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(Revision – 2015/19)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2023

QUANTITY SURVEYING - I

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

PART-A

[Maximum Marks: **10**]

I. (Answer ***all*** questions in one or two sentences. Each question carries ***2*** marks)

1. Write the trapezoidal equation for earth work computation.
2. List two methods adopted for taking detailed estimation.
3. Write the painting coefficient of (a) Fully Glazed Window (b) Iron Grills in window.
4. Write the units of the following items of work (a) Plastering (b) Door frame.
5. Define Overhead Cost. (5 x 2 = 10)

PART-B

[Maximum Marks: **30**]

II. (Answer ***any five*** of the following questions. Each question carries ***6*** marks)

1. Define (a) Plinth Area (b) Floor Area (c) Carpet Area.
2. Write the duties of a Quantity Surveyor.
3. Describe any two methods for preparing preliminary estimate.
4. Explain longwall-shortwall method for detailed estimate preparation.
5. Briefly explain the rules for taking plastering area of building.
6. Explain (a) Standard data book (b) Schedule of rates book.
7. Briefly explain (a) work charged establishment (b) contingencies. (5 x 6 = 30)

PART-C

[Maximum Marks: **60**]

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

UNIT – I

III. a. Differentiate between Supplementary estimate and revised estimate. (7)

b. Find the capacity of reservoir from 90m contour to 120m contour using Trapezoidal formula from the following table. (8)

Contour in m	90	95	100	105	110	115	120
Area (m^2)	1400	2300	3800	4900	6400	8700	9900

OR

IV. a. A person is to construct a building of plinth area equal to 125 sq.m on a plot at a cost of ₹6,50,000. The height of the building from ground level to the top of roof is 3.2m. Determine the cost of construction of a similar type of building of plinth area 160 sq.m in the locality based on

(i) Plinth area rate and (ii) Cubic content rate. (6)

b. Calculate the area of side slopes of portion of a bank for a length of 200m, the heights of banks at the two ends being 2.50m and 3.50m and the ratio of the side slope 2:1. If the side slopes are to be provided with 15cm thick stone pitching, calculate the cost of pitching at the rate of Rs.400/Cum. (9)

UNIT – II

V. a. Calculate the quantity of earthwork excavation in foundation for the residence given in Fig.I . (8)

b. Calculate the quantity of wood work for frames of doors and windows for the residence given in Fig.I (7)

OR

VI. a. Calculate the quantity of RR masonry in CM 1:6 for foundation and basement for the residence given in Fig.I (8)

b. Calculate the quantity of RCC 1:2:4 for roof slab and lintel for the residence given in Fig.I. (7)

UNIT- III

VII. a. Calculate the quantity of RCC work for rectangular water tank with inner dimensions 5x3x2m and wall thickness 0.3m. (7)

b. For the hexagonal room shown in Fig.II, estimate the quantity of 12mm cement plastering 1:6 inside and outside walls. (8)

OR

VIII. a. Calculate the quantity of Cement concrete for cement concreting 1km length of 3.70m wide road for 8cm thick layer. Also calculate cost at the rate of Rs.375per cum. (7)

b. For the hexagonal room shown in Fig.II, estimate the quantities of

i) RCC Roof Slab

ii) Lime concrete in roof terracing. (8)

UNIT - IV

IX. a. Define i) Lumpsum items

ii) Cost of materials at source and at site (6)

b. Calculate the rate for standard unit of brick work in CM 1:6

Materials: 500 Nos. bricks @Rs.5500/1000 Nos.

$0.25m^3$ dry sand @ Rs.1050/m^3

58kg cement @Rs.7000/t

Labour: 0.70 brick mason @ Rs.650/Each

0.35 man @ Rs.450/Each

0.70 woman @ Rs.375/Each

Take Lumpsum for scaffolding @ Rs.25/m^3 (9)

OR

X. Work out the rate per unit for RCC 1:2:4 using 20mm broken stone.

Materials: $0.009m^3$ broken stone@Rs.1200/m^3

$0.0045m^3$ sand @ Rs.2100/m^3

3.3 kg cement @ Rs.8250/ton

Labour: 0.002 mason @ Rs.850/Each

0.01 man @ Rs.500/Each

0.05 woman @ Rs.400/Each

Conveyance Charges

Materials	Distance in km	Rate per unit/km
Broken Stone	20	25
Sand	25	20
Cement	10	65

(15)

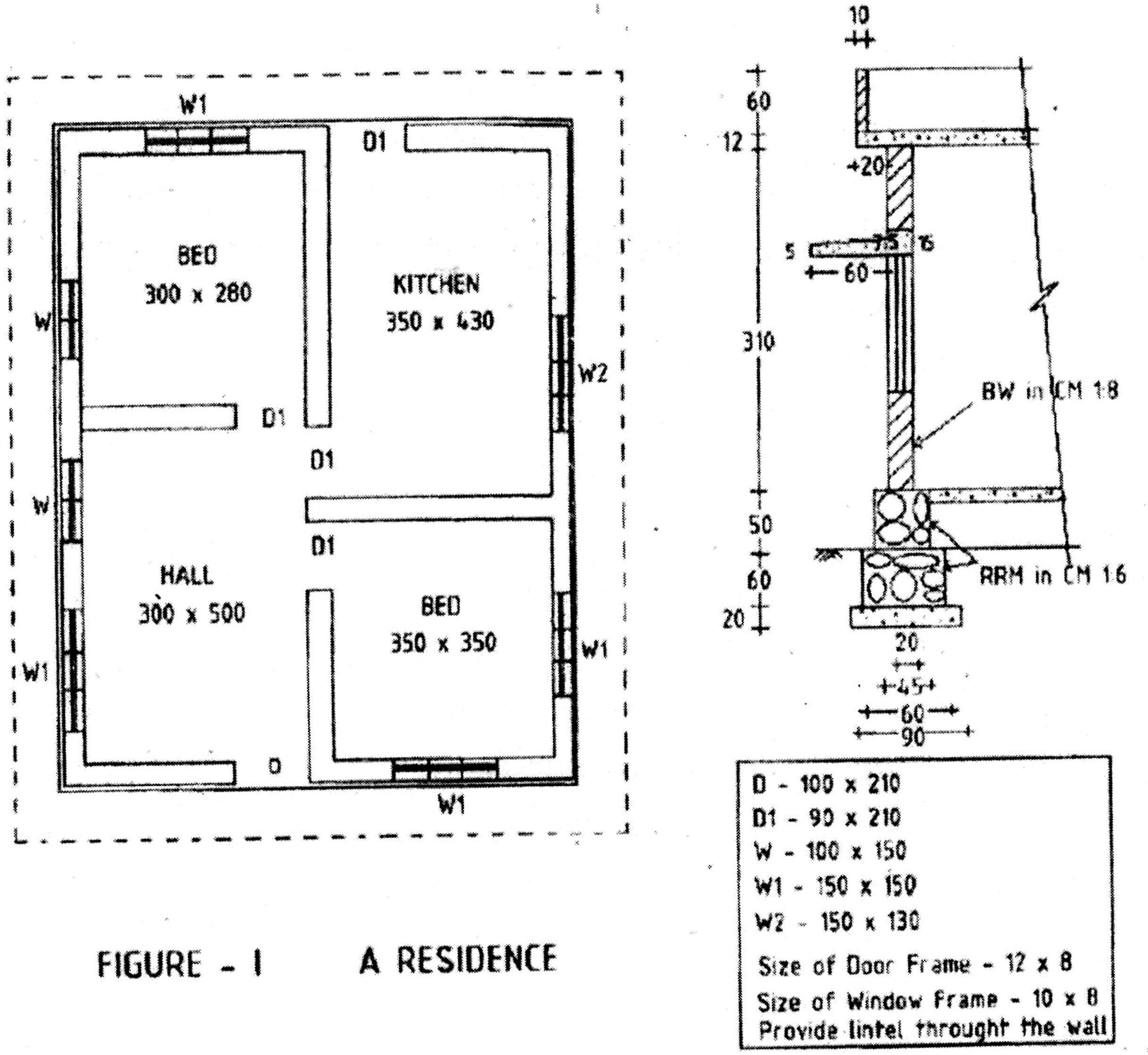

FIGURE - I A RESIDENCE

Fig.I

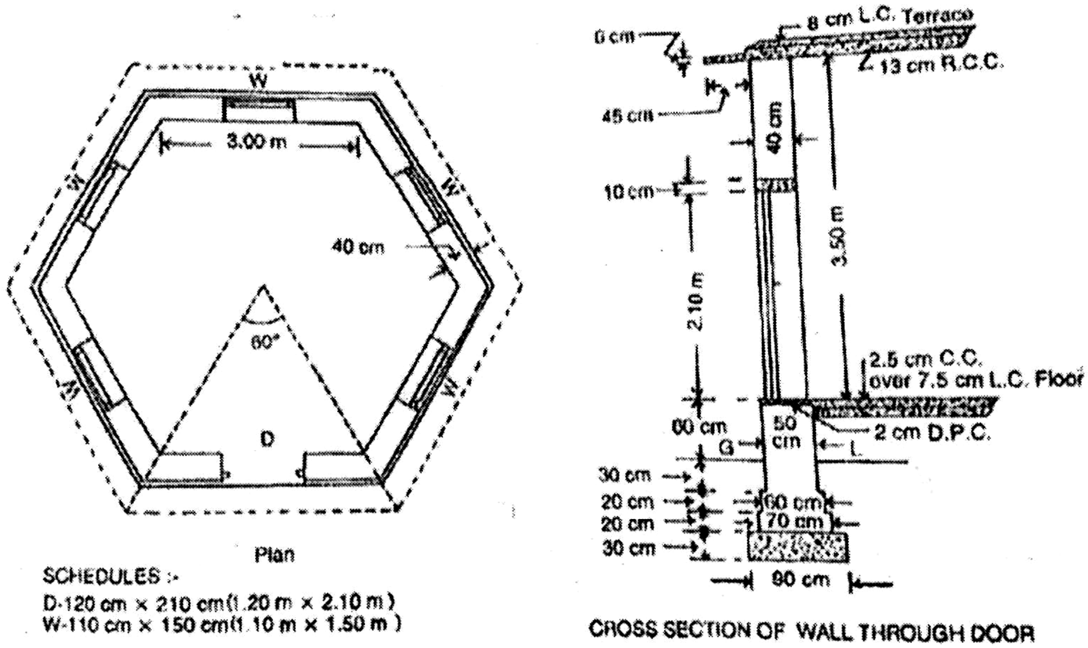
W
3.00 m
W
W
40 cm
60°
W
W
D
Plan
SCHEDULES :-
D-120 cm × 210 cm(1.20 m × 2.10 m)
W-110 cm × 150 cm(1.10 m × 1.50 m)
8 cm L.C. Terrace
13 cm R.C.C.
45 cm
40 cm
10 cm
3.50 m
2.10 m
2.5 cm C.C.
over 7.5 cm L.C. Floor
60 cm
50 cm
2 cm D.P.C.
G
L
30 cm
20 cm
20 cm
30 cm
60 cm
70 cm
90 cm
CROSS SECTION OF WALL THROUGH DOOR

Fig.II

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