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N19-00186

TED (15) – 5014

(REVISION — 2015)

Reg. No. ..............................

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# DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

## QUANTITY SURVEYING - II

[*Time* : 3 hours

(Maximum marks : 100)

[*Note* :— 1. Missing data may be assumed.

2. Sketches are accompanied.

3. Quantities to be worked out in standard format.]

### PART — A

(Maximum marks : 10)

Marks

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

1. Write the length of a common rafter in terms of the eave span, when the rise of the roof is ¼ spans.
2. Differentiate between culvert and bridge.
3. What are the two types of specifications for various items of work ?
4. Define the term sinking fund.
5. Define value. (5×2 = 10)

### PART — B

(Maximum marks : 30)

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

1. Work out the quantity of R.C.C work 1:2:4 in cover slab over the septic tank, shown in figure II.
2. Calculate the quantity of first class brick work in cement mortar 1:4 for the walls of the septic tank shown in figure II.
3. Calculate the quantity of R.C.C work 1:2:4 for stem and base slab for the cantilever retaining wall shown in figure III. Length of retaining wall 30m.
4. Calculate the brickwork in 1:4 cement mortar for abutments and wing walls for the slab culvert of span 1.5m and 4m roadway, shown in figure IV.
5. Write the detailed specification for plastering with cement mortar 1:4.
6. Write the methods of calculating depreciation and explain any two methods.
7. List out the purpose of valuation. (5×6 = 30)

50 14 2



Marks

## PART — C

(Maximum marks : 60)

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

### UNIT — I

III (a) Workout the quantity of brickwork in c m 1:6 for superstructure for a given building shown in figure I. 8

(b) Workout the quantity of wood work, frames for doors, windows and ventilators for a given building shown in figure I. 7

OR

IV (a) Work out the quantity of plastering inside and outside of walls with c.m 1:5 for a given building shown in figure I. 8

(b) Calculate the quantity of RCC 1:2:4 for roof slab and sunshade in given building shown in figure I. 7

### UNIT — II

V (a) Work out the quantity of steel work for using stem, in a given retaining wall shown in figure III. Length of retaining wall 30m. 8

(b) Work out the quantity of steel work for using base slab in a given retaining wall shown in figure III. Length of retaining wall 30m. 7

OR

VI (a) Work out the quantity of earth work in foundation for given slab culvert of span 1.5m and 4m road way, shown in figure IV. 8

(b) Workout the quantity of cement concrete 1:3:6 in foundation for given slab culvert of span 1.5m and 4m roadway shown in figure IV. 7

### UNIT — III

VII (a) Prepare a detailed estimate of RCC and steel bars for the R.C.C slab (clear span 3m×6m), 1:2:4 mixes shown in figure V providing hooks for steel bars and side cover 40mm. 8

(b) Prepare bar bending schedule for the above slab in standard format. 7

OR

VIII (a) Write the detailed specification for earth work excavation for foundation. 8

(b) Write the detailed specification for pointing with cement mortar. 7

### UNIT — IV

IX Define the terms :

(i) Outgoings
(ii) Scrap value
(iii) Salvage value
(iv) Market value
(v) Book value

(5×3= 15)

OR

X (a) The sinking fund amount of a building is estimated to ₹ 50,000 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 2,00,000. Workout the depreciated cost of the building after 20 years by straight line method. If the scrap value is ₹ 20,000, Assuming the life of the building is 80 years. 7

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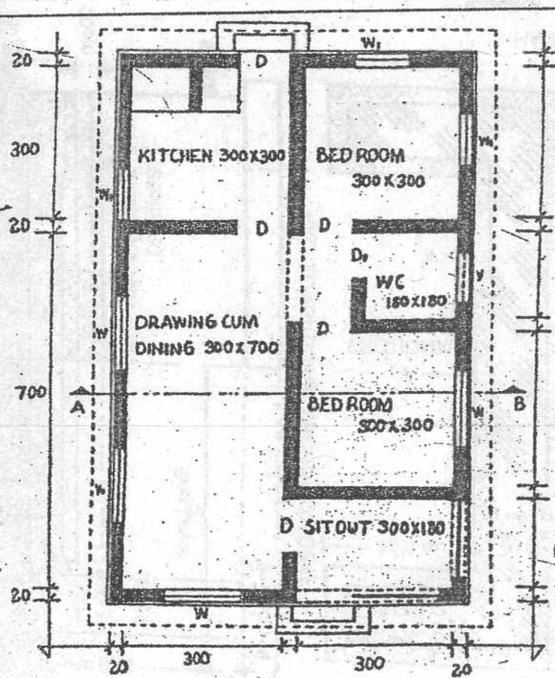
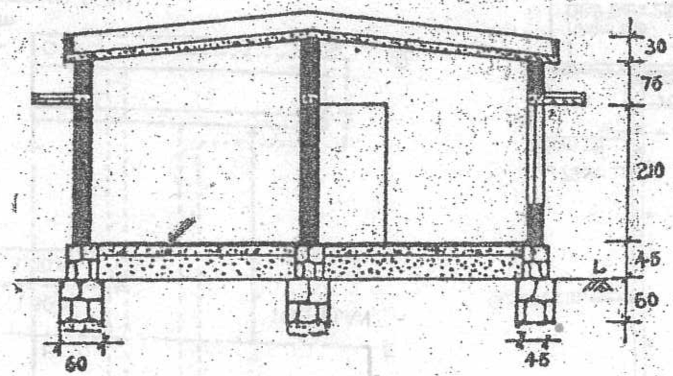



PLAN




SECTION ON AB

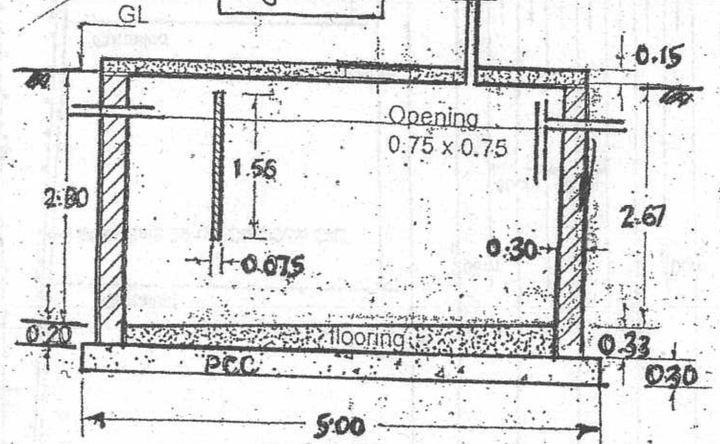
Figure I

## SPECIFICATIONS

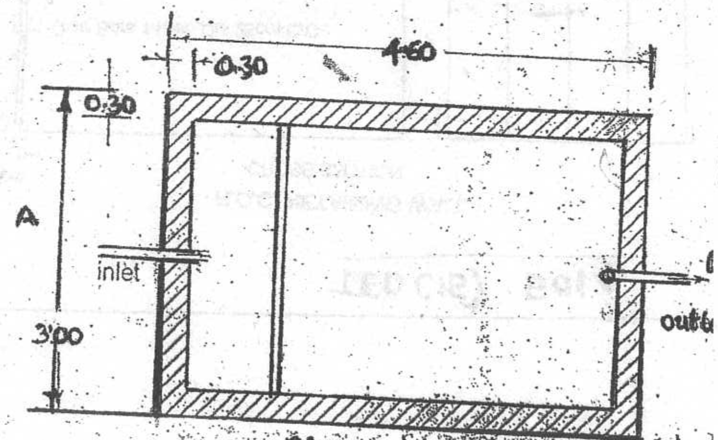
| | |
|---|---|
| FOUNDATION - R.R IN CM 1:8, 60 X 60 C.M. | WINDOWS - W 150 X 150, FULLY GLAZED. |
| BASEMENT - R.R IN CM 1:8, 45 X 45 C.M. | W₁ 100 X 150 " |
| WALLS - B.W IN CM 1:6, 20 C.M. THICK. | VENTILATOR - V - 100 X 50 " |
| LINTEL - R.C.C. 1:2:4, 15 C.M. THICK. | PLASTERING - INSIDE & OUTSIDE WITH CM 1:5. |
| ROOF - R.C.C 1:2:4, 10 C.M. THICK. | CEILING 1:3 |
| DOORS - D 100 X 210, FULLY PANELLED. | FLOORING - C.C. FLOORING WITH 1:4 CM PLASTERING |
| D₁ 80 X 210 " | |

**SCALE : 1: 100** **Dimensions are in CM** **PLINTH AREA : 74.32 m²**

Figure II




Section AB




Plan All dimensions are in m

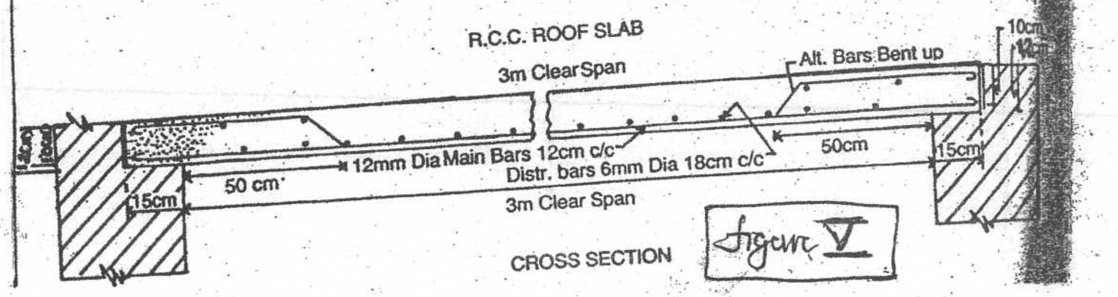



Figure V

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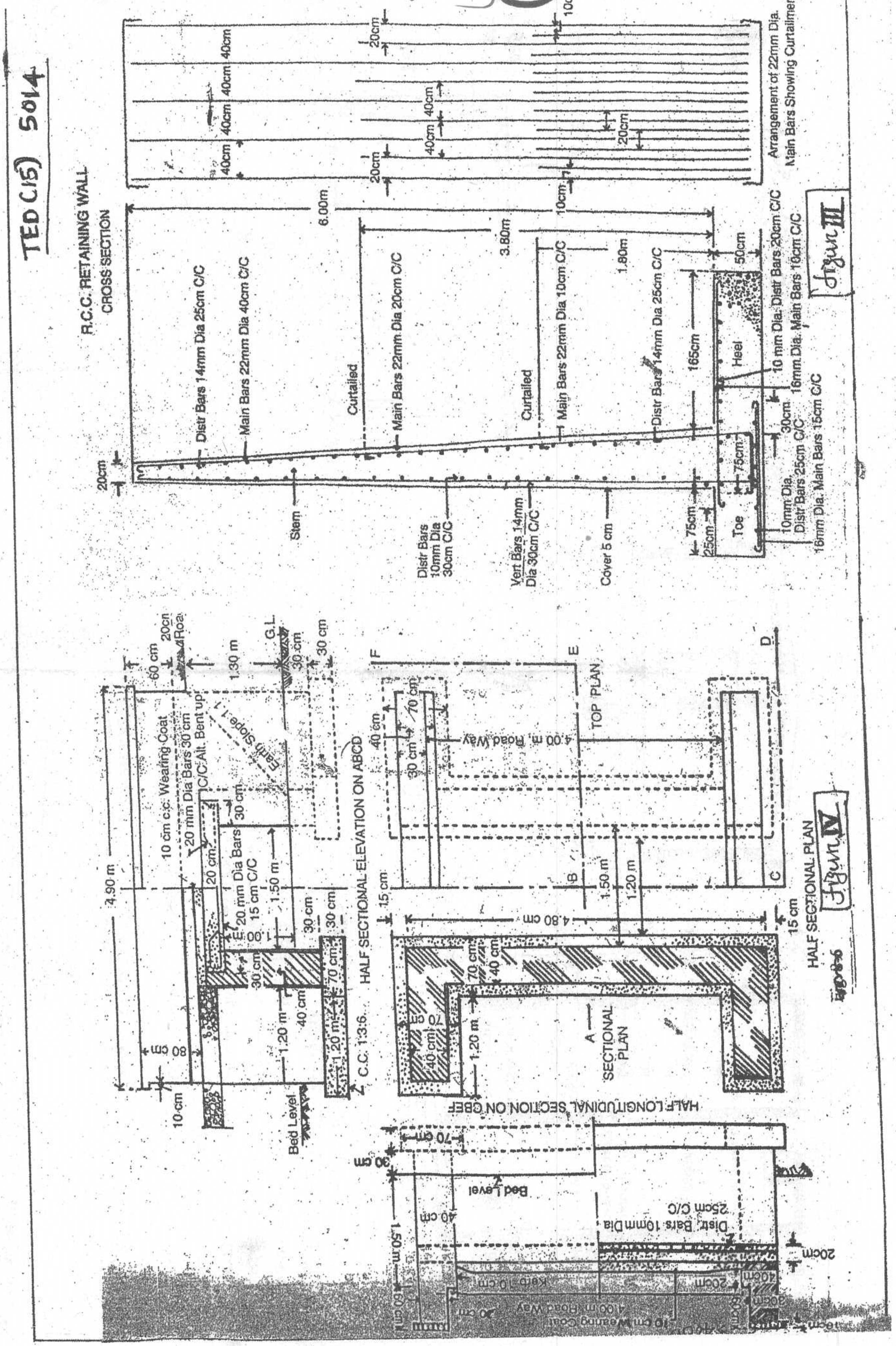

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R.C.C. RETAINING WALL
CROSS SECTION
Distr Bars 14mm Dia 25cm C/C
Main Bars 22mm Dia 40cm C/C
Curtailed
Main Bars 22mm Dia 20cm C/C
Curtailed
Main Bars 22mm Dia 10cm C/C
Distr Bars 14mm Dia 25cm C/C
6.00m
3.80m
1.80m
20cm
Stem
Distr Bars 10mm Dia 30cm C/C
Vert Bars 14mm Dia 30cm C/C
Cover 5 cm
165cm
Heel
Toe
75cm
25cm
50cm
30cm
10 mm Dia. Distr Bars 20cm C/C
16mm Dia. Main Bars 10cm C/C
10mm Dia. Distr Bars 25cm C/C
16mm Dia. Main Bars 15cm C/C
Arrangement of 22mm Dia. Main Bars Showing Curtailment
Figure III
10 cm c.c. Wearing Coat
20 mm Dia Bars 30 cm C/C Alt. Bent up
20 mm Dia Bars 15 cm C/C
Earth Slope 1:1
G.L
Bed Level
C.C. 1:3:6
4.90 m
1.30 m
1.50 m
1.20 m
HALF SECTIONAL ELEVATION ON ABCD
4.00 m. Road Way
TOP PLAN
SECTIONAL PLAN
4.80 cm
HALF SECTIONAL PLAN
Figure IV
HALF LONGITUDINAL SECTION ON CBEF
Bed Level
Distr. Bars 10mm Dia 25cm C/C
Kerb 10 cm
4.00m Road Way
10 cm Wearing Coat