Sixth Semester B.Arch. Degree Examination, June/July 2015
Estimating and Costing

Time: 3 hrs.   Max. Marks:100

Note: 1. *Answer any FOUR full questions from Q.No. 2 to Q.No.7.*
        2. *Question No. 1 is compulsory.*
        3. *Missing data may be suitably assumed.*

1   The plan, section of a residential building are as shown in Fig.Q. No. 1. work out the quantities and cost of the following items at work using centre line method.

     a.   Earthwork excavation in foundation at the rate of Rs 225/m³.   **(07 Marks)**

     b.   Plain cement concrete 1: 3 : 6 in foundation base at the rate of 3250/m³.   **(06 Marks)**

     c.   Burnt Brick masonry for in CM 1: 6 for foundation at the rate of 2800/m³.   **(08 Marks)**

     d.   10cm thick damp proof course at the rate of 900/m³.   **(06 Marks)**

     e.   First class brick work in cm 1: 6 of super structure at the rate of 3200/m³.   **(08 Marks)**

     f.   Calculation of centre line and junctions and abstract of estimated cost.   **(05 Marks)**
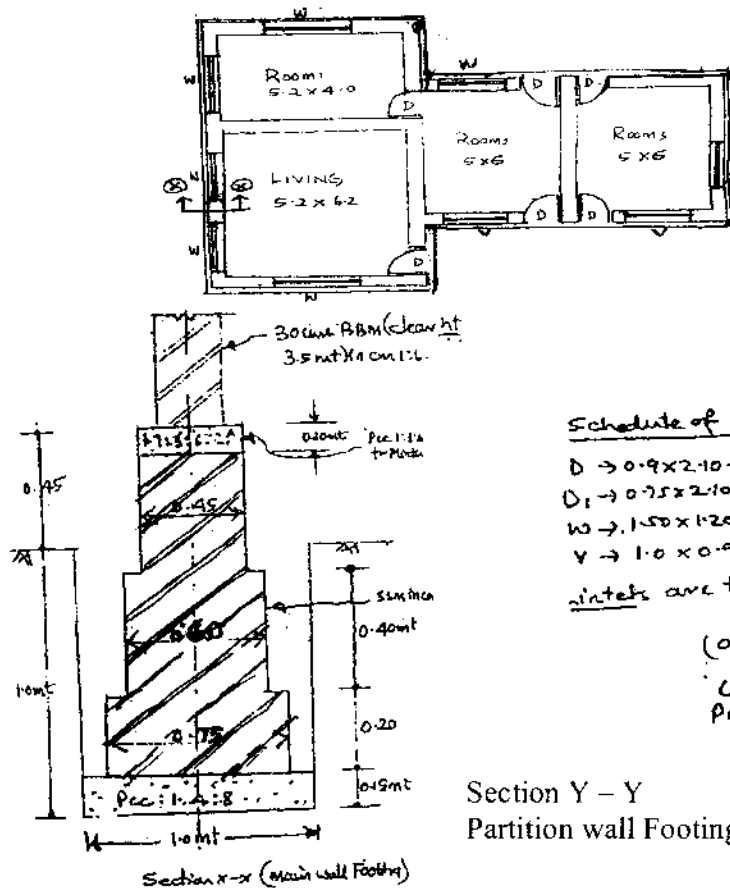

Fig.Q1

Section Y – Y
Partition wall Footing

2   Write detailed specification for the following items (any three).

     a.   First class brick work.

     b.   Cement concrete 1 : 3 : 6 for foundation.

     c.   Distampering.

     d.   Cement plastering.   **(15 Marks)**

3 Explain briefly any three of the following (any three) :
  a. Preliminary estimate / approximate estimate.
  b. Cube rate estimate.
  c. Work charge establishment.
  d. Contingencies.   (15 Marks)

4 From the First principles arrive at the rate of any three below mentioned items of work :
  a. R.C.C. 1:1.5:3 roof slab.
  b. Providing 20mm thick double coat cement plaster in CM 1:4.
  c. P.C.C. 1:3:6 for foundation.
  d. Providing and laying 1:2:4 for Chajjah.   (15 Marks)

5 Calculate the quantity of earthwork for 600 mt. length for a portion of a road in an uniform ground , the height of banks at two ends being 1.00 and 1.6. The formation width is 10mt and side slopes 2:1 (horizontal vertical). Assume that there is no transverse slope.   (15 Marks)

6 The steel quantity is to be computed diameter wise from the following data :
  Size at column footing 1.5 × 1.5mt in plan steel provided for footing 10mmᵩ @ 10cm C/C both ways. C/S of column 300mm × 450mm.
  Main reinforcement of column – 4 Nos → 20mm ᵩ + 2 Nos – 16mm ᵩ.
  Ties of column 1 = - 8mm ᵩ @ 10cm C/C. Height of column 5.00 mt.
  * wt of 8mm ᵩ - .4kg/mt   20mm ᵩ - 2.5 kg/mt
   wt of 10mm ᵩ - .6 kg/mt 16mm ᵩ - 1.6 kg/mt.   (15 Marks)

7 Fig. Q7 Shows the details of Septic Tank. Prepare the estimate for the following items of work.
  a. P.C.C 1:3:6 for foundation using 40mm grade concrete.
  b. BBM in cm 1:4 with W.P.C for side walls of the tank.
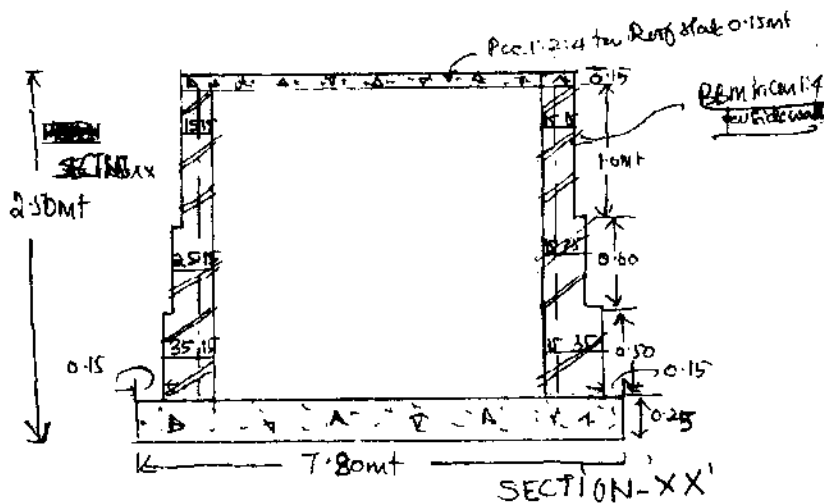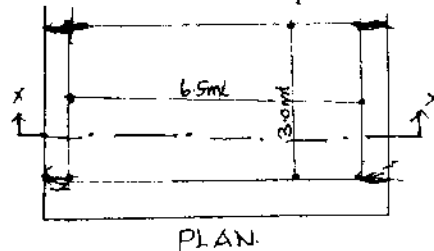 c. Plastering to internal wall in CM 1:4 with W.P. compound.   (15 Marks)

PLAN.

Fig.Q7

SECTION-XX'

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