

FIFTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2014

QUANTITY SURVEYING – II AND VALUATION
(Common to CE, EV and WR)

[Time : 3 hours

(Maximum marks : 100)

- [Note :—1. Missing data, may be suitably assumed.
2. Sketches to be accompanied.
3. Quantities to be worked out in standard form.]

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. What is the length of a common rafter, in terms of the Eave span, when the rise of the roof is $\frac{1}{4}$ span ?
2. Differentiate between a 'Culvert' and a 'Bridge'.
3. How much is the Hook length, for a steel rod in Concrete in terms of the diameter of the rod ?
4. What are the two types of specifications for various items of work ?
5. Define the term 'Sinking Fund'.

(5×2=10)

PART—B

(Maximum marks : 30)

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

1. Calculate the centre line lengths of 30 cm and 20 cm walls (including verandahs) of the building shown in figure I.
2. Work out the quantity of R.C.C. work, 1:2:4 in cover slab, over the "Septic Tank", shown in figure II.
3. Estimate the quantity of Earthwork in excavation for foundation of the Bridge Pier, shown in figure III.
4. Calculate the quantity of Brick work in Well Steining for a masonry well of 14 m height, 2 m inside diameter and steining thickness 30 cm.
5. Calculate the quantity of main straight bars with hooked ends in an R.C.C. Beam for the following data :
Clear span 5 m, Bearing 0.4 m at each end, Bar diameter 16 mm, No. of bars 3, Cover 25 mm.
6. Write down the specification for Plastering with cement mortal 1:4.
7. What are the different methods of valuation ?

(5×6=30)

PART—C

(Maximum marks : 60)

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

UNIT—I

- III (a) Figure I shows the details of an office building. Calculate the quantity of Earthwork in filling in plinth of the entire building. Assume the plinth footing of pillars are 40 cm. square and thickness of verandah plinth as 20 cm. 10
- (b) Work out the quantity of Reinforced Brick work in partition wall with 1:3 cm., of the septic tank shown in figure II. 5

OR

- IV (a) Calculate the quantity of First class brickwork in cement mortar 1:4, for the septic tank shown in figure II. 8
- (b) A hall with inside measurements 12 m × 5 m is provided with tiled roof. Wall thickness is 22 cm and Eave projection is 60 cm. Assuming the rise of the roof as 1/3 span, calculate the quantity of wood work required for the Hip rafters of the building; assuming a size of (5 × 13) cm. 7

UNIT—II

- V (a) Prepare a detailed estimate for the brickwork in C.M. 1:5 in foundation footings (3 Nos.) upto bed level of the Bridge pier shown in figure III. 9
- (b) Calculate the quantity of R.C.C. work 1:2:4 for a retaining wall, of 30 m length, with the following details :
Base slab : (2.75 × 0.45) m.
Stem : 5 m height above base slab, top width-0.23 m and bottom width-0.45m. Exposed face vertical and earth face battered. 6

OR

- VI Work out the following quantities of items of a slab culvert shown in figure IV.
- (a) Cement concrete 1:3:6, in foundation. 4
- (b) First class brickwork in C.M. 1:4. 8
- (c) R.C.C. work 1:2:4 in slab excluding steel bars. 3

UNIT—III

- VII (a) Prepare a detailed estimate for the R.C.C. rectangular beam, 1:2:4 mix shown in figure V. (R.C.C. work + steel bars), providing hooks for steel bars and overall cover of 25 mm. 9
- (b) Prepare the bar bending schedule for the above beam in standard format. 6

OR

- VIII (a) Write down the detailed specification for 'Earthwork in excavation' for foundation. 8
- (b) Write down the detailed specification for pointing with Cement Mortar. 7

UNIT—IV

IX Define the terms :

- (a) Outgoings
- (b) Scrap value
- (c) Salvage value
- (d) Market value
- (e) Book value

15

OR

- X (a) The sinking fund amount of a building is estimated to ₹ 30,000 whose future life is 20 years. Find out the yearly installment of sinking fund, which should be set aside @ 5%. 8
- (b) The total cost of a new building is ₹ 1,50,000. Work out the depreciated cost of the building after 20 years, by straight line method, if the scrap value is ₹ 15,000 assuming the life of the building is 80 years. 7

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SIX ROOMED BUILDING WITH FRONT AND BACK VERANDAHS AND SIDE ROOMS

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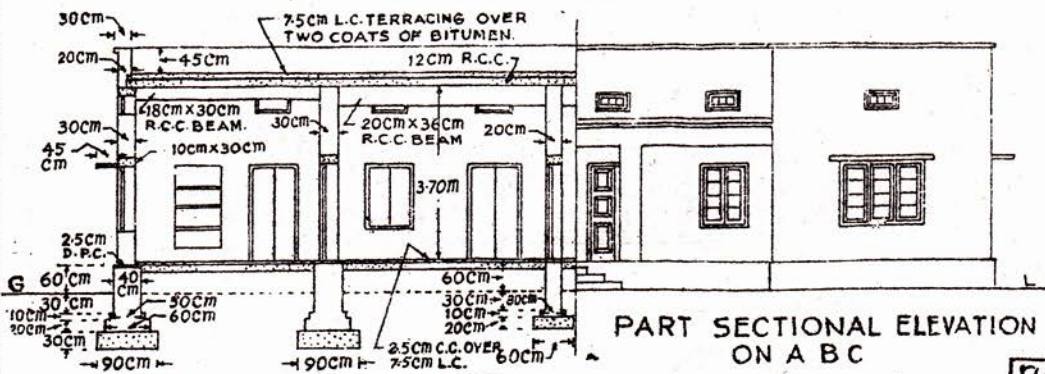


FIG-I

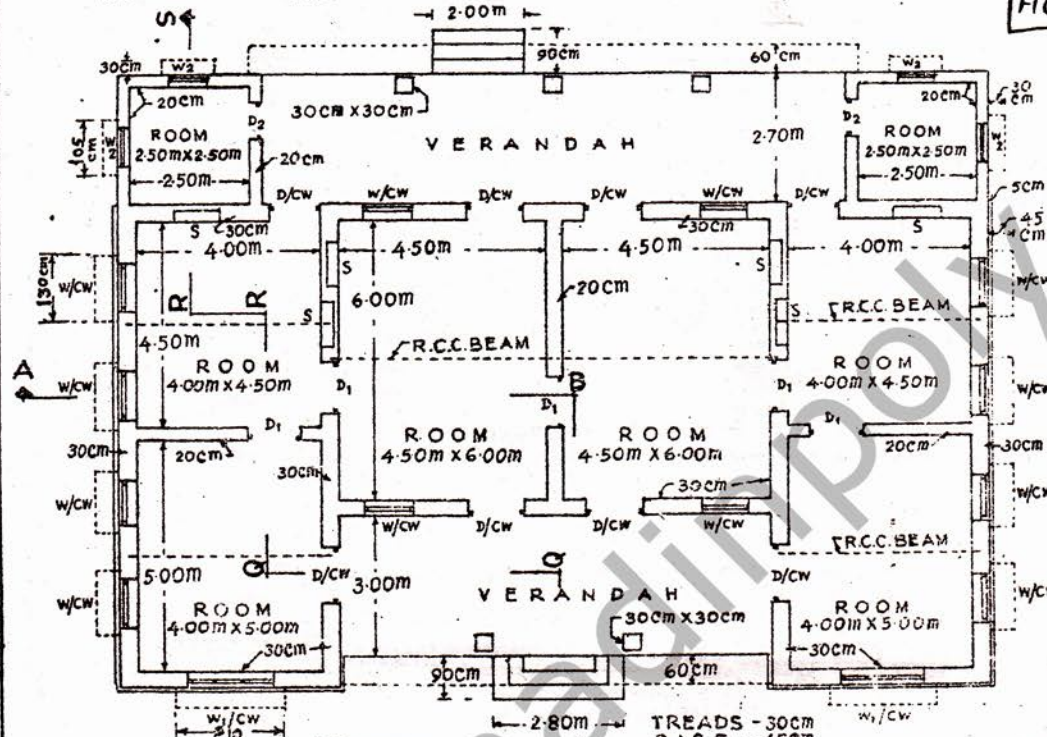


FIG-I

TREADS - 30cm
RISE - 15cm

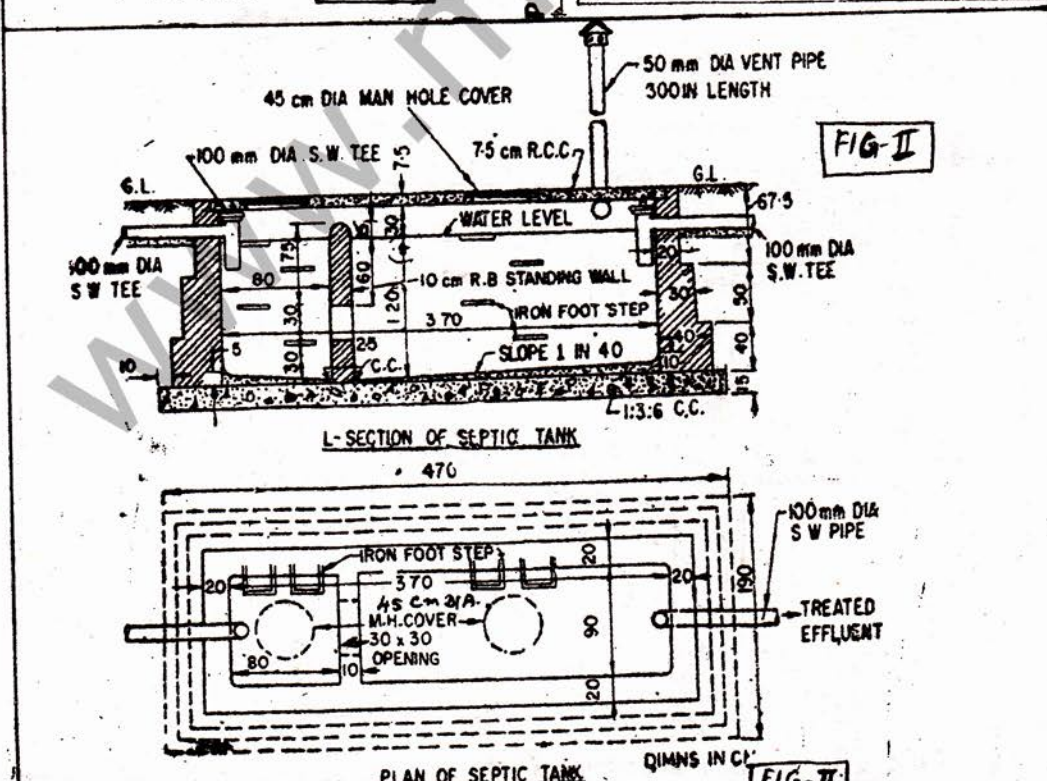


FIG-II

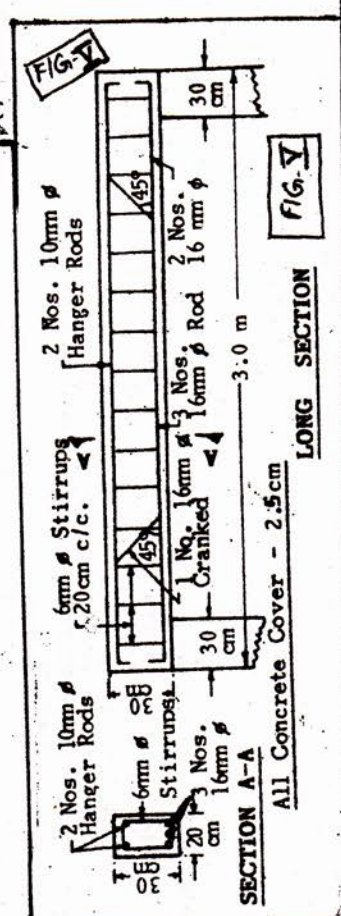
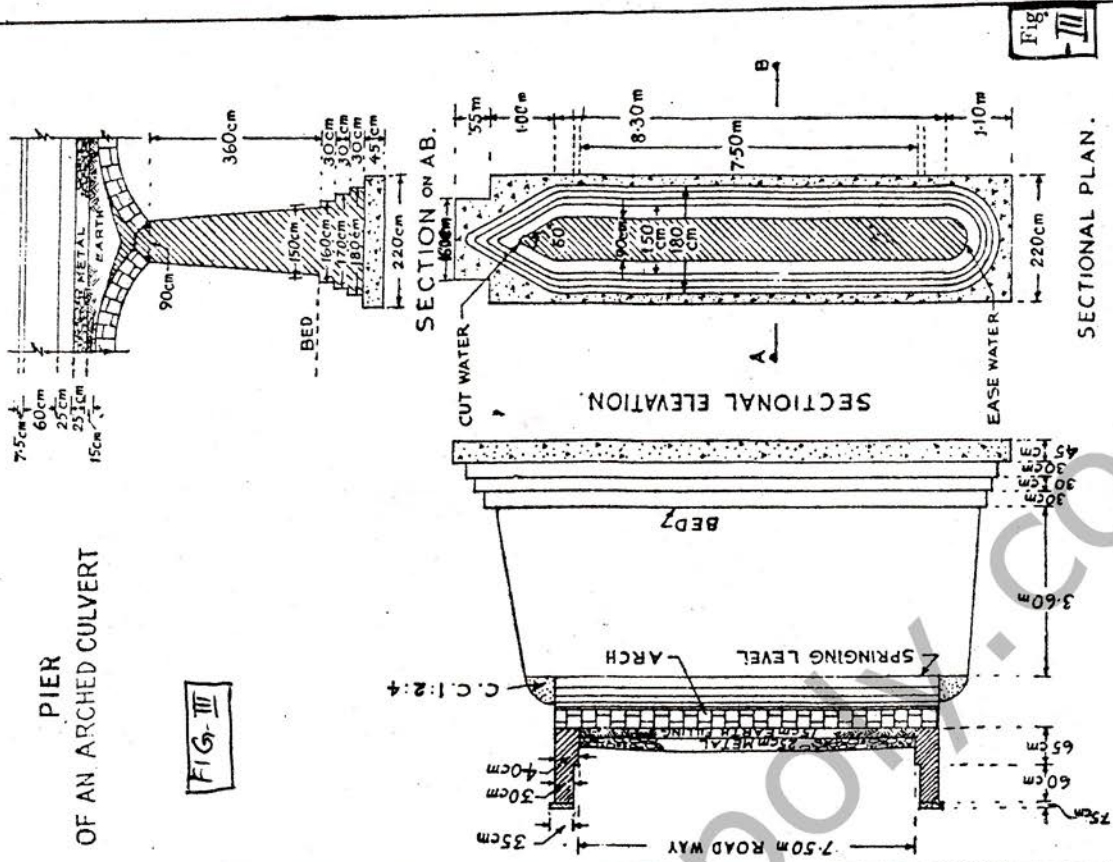


FIG-III

LONG SECTION

All Concrete Cover - 2.5cm

PIER OF AN ARCHED CULVERT



R.C.C. SLAB CULVERT 1.50 m SPAN WITH STANDARD MODULAR BRICKS.

