

FOURTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY—MARCH, 2012

**QUANTITY SURVEYING-I**  
(Common to CE, EN and WR)

[Time : 3 hours

(Maximum marks : 100)

- [Note :—1. Missing data may be suitably assumed.  
2. Quantities should be worked out in standard form.  
3. Sketches on 4th page.]

PART—A

Marks

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

1. What is meant by quantity surveying ?
2. What are the different types of estimate ?
3. Write painting co-efficient for :  
(i) Fully panelled door      (ii) Glazed window.
4. What is the standard form of detailed estimate ?
5. Differentiate between cost of material at source and at site.

(5×2=10)

PART—B

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

1. Explain trapezoidal formula and prismoidal formula for computation of volume of earth work.
2. Calculate the quantity of wood work required for doors and windows frame for the building in figure, size of frame : 8 cm × 12 cm.
3. Determine the quantity of pointing for the given building in figure.
4. Determine the quantity of earth work for a masonry well of 1.5 m inner diameter, 4.50 m deep, thickness of masonry is 30 cm.
5. Estimate the quantity of R.C.C. work for a rectangular water tank with inner dimensions 5m × 3m × 1.5m and wall thickness 20 cm.
6. Explain how to fix up rate per unit of an item.

(5×6=30)

## PART—C

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

## UNIT—I

- III Estimate the quantity of earthwork for a portion of a road 300 m. Length by Trapezoidal Formula from the following data. Draw the Longitudinal section of the road and a typical cross section.

Formation width : 10 m., side slope 2 : 1 (length of chain is 30 m)

Chainage	30	31	32	33	34	35	36	37	38	39	40
R.L. of ground	110.00	110.60	110.44	110.9	110.42	109.30	110.00	109.10	109.62	109.00	108.30
Gradient	112.00	Down ward gradient 1 in 150. →									

R.L. of formation at 30th chainage = 112.00.

15

OR

- IV Estimate the quantity of earthworks for a portion of a road 400 meter length by Prismoidal Formula from the following data. Draw the longitudinal section of the road and a typical cross section.

Formation width : 10m, side slope : 1.5 : 1.

Distance in M.	500	540	580	620	660	700	740	780	820	860	900
R.L. of ground	56.00	55.90	56.10	55.90	55.00	54.60	54.20	54.40	54.30	54.00	53.60
Gradient	54.00	Downward gradient 1 in 200. →									

R.L. of formation at 500 m is 54.00.

15

## UNIT—II

- V 1. The details collected from contour map of a reservoir are as follows. Compute the capacity of the reservoir from 540 m contour to 561 m. contour using Prismoidal formula :

Contour in m.	540	543	546	549	552	555	558	561
Area in M <sup>2</sup>	250	1500	4200	5500	7300	9700	10200	12400

10

2. Determine the quantity of R.C.C. lintel for the building in figure.

5

OR

- VI 1. Calculate the quantity of earthwork for the building in figure. 10  
2. Determine the quantity of ceiling plastering for rooms in the building in figure. 5

## UNIT—III

- VII Calculate the quantity of R.C.C. work for roof slab, sunshade and lintel for the building in figure.

15

OR

- VIII Compute the quantity of internal and external plastering on brick masonry for the building in figure. 15

## UNIT—IV

- IX Calculate the rate for standard unit of brickwork in cement mortar 1 : 5 :

*Materials*

500 numbers brick @ ₹ 2500.00/1000 numbers

0.24 m<sup>3</sup> dry sand @ ₹ 1750.00/m<sup>3</sup>

69 kg cement @ ₹ 4700/t

*Labour*

0.70 brick mason @ ₹ 325.00/each

0.35 man @ ₹ 240.00/ each

0.70 woman @ ₹ 240.00/each

*Conveyance charges for materials*

Materials	Distance in km	Rate per unit/km ( ₹ )
Bricks	25	18
Dry sand	30	16
Cement	10	47

Add 10% profit for the contractor.

15

OR

- X Work out the rate per unit of cement concrete 1:3:6 using 40 mm broken stone from the given data :

*Materials*

0.95 m<sup>3</sup> broken stone @ ₹ 490.00/m<sup>3</sup>

0.48 m<sup>3</sup> sand @ ₹ 1750.00/m<sup>3</sup>

228.00 kg cement @ ₹ 4700.00/t

*Labour*

0.10 mason @ ₹ 325.00/each

1.00 man @ ₹ 240.00/each

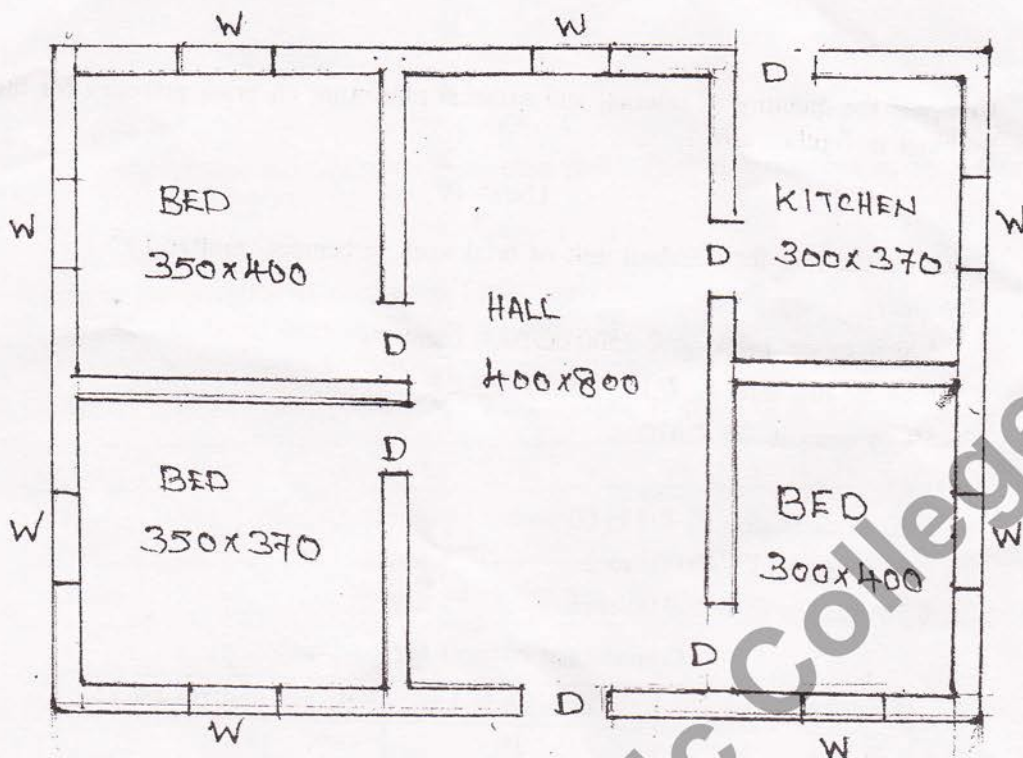
1.40 woman @ ₹ 240.00/each

*Conveyance charges for the materials*

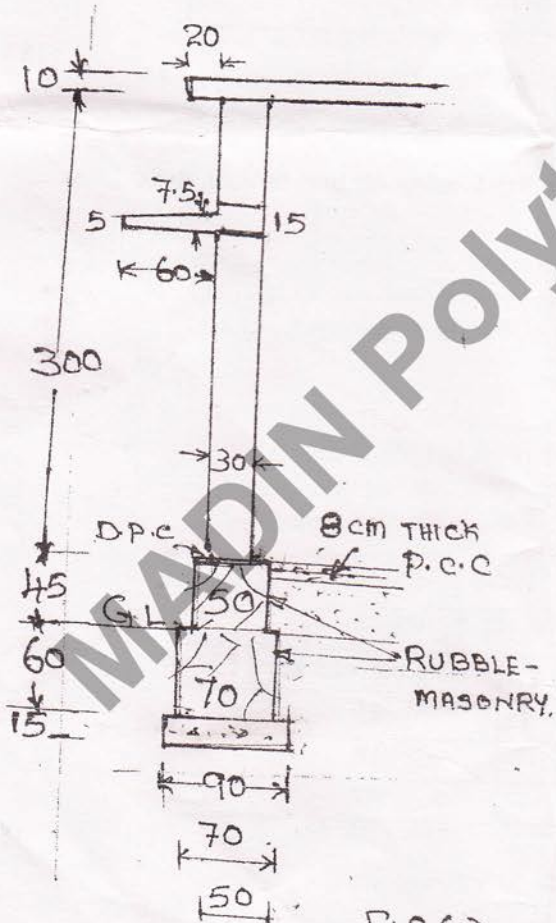
Materials	Distance in km	Rate per unit/km ( ₹ )
Broken stone	30	15
Sand	45	16
Cement	10	47

Add 10% profit for the contractor.

15



PLAN



FIG(1)

SECTION.

D - 100 x 210 cm.

W - 120 x 150 cm.

LINTEL 15 cm THICK THROUGHOUT - THE ALL WALL.

SUNSHADE - 60 cm WIDTH, 7.5 cm THICK AT SUPPORT, 5 cm THICK AT END, ALL AROUND THE WALL