

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2021**

QUANTITY SURVEYING-I

[Maximum Marks: 75]

[Time: 2.15 Hours]

PART-A

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

- I. 1. Define quantity survey.
2. Define lead and lift in earthwork.
3. Distinguish between floor area and carpet area.
4. Mention two methods adopted for taking detailed estimate.
5. How will you fix up the rate of an item. (3 x 2 = 6)

PART-B

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

- II 1. Explain the essential requirements and purpose of quantity survey.
2. Explain the methods for preparing the approximate estimate.
3. What is the quantity of masonry for a well steining around a well having 3.5m inner diameter, 30cm thick, 2.5m height.
4. Prepare a detailed of an earthen road of length 500m. The top width of the formation is 7.5m, side slope is 2:1 on either side. The height at 0.0m is 0.50m and 0.30m at 500m.
5. Calculate the quantity of EWE & Brickwork for the steps running two directions as per plan, section & specifications given.
6. Discuss the provisions for different building services.
7. Determine the quantity of cement required for 5.00 cum of R.C.C 1:2:4 (4 x 6 = 24)

PART-C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT – I

- III (a) Prepare a preliminary estimate of a single storied office building having carpet area of 2200 sqm, 35% of built up area will be taken by corridors, verandahs, lavatories, staircases etc, & 10% of the built up area will be occupied by walls. Assume plinth area rate Rs.1500/sqm. and provide 7% of building cost for water supply & sanitary, 8% of building cost for electrical installation & 10% of the overall cost for contingencies and other services. (10)

- (b) Explain the prismoidal and trapezoidal formula for computing the quantity of earthwork. (5)

OR

- IV (a) The G.L along the centre line of a road are given below. The road is to be formed in the embankment with the formation level at 100.00m throughout 200m length. If the width of road is 10m & side slopes 2:1. Calculate the quantity of earth work by (a) prismoidal formula (b) trapezoidal formula.

Chain age in m	0	50	100	150	200	
R.L of ground	97.00	96.50	96.00	97.5	98.00	(10)

- (b) Explain the different types of estimates. (5)

UNIT – II

- V (a) Determine the quantity of Earth Work Excavation for the building given in **figure-1**. (10)
(b) Calculate the quantity of earth filling in plinth for the building in **figure-1**. (5)

OR

- VI (a) Calculate the quantity of brick work for walls for the given building in **figure-1**. (10)
(b) Estimate the quantity of D.P.C required for the building in **figure-1**. (5)

UNIT- III

- VII (a) Calculate the quantity of R.C.C work for roof slab & lintel for the building in **figure-1**. (10)
(b) Determine the painting area of doors & windows in **figure-1** (fully paneled shutter) (5)

OR

- VIII (a) Determine the quantity of plastering walls (internal external) for the building in **figure-1**. (10)
(b) Determine the quantity of brick work for parapet wall for the building in **figure-1**. (5)

UNIT - IV

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

Materials:

0.009 m³ broken stone @ Rs.1000/ m³.

0.0045 m³ sand @ Rs.2000/ m³.

3.3kg cement @ Rs.8000/t.

Labour:

0.002 mason @ Rs.800/each.

0.01 man @ Rs.500/each.

0.05 women @ Rs.400/each.

Conveyance charges

Materials	Distance in km	Rate per unit/km(rupe)
Broken stone	25	25
Sand	23	20
Cement	10	60

Add 10% profit for the contractor.

(15)

OR

X Calculate the standard unit for the brick work in cm 1:5

Materials:

500nos brick @ Rs.6000/1000 nos.

0.24m³ sand @ Rs.2000/ m³.

69kg cement @ Rs.8000/unit.

Labour:

0.7 brick mason @ Rs.800/each.

0.35 men @ Rs.500/each.

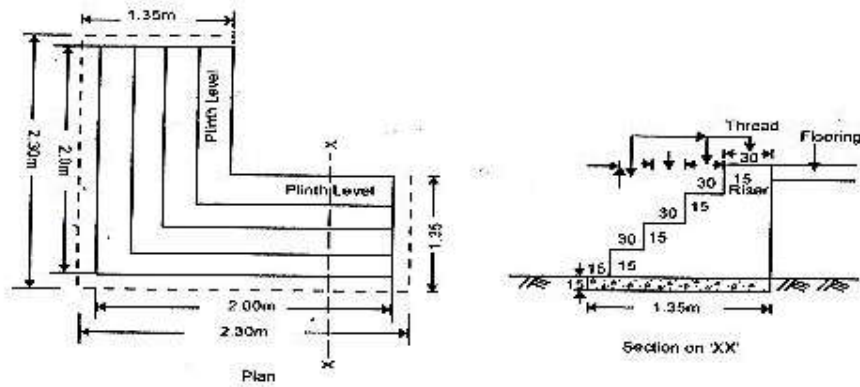
0.7 women @ Rs.400/each.

Conveyance charges

Materials	Distance in km	Rate per unit/km(Rs.)
Broken stone	18	25
Sand	35	20
Cement	10	60

Add 10% profit for the contractor.

(15)



Specifications :

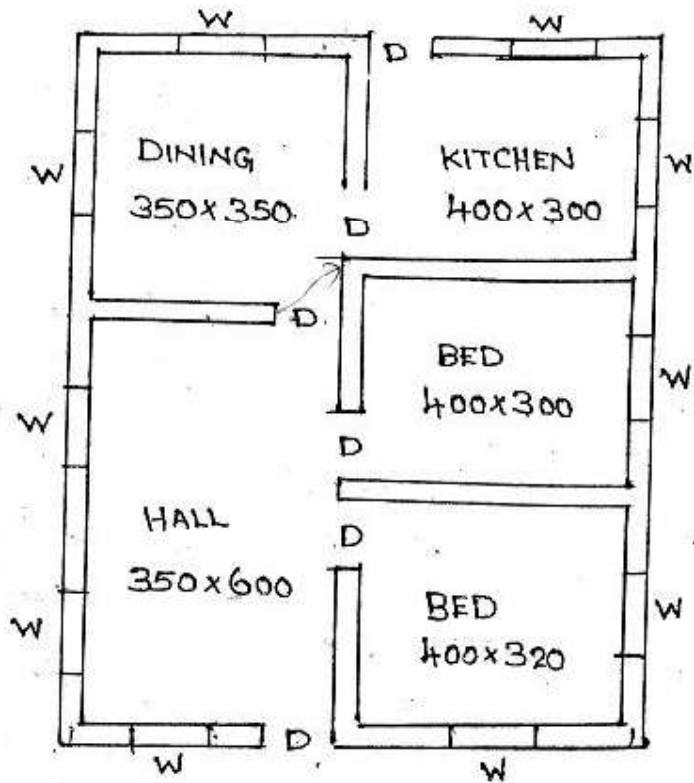
All the Threads 30 cms : All the rises : 15 cms

C.C. 1 : 4 : 8 40 MM size HB Metal : 15 cms thick

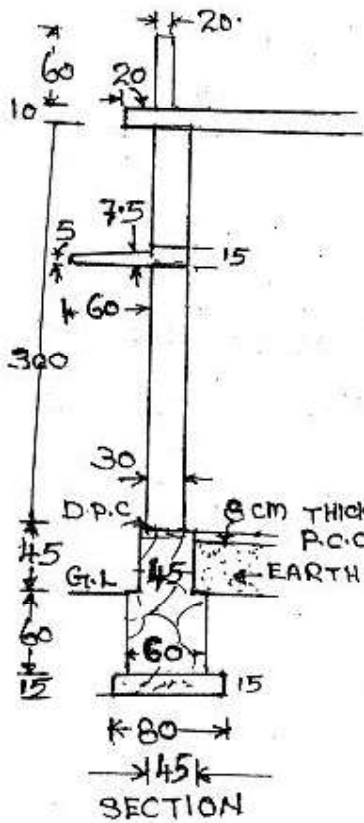
Steps brick Masonry in CM 1 : 6

Plastering with CM 1 : 4 12 MM thick

Note : 4th Top step beyond plinth of building coinciding plinth Level. The wall width same both basement and below QL :



PLAN.



SECTION

D - 100 x 210 cm.
W - 120 x 150 cm.

LINTEL 15 cm THICK THROUGHOUT THE ALL W

SUNSHADE - 60 cm WIDTH :-

7.5 cm THICK AT SUPPORT, 5 cm THICK AT

FIG. (1)
