

TED (15) – 4183
(REVISION – 2015)

Reg. No.
Signature

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

QUANTITY SURVEYING - I

[Time : 3 hours

(Maximum marks : 100)

[Note :— Sketch on 4th page]

PART — A

(Maximum marks : 10)

Marks

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

1. Define plinth area of building.
2. What are the duties of quantity surveyor ?
3. What is schedule of rate ?
4. Write standard unit of (a) plastering (b) P.V.C pipe
5. How abstract estimate is prepared ?

(5 × 2 = 10)

PART — B

(Maximum marks : 30)

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

1. What are essential requirements of a quantity surveyor ?
2. Explain work charged establishment.
3. What is plinth area and cubical content of building ?
4. Compute the volume of earth work of the building (figure 1).
5. Estimate the quantity of R.C.C work for a rectangular water tank with inner dimensions 6m × 3m × 1.5m and wall thickness 20cm, bottom slab thickness 20cm.
6. Explain conveyance statement.
7. Explain the prismoidal formula and trapezoidal formula for computation. (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) Explain any two methods of approximate estimate. 7
- (b) Prepare a preliminary estimate of a building with total plinth area of 1300 sq.m give that :
 Plinth area rate is 1200/m²
 Extra for special architectural treatment - 12 % of building cost
 Extra for services - 8% of building cost
 Electrification - 8 % of the building cost
 Supervision charges - 5 % of the building cost. 8

Or

- IV (a) Estimate the quantity of earth work for a portion of proposed road from the following data. 7
- (b) Draw the longitudinal profile of the road.

Distance in mtr.	0	60	120	180	240	300	360	420	480	540
RL of GL	73.12	72.44	71.86	72.08	71.30	70.80	70.54	70.82	70.56	71.50
Formation	72.42	Down word gradient 1 in 125					Up word gradient 1 in 200			

Proposed width of road is 10 mtr, side slope 1.5:1 in cutting and 2:1 and banking. Assume there is no transverse slope of ground. 8

UNIT — II

- V (a) A reservoir as the following water spreaded area at the respective contour levels. The full tank level of the reservoir is +160 m.

Contour levels	+120	+130	+140	+150	+160
Contour area (m ²)	0	1240	2680	5260	9420

Using prismoidal formula. 7

- (b) Calculate the quantity of RR masonry in cm 1:6 for the building (figure 1). 8

OR

- VI (a) Work out the quantity of dam proof course on throughout the plinth (figure 1). 7
- (b) Calculate the quantity of RCC work for roof slab and lintel for the building (figure 1). 8

UNIT — III

- VII (a) Calculate the area of plastering inside and outside of wall (figure 1). 7
- (b) Workout the quantity brick masonry in cm 1:6 for super structure (figure 1). 8

OR

VIII (a) Prepare a abstract estimate for the following items :

- (i) Earth excavation in ordinary soil — 34.60 m^3 @ ₹ 2500/unit.
- (ii) Random rubble masonry in cm 1:6 for foundation — 16.40 m^3 @ Rs 950/unit
- (iii) RCC work for roof slab in cement concrete 1:1.5:3, 20mm broken stone — 6.45 m^3 @ ₹ 810/10dm³.

7

- (b) Determined quantity of earth work and masonry work required for well 2.8m inner diameter and 4.5m deep. The thickness of masonry work is 30cm.

8

UNIT — IV

IX (a) Work out the rate for one unit of RR masonry in cement mortar 1:6 for foundation and basement from the following data :

Materials

- 1 m^3 blasted rubble @ ₹ 1500/unit
- 0.3 m^3 dry sand @ ₹ 700/unit
- 72 kg cement @ ₹ 4200/unit

Labour

- 0.7 Rubble mason @ ₹ 740/each
- 0.35 man @ ₹ 400/each
- 0.70 women @ ₹ 380/each

Add 15% cp

7

- (b) What are conveyance charges for materials ?

Materials	Distance in km	Rate per unit/km.Rs.
Rubble	15	55
Dry sand	32	42
Cement	16	44

8

OR

X (a) Calculate the rate for standard unit of brick work in cement mortar 1:5 in

Materials

- 500 numbers brick @ ₹ 3000/unit
- 0.24 m^3 dry sand @ ₹ 1800/unit
- 69 kg cement @ ₹ 4600/unit

Labour

- 0.70 brick mason @ ₹ 420/each
- 0.35 man @ ₹ 190/each

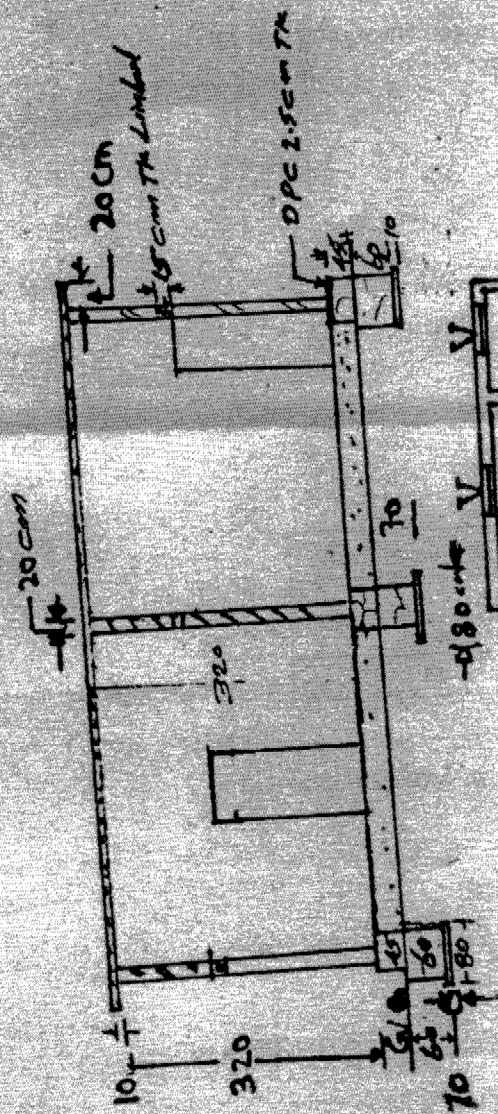
Add 15 % profit for contractor

7

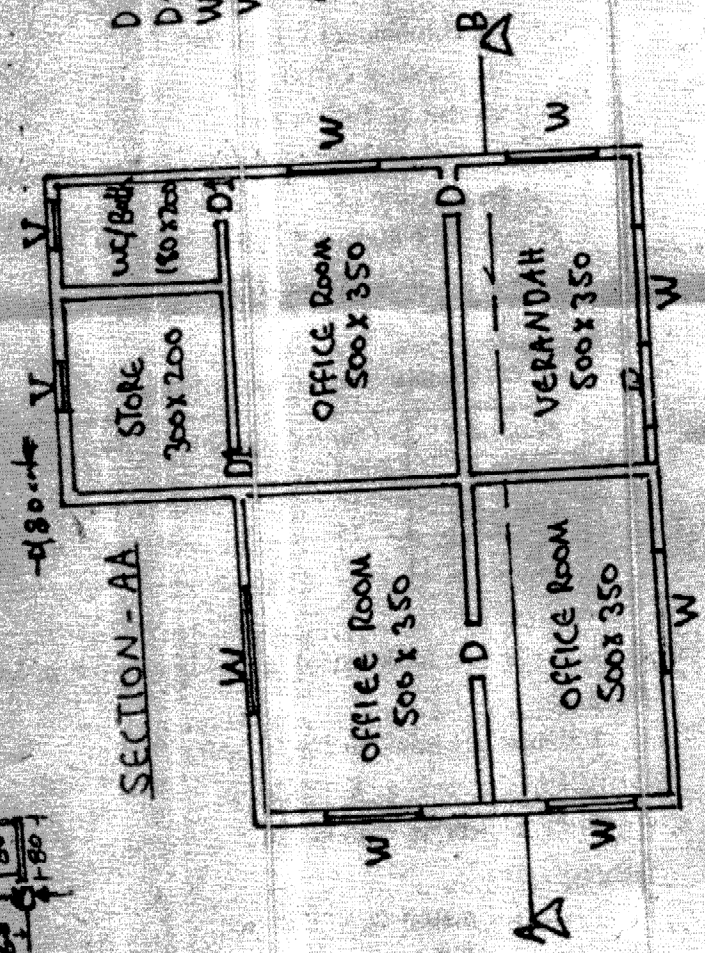
- (b) Conveyance charges for materials

Materials	Distance in km	Rate per unit /km Rs.
Brick	20	17
Dry sand	35	16
Cement	10	52

8



- D Door 120 x 210
 - D1 Door 80 x 210
 - W WINDOW 150 x 150
 - V VENTILATOR 60 x 70
- All Dimensions are in cms.



PLAN

(FIG-1)