Reg. No. :

Question Paper Code : 20285

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Civil Engineering

CE 6704 — ESTIMATION AND QUANTITY SURVEYING

(Regulations 2013)

(Common to PTCE 6704 –Estimation and Quantity Surveying for B.E. Part-Time – Sixth Semester – Civil Engineering – Regulations 2014)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   Name the types of estimate.

2.   Briefly explain about preliminary estimate.

3.   List out the factors to be considered in design of septic tank.

4.   A cement concrete road (1:2:3) is to be constructed over the existing water bound macadam road. The thickness of slab is 10 cm. The length of the road is one km and the width is 3.60 m. Calculate the quality of cement concrete required.

5.   List the types of contract.

6.   Define the term arbitration.

7.   Define the Gross income.

8.   List out the information should contain a contract document.

9.   State the principles of report preparation.

10. State the basic principles of good report writing.

PART B — (5 × 13 = 65 marks)

11. (a) Prepare the Detailed Estimate for the following items of works are given in Figure Q. 11.

    (i) Earth work in excavation in foundation in ordinary soil   (5)

    (ii) Earth work in filling under floors   (4)

    (iii) Cement concrete in foundations.   (4)

Or

(b) The Plan and sectional elevation of the building are given in Figure Q. 11. Estimate the quantities for the following items of works.

    (i) First class brick work in foundation and plinth in cement mortar (1:6)   (8)

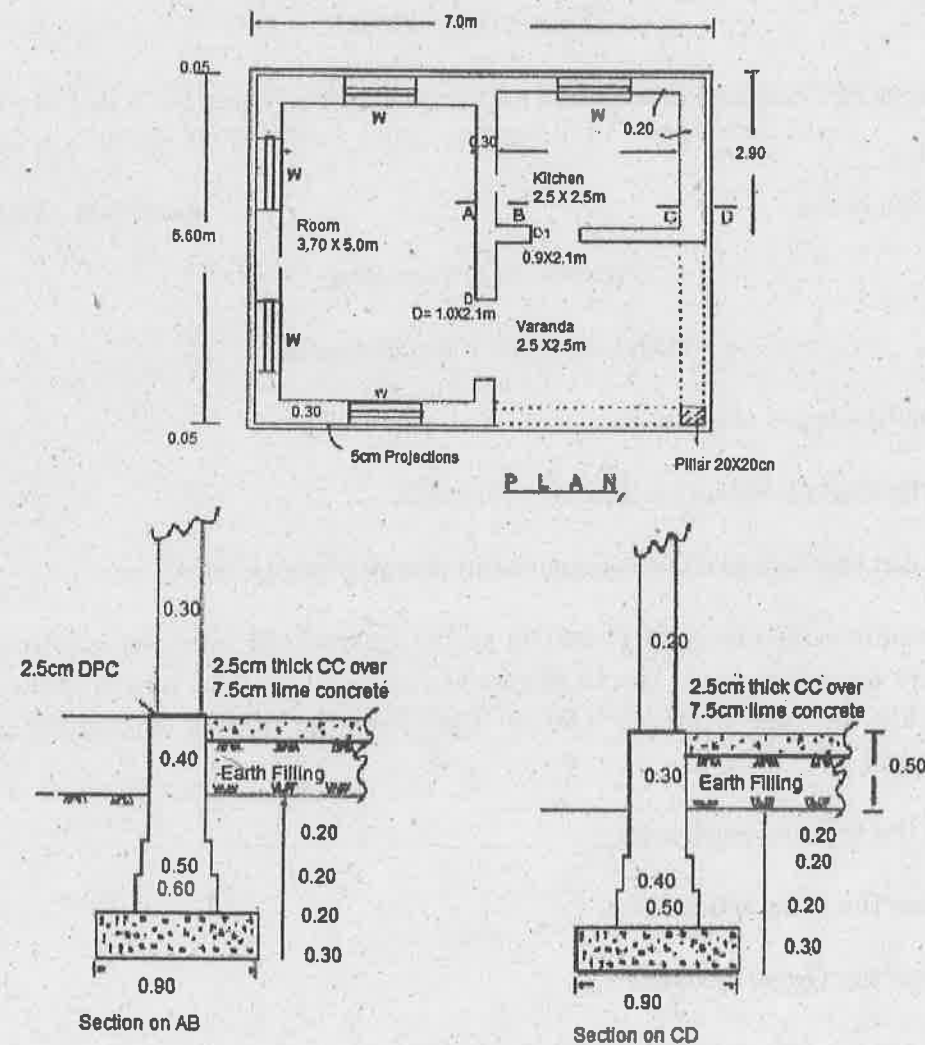   (ii) D.P.C (2.5 cm thick) with cement mortar (1:1.5:3).   (5)

Figure Q. 11
(All Dimensions are in m)

12. (a) The Plan and cross section of the septic tank are given in Figure Q. 12. Estimate the quantities for the following items of works.

    (i) Earth work in excavation upto GL   (3)

    (ii) Brick masonry in CM 1:4 for side walls   (7)

    (iii) C.C for (1:4:8) bed for foundation.   (3)

Or

(b) The Plan and cross section of the septic tank are given in Figure Q. 12. Estimate the quantities for the following items of works.

    (i) Plastering with C.M (1:4) with 20 mm thick   (6)

    (ii) R.C.C. (1:2:4) using 20 mm HBG metal   (3)

    (iii) Earth filling with excavated soil around the brick work.   (4)
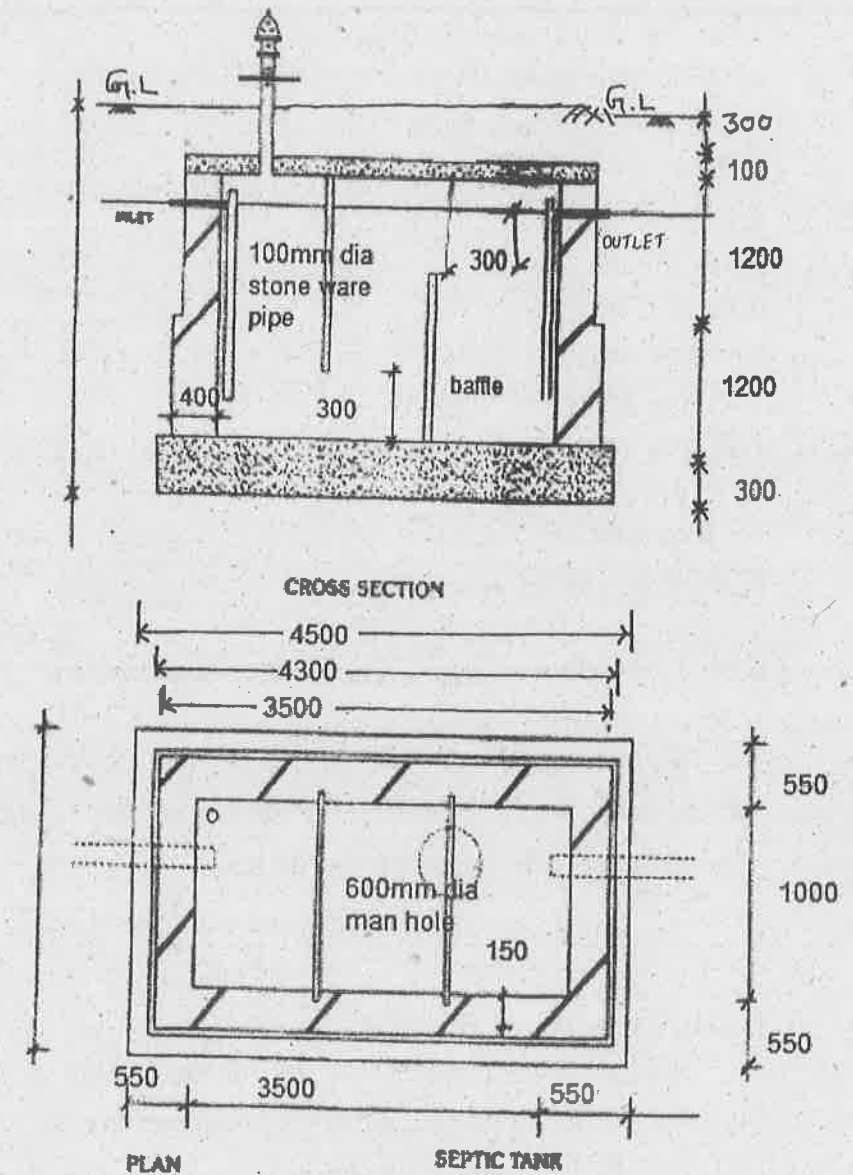

Figure Q. 12
(All Dimensions are in mm)

Calculate the Quantity of material for the following item of works.

(i)   R.C.C. (1:2:4) for 20 m³ of work   (4)

(ii)   R.C.C. (1:3:6) for 15 m³ of work   (4)

(iii) C.M. (1:4) for 1 m³ of work   (3)

(iv)   CM (1:6) for 1 m³ of work.   (2)

Or

Prepare a data sheet and calculate the cost of the following item of works:

(i)   Plastering with cement mortar (1:4), 20 mm thick unit-10 m²

0.21 m³ C.M. (1:4)

0.66 Nos. Brick layer I class

1.54 Nos. Brick layer II Class

0.5 Nos. Men Mazdoors

3.2 Nos. Women mazdoors

L.S. sundries.

(ii)   R.R. Masonry in C.M. (1:6) – 1 m³

1.1 m³ Rough stones

0.34 m³ C.M. (1:6)

0.54 Nos. Mason I Class

1.26 Nos. Mason II Class

1.40 Nos. Men mazdoors

1.40 Nos. Women mazdoors

LS. Sundries.

Lead Statement of materials :

S.No.	Materials	Cost at source Rs. – Ps.	Per	Lead in Km	Conveyance Charges per km
1	Rough stone	260.0	m³	18	5.00 per m³
2	Sand	12.0	m³	25	4.00 per m³
3	Cement	2100.0	10 kN or Local 1 tonne		–

Labour Charges :

(1)   Mason / Brick layer I Class Rs. 100.00 per day

(2)   Mason /Brick layer II class Rs. 80.00 per day

(3)   Men mazdoor Rs. 60.00 per day

(4)   Women mazdoor Rs. 60.00 per day

(5)   Mixing charges of cement mortar Rs. 16.00 per m³.

14. (a)   Examine in detail about various methods of calculations of depreciation.

Or

(b)   Calculate the standard rent of a government residential building newly constructed from the following data :

(i)   Cost of land Rs. 10,000.00

(ii)   Cost of construction of building Rs. 40,000.00

(iii) Costs of roads with in compounds and fencing Rs. 2,000.00

(iv)   Cost of electric installation including fans – 10% of the cost of building

(v)   Municipal house tax Rs. 400.00 per annum

(vi)   Water Tax Rs. 250.00 per annum

(vii) Property tax Rs. 140.00 per annum.

15. (a)   Summarize the general principles for report preparation also explain the structure of report.

Or

(b)   Examine the report on estimation for construction of water supply and sanitary work.

PART C — (1 × 15 = 15 marks)

16. (a)   Prepare the detail estimate for the 'soak pit' as shown in Figure Q. 16 (a).
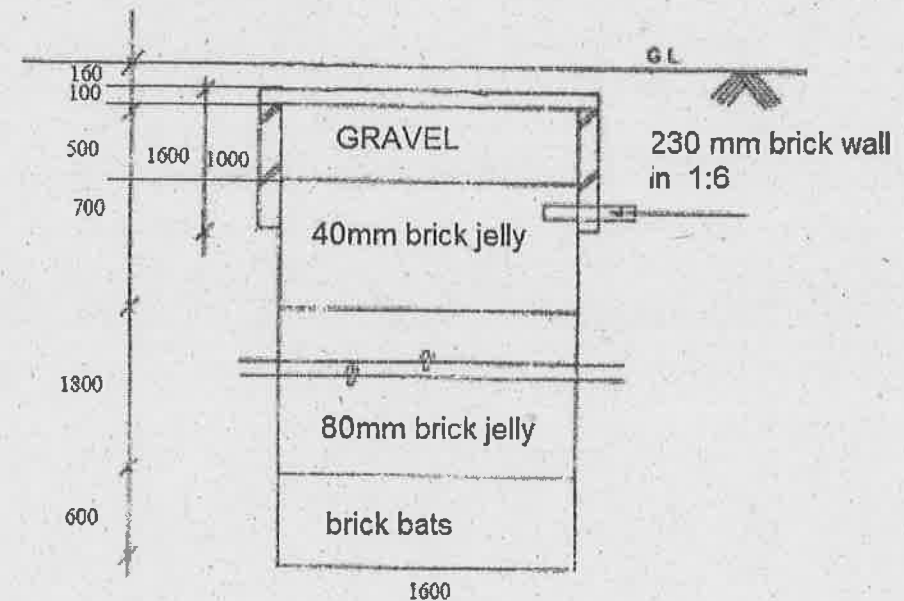

Figure Q. 16 (a)

(All Dimensions are in mm)

Or

Work out the brick work and cement plaster to soffit of an arch as per data given in Figure Q. 16 (b).

i) Length of arch from face to face = 11 m
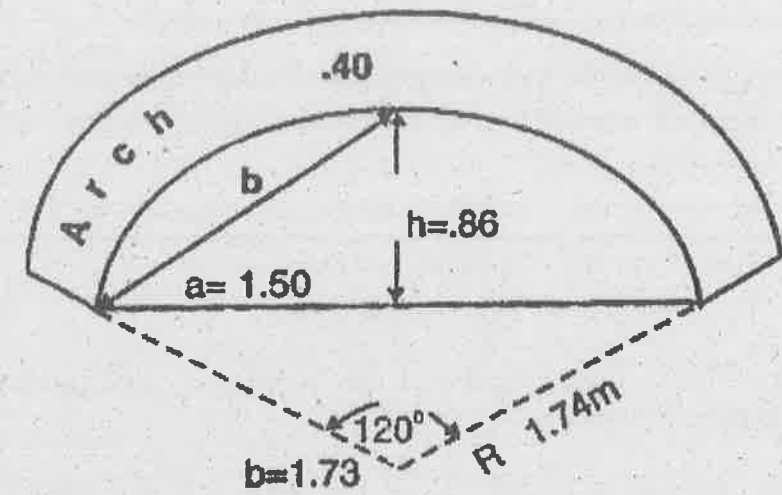
ii) Clear span = 3m

iii) Rise = 0.86 m and Thickness of arch = 0.40 m.

Figure Q. 16 (b)

(All Dimensions are in mm)