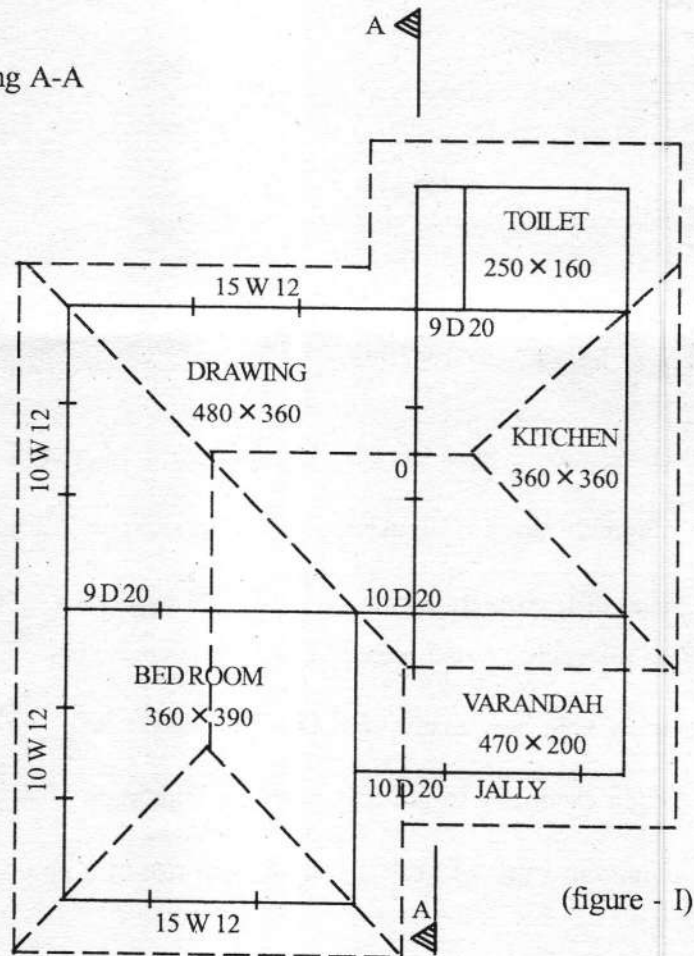
- (b) The line plan shows (fig - I) the layout of a residential building. Develop the fully dimensioned.

(i) Plan

15

(ii) Section along A-A

15



Specifications :

1. Bed concrete for foundation - P.C.C. 1:4:8 80cm wide × 10cm depth.
2. Foundation in R.R. Massonry in CM 1:8 60cm × 50cm.
3. Basement R.R. Massonry in CM 1:8 40cm × 45cm.
4. Superstructure 1 brick wall in CM 1:6, height 300cm.
5. Provide doors and windows, ventilators as per requirements.
6. R.C.C. roofing M 20 grade 10cm thick.
7. Missing data can be suitably assumed.

III Draw to a suitable scale the sectional elevation of a dog-legged RCC stair of the following details.

1. Height of room = 297.5 cm
2. Thickness of landing slab = 12.5 cm
3. Width of slab = 100 cm, rise = 17.5 cm, tread = 25 cm
4. Reinforcement details — suspender 6mm dia @ 15 cm c/c, Main reinforcement 8 mm dia @ 15 cm c/c, dist. 6 mm dia @ 15 cm c/c.

15

OR

IV Draw to a suitable scale the elevation and sectional plan of fully glazed window with the given details.

- Size of window — 100 × 120 cm two leaves, each leaf contain three panels.
- Frame of window — 9 cm × 7 cm
- Panel frame — 7 cm × 3 cm
- Sash bars — 3.5 cm × 3.5 cm
- Glass panel — 3 mm thick

15

V Draw the longitudinal section of a slab culvert in suitable scale with the following details.

- Bed level : +95.70
- Formation level : +100.00
- Clear span : 400 cm
- Road width : 750 cm
- Slab thickness : 40 cm
- Abutment foundation : PCC 1:4:8, 150 cm wide, 20 cm thick
- Abutment : R.R masonry 120 cm, 90 cm and 75 cm thick for 90 cm, 160 cm and 160 cm with water face vertical Square wing wall with same section as abutment.

15

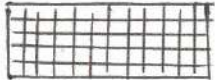

OR

VI Prepare a service plan the urban house drainage system, connection to the main Sewerage line and position of W/C, Sink and W/B etc. should be clearly indicated in the given line plan (figure - II).



(figure - II)

15

Qn. No.	Scoring Indicators <u>PART - A</u>	Split score	Total score
I 1.	 <p>PARTITION BLOCK</p>  <p>15 AMPS 3 PIN SOCKET</p>	$\frac{3}{4} \times 2$	1½
2.	Minimum depths of fdn - 60 cm below GL	$\frac{3}{4} \times 2$	1½
3.	Minimum plinth height for low income housing } - 30 cm above GL	$\frac{3}{4} \times 2$	1½
4.	1.50	1½	1½
5.	25 Nos (seats)	1½	1½
6.	15 m	1½	1½
7.	Rise maximum 15 cm, Tread minimum 25 - 30 cm.	$\frac{3}{4} \times 2$	1½
8.	Eve to Eve length - Eve to Eve span	1½	1½
9.	100 cm width and 120 Height of window.	1½	1½
10.	Water closet, Wash basin, traps etc	$\frac{1}{2} \times 3$	1½
11.	Service plan showing all locations and details of water supply and sewage disposal systems, plumbing details, electrical connections and other building service as applicable.	1½	1½

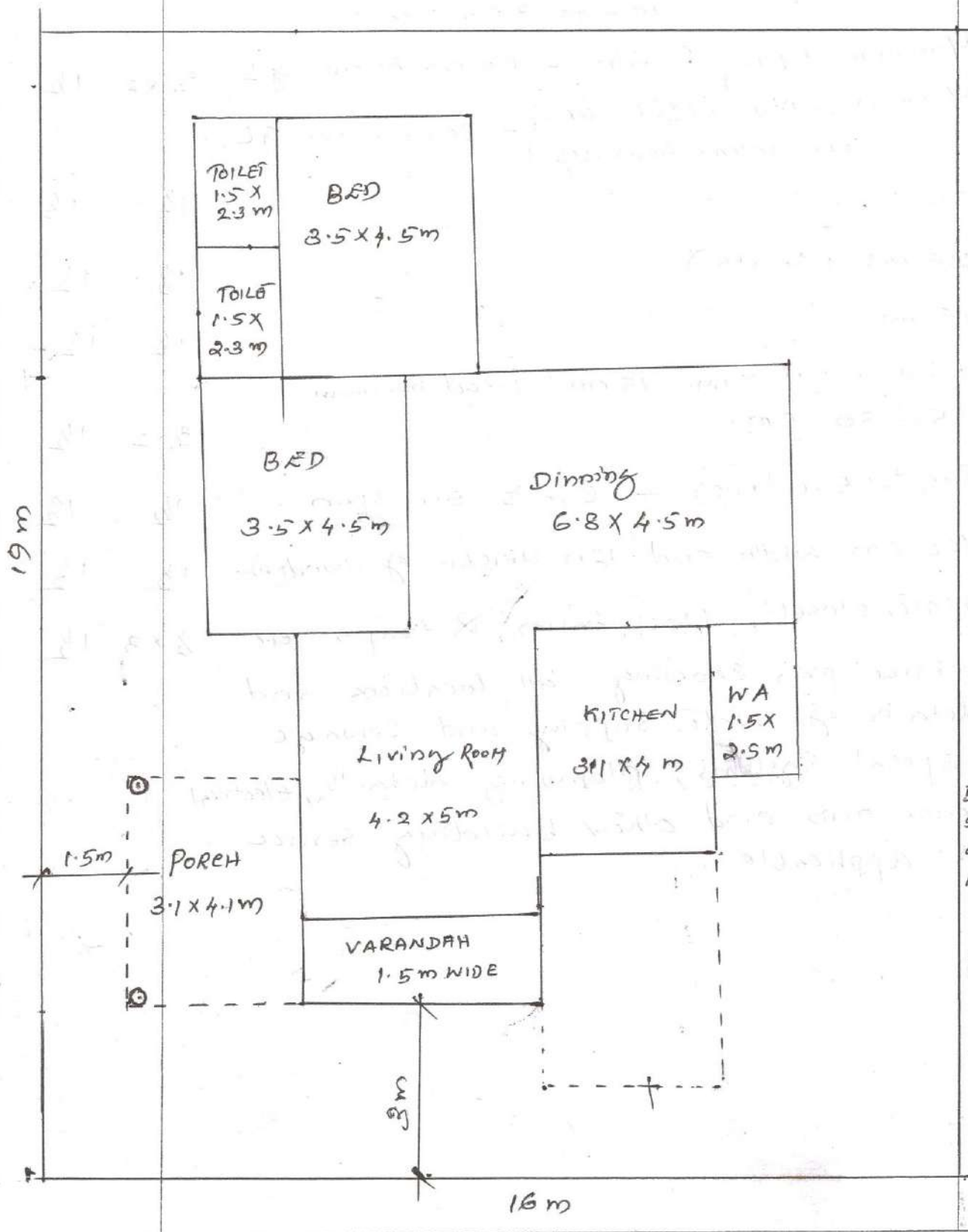
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Version: 2015

Qn. No.	Scoring Indicators	Split score	Total score
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II
a)

PART - B



Building set out as per KMBR

5

Planning 10

Drawing 10

25

③
Scoring Indicators

Code : 3014

Version: 2015

Qn. No.	Scoring Indicators	Split score	Total score
<p>III</p>	<p align="center">SECTION-AA <u>DOG LEGGED STAIR</u></p>	<p>Dimensioning - 5 Drawing - 10</p>	<p>15</p>
<p>IV</p>	<p align="center">FRONT VIEW SECTION-1.1 SECTION-2.2 <u>GLAZED WINDOW</u></p>	<p>15</p>	<p>15</p>

Qn. No.	Scoring Indicators	Split score	Total score
V	<p style="text-align: center;">R.C.C SLAB CULVERT</p>	<p>Drawing - 10 Dimensioning - 5</p>	<p>15</p>
VI.	<p style="text-align: center;">(urban)</p>	<p>Drawing - 5 Show the items - 10</p>	<p>15</p>

