

4013 (5) ①

N19 - 00167

TED (15) – 4013

Reg. No.....

(REVISION — 2015)

Signature

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

QUANTITY SURVEYING - I

[Time : 3 hours

(Maximum marks : 100)

[Note :—1. Missing data may be suitably assumed.
2. Figures accompanied.]

PART — A

(Maximum marks : 10)

Marks

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

1. Write the standard units of (a) RCC work (b) Collapsible gate
2. What is meant by supplementary estimate ?
3. List the methods of taking out quantities.
4. What is meant by dead men ?
5. What is meant by conveyance charges ?

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. List the duties of quantity surveyor.
2. Define (a) work charged establishment (b) contingencies (c) lump sum.
3. Calculate the steel required for RCC slab of size $6 \times 3 \times 0.1$ m in kg @ 0.80% by volume of RCC.
4. Compute the wood work required for the construction of a three leaved window frame of size 150×140 . The size of cross section of frame is 10×7 cm.
5. Determine the quantity of earthwork for a masonry well of 1.5 m inner diameter and 4.5 in deep. The thickness of masonry is 30 cm.

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Marks

- 6. Calculate the capacity of a water tank in liters of inner dimensions $5.3 \times 3 \times 1.2$ m and also calculate the area of plastering for walls. Assume thickness of wall as 30cm.
- 7. Explain (a) Standard Data book (b) Schedule of rates book . (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) (i) Explain cubical content method of approximate estimate.
- (ii) The plinth area of a building with tiled roof is 80 m^2 . The rise of roof is 1.6 m and height of wall 3 m. Calculate the cost of building assuming cube rate as Rs. $900/\text{m}^3$. 8
- (b) Find the capacity of the reservoir from 50 m contour to 80 m contour using trapezoidal formula from the following data.

Contour in 'm'	50	55	60	65	70	75	80
Area in m^2	1300	2400	3800	4900	6200	8700	9800

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OR

- IV (a) A canal is to be excavated between two points A and B which are at 120 m apart. Bed width is 10 m and side slope $1\frac{1}{2} : 1$. Depth of cutting at A is 2 m and at B 3m. Calculate the quantity of earthwork by
 - (i) Mid sectional area method
 - (ii) Mean sectional area method
 - (iii) Trapezoidal rule
 - (iv) Prismoidal rule 8
- (b) The details of a road embankment are as follows. There is no transverse slope for the ground. Formation width is 9 m and side slope 2:1

Distance	0	200	400	600	800	1000	1200	1400	1600	1800	2000
RL of ground	70	70.3	70.6	71.1	71.3	72.2	72.5	71.9	72.2	73.2	74.3
RL of formation	71 Rising gradient 1 in 500.....									

Calculate the quantity of earthwork by using Prismoidal formula. 7

UNIT — II

- V (a) Calculate the quantity of earth work excavation in foundation for the residence given in Figure - 1 8
 - (b) Calculate the quantity of wood work for frames of doors and windows for residence given Figure - 1 7
- OR
- VI (a) Calculate the quantity of RR Masonry in CM 1:6 for foundation and basement for the residence given in Figure - 1. 8
 - (b) Calculate the quantity of RCC 1:2:4 for roof slab and lintel for the residence given in Figure - 1. 7

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UNIT — III

Marks

- VII (a) Calculate the quantity of plastering wall with CM 1:6 for the residence given in Figure - 1. 8
- (b) Calculate the quantity of painting for doors and windows for the residence given in Figure - 1. 7

OR

- VIII (a) Estimate the quantity of RR Masonry and DR masonry for the masonry well shown in Figure - 2. 8
- (b) Calculate the quantity of ceiling plastering with CM 1:3 for the residence given in Figure - 1. 7

UNIT — IV

- IX (a) Work out the rate per unit for RR Masonry in CM 1:6 for foundation and basement.

Materials : 1 m³ blasted rubble @ Rs. 650/m³
 0.3m³ dry sand @ Rs. 850/m³
 72 Kg cement @ Rs. 9000/t

Labour : 0.70 mason @ Rs. 475/Each
 0.35 man @ Rs. 300 residence/Each
 0.70 woman @ Rs. 250/Each

Conveyance of materials :

Name of material	Distance in Km.	Rate/unit/km
Rubble	15	20
Sand	20	12
Cement	8	14

8

- (b) Work out the rate for plastering with CM 1:5, 12 mm thick from the given data.

Materials and labour for 10 m².

Dry sand 0.15 m³ @ Rs. 850/m³
 Cement 43 kg @ Rs. 9000/t
 Brick mason 0.9 @ Rs. 475/E
 Man 0.55 @ Rs. 300/E
 Woman 1.10 @ Rs. 250/E
 Hire charges for scaffolding - I.S @ 15/unit.

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OR

X (a) Calculate the rate for standard unit of brickwork in CM 1:6

Materials : 500 nos. bricks @ Rs. 5100/1000 nos.
0.24m³ dry sand @ Rs. 950/m³
58 kg cement @ Rs. 6500/t

Labour : 0.70 brick mason @ Rs. 600/E
0.35 man @ Rs. 450/E
0.70 woman @ Rs. 375/E

Take lump sum for scaffolding @ Rs. 15/m³ -

8

(b) Work out the rate for 1m³CC 1: 4 : 8 using 40 mm broken stone.

Materials : 40 mm broken stone 0.95 m³ @ Rs. 660/m³
River sand 0.48 m³ @ Rs. 2800/m³
Cement 171 kg. @ Rs. 6000/t

Labour : Mason 0.10 @ Rs. 475/E
Man 1.00 @ Rs. 377/E
Women 1.40 @ Rs. 250/E

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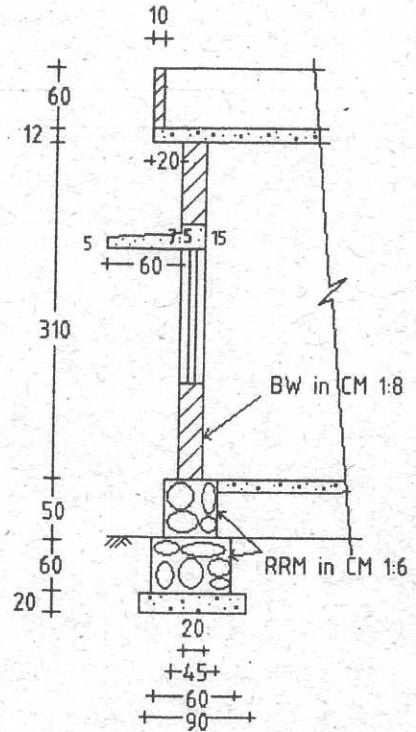
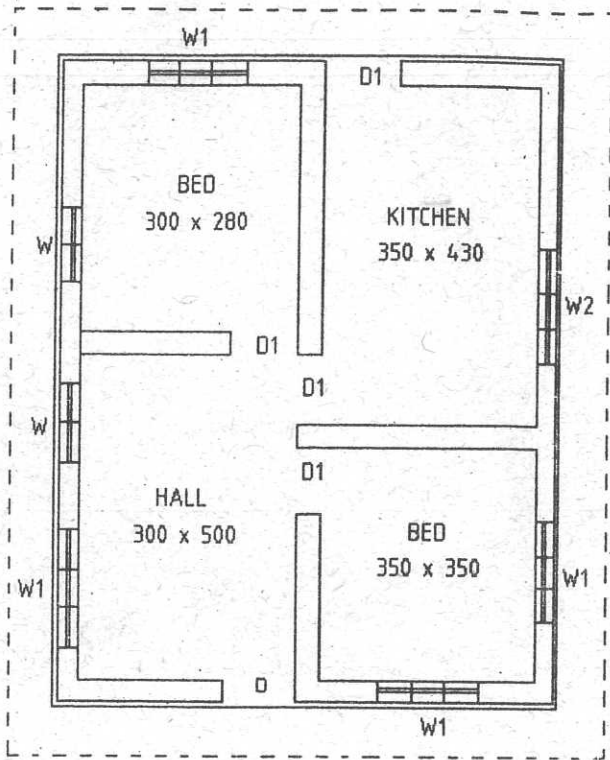


FIGURE - 1 A RESIDENCE

- D - 100 x 210
- D1 - 90 x 210
- W - 100 x 150
- W1 - 150 x 150
- W2 - 150 x 130
- Size of Door Frame - 12 x 8
- Size of Window Frame - 10 x 8
- Provide lintel through the wall

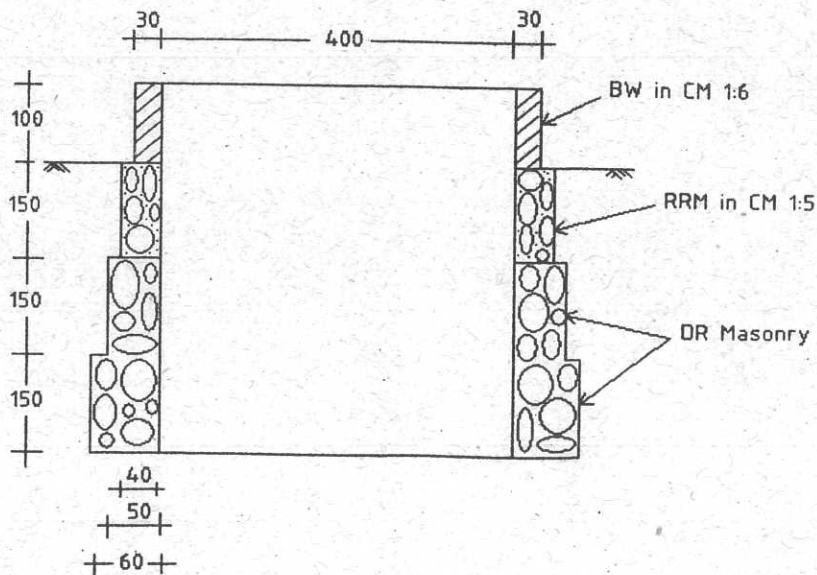


FIG - 2 MASONRY WELL