Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS / B.TECH (CE) / SEM-4 / CE-402 / 2011

2011

QUANTITY SURVEYING SPECIFICATION & VALUATION

Time Allotted : 3 Hours *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : $10 \times 1 = 10$

   i) One bag of cement contains
      a) 0·0214 cum b) 0·347 cum
      c) 0·0347 cum d) 0·0437 cum.

   ii) The first item of work for estimation of a building is
      a) earthwork in filling
      b) earthwork in excavation
      c) lime concrete in foundation
      d) brickwork in foundation.

   iii) The approximate weight of one cum of mid steel is
      a) 1000 kg b) 2400 kg
      c) 1400 kg d) 7850 kg.

   iv) Corrugated galvanized steel is measured per
      a) number b) sq.m
      c) kg d) quintal.

v) A document containing detailed description of all the items of work (but their quantities are not mentioned) together with their current rates is called

a) tender b) schedule of rates
c) analysis of rate d) estimating.

vi) Excluding water supply, sanitary & electrification, cost of foundation and plinth for a building is

a) 12% b) 18%
c) 25% d) 30%.

vii) First class brick should not absorb more than .....% of its own weight when immersed in water for 24 hours.

a) 15% b) 20%
c) 25% d) 30%.

viii) If a bar is cranked at both ends at 45°, then total length of bar is equal to (d = distance between the bars)

a) $L + (2 \times 0{\cdot}52\ d)$ b) $L + (0{\cdot}52 \times d)$
c) $L + (2 \times 0{\cdot}42\ d)$ d) $L + (0{\cdot}42 \times d)$.

ix) Advancement of money against any kind of security is called

a) lease b) loan
c) mortgage d) rent.

x) Value of the property as shown in the accounts book of a company is

a) Market value b) Book value
c) Reversionary value d) Assessed value.

xi) The thickness of DPC is

a) 2 cm b) 2·5 cm
c) 3·5 cm d) 3 cm.

xii) In the analysis of rates, the profit for the contractor is generally taken as

a) 20% b) 15%
c) 10% d) 5%.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Define sinking fund and derive the expression for sinking fund coefficient.
3. In a Block development meeting, you are required to draw up a preliminary estimate by plinth area method of a school building for 500 students. Following data are collected :

   Carpet area per student : 1·30 sq.m, walls 15% and circulation area 25% of the plinth area of the building. Consider plinth area rate Rs. 1,500 per sq.m. Cost of water supply, sanitation, electrification and boundary wall are 5%, 7%, 12% and 5% respectively. Add contingency and work charge establishment as 5% and 2·5% of total cost.
4. Write down the detailed specification for any *two* of the following :
   a) RCC
   b) Cement plastering
   c) Terrazzo-flooring.
5. Prepare the analysis of rate for any *three* of the following :
   a) RCC work 1:1. 5:3 for beam with 2·5% steel
   b) Reinforced brickwork in slab with cement mortar (1:3)
   c) 12 mm thick cement plastering 1:6 on new brickwork
   d) 1st class brickwork in cement mortar (1:4) in superstructure and ground floor
   e) Colour washing two coats on a coat of primer to new plaster.

6. Distinguish between any *one* of the following :

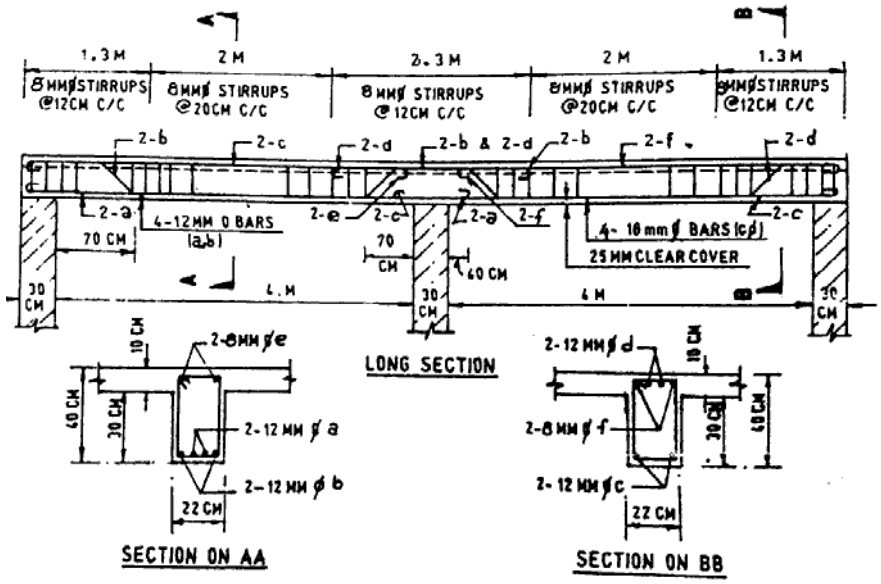
   a) Book value & capital value

   b) Salvage value and scrap value.

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Longitudinal and cross-section at mid-span and support of an R.C.T. beam 22 cm by 40 cm overall including the slab thickness 10 cm. The beam of which particulars are shown in the figure is continuous over two equal spans 4 m clear and supported on 30 cm walls.



   a) Work out the details of bars for the beam, giving a bar bending schedule and total weight of steel required.

   b) Prepare a bill for payment with present rates of your locality.

8. a) How are properties classified based on the types of possession ? Distinguish between the properties.

   b) What is virtual rent ?

9. A lessee holds a certain premises on a 21 year lease granted 5 years ago at a rent of Rs. 400 per month. He paid a premium of Rs. 5,000 at the time of entry. Two years ago he had spent Rs. 4,000 towards improvement of the property. Calculate lessee's virtual rent.

   a) Make analysis of rate for 1st class brickwork in cement mortar (1:4) in superstructure.

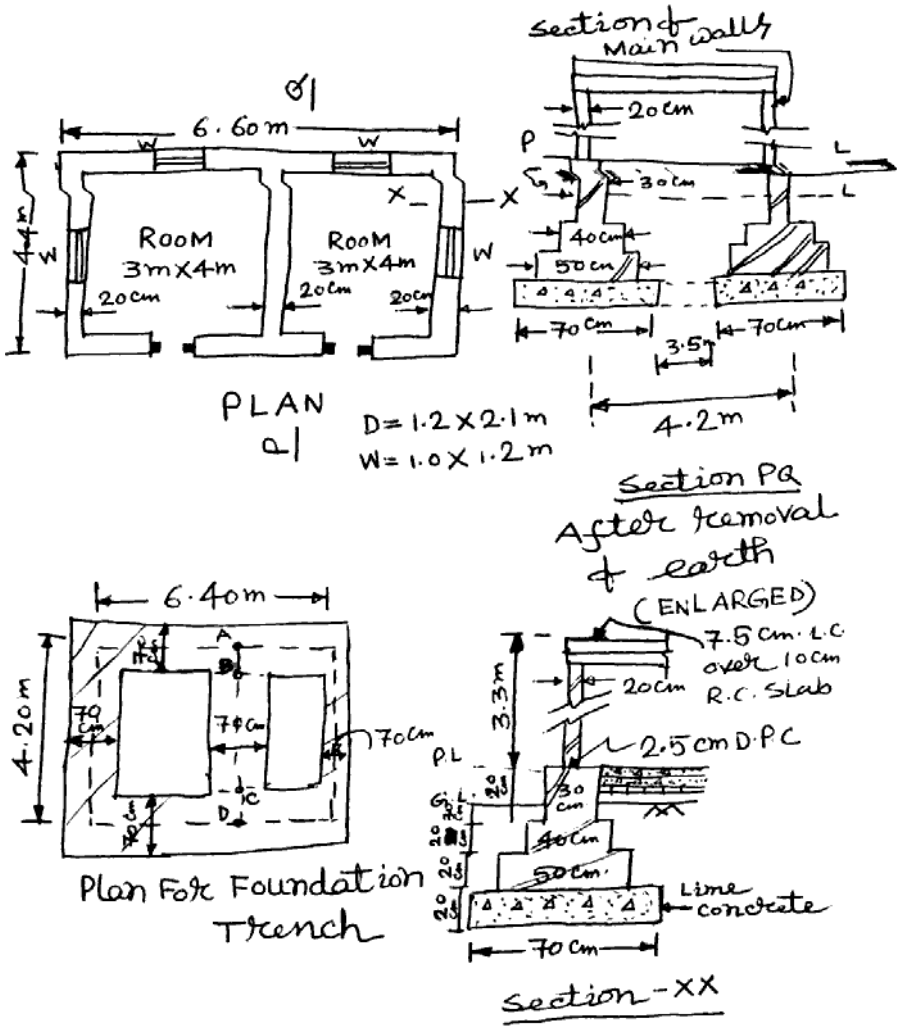
   b) Estimate the quantity and cost of earthwork for a road between two stations A to B with the following data :

   Width of road is 10 m at formation surface and side slope 2:1. The data of field book for the portion of road are as below :

Chainage	0	1	2	3	4	5	6
Reduced level	123·90	125·00	124·60	122·90	121·60	121·00	120·40
Formation level	123·20	123·60	124·00	123·60	123·20	122·80	122·40

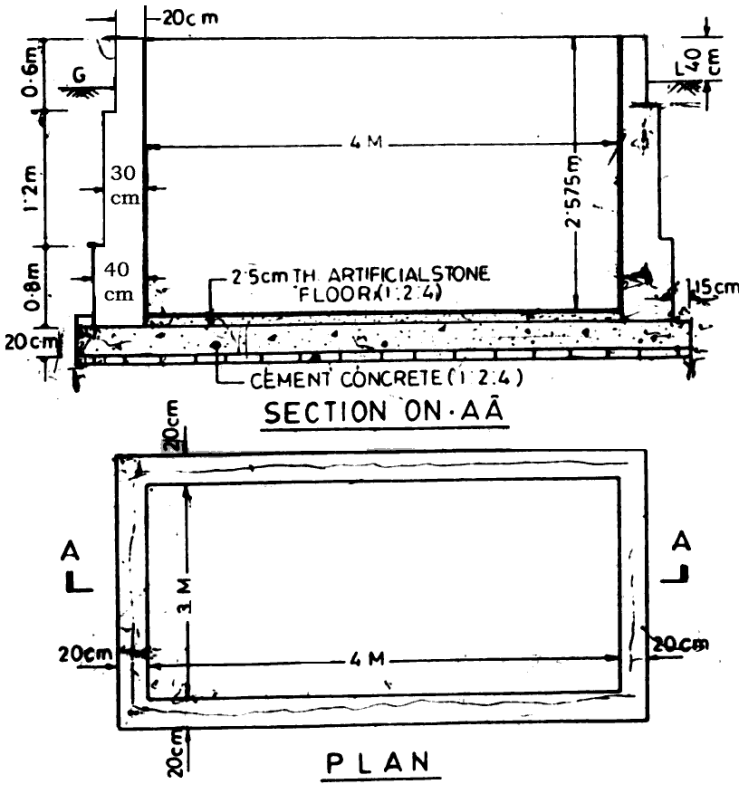
One chain = 30 m 5 + 10

10. Given figure shows the plan and cross-section of wall of a building. Estimate the quantities for the following items :
    a) Earthwork in excavation in foundation
    b) Lime concrete in foundation
    c) 1st class brickwork in foundation and plinth
    d) 2·5 cm thick dampproof course
    e) 1st class brickwork in cement mortar in superstructure.



11. Estimate the quantities of an underground masonry water tank from the given drawings and specifications. General specifications : Foundation – Cement concrete (1 : 2 : 4), Masonry – 1st class brickwork in cement mortar (1 : 4), Flooring - 2·5 cm thick artificial stone, *i.e.* cement concrete (1 : 2 : 4) with 16 mm down stone chips.

Floor & wall finishing – Inside 20 mm cement plaster (1:3) finished smooth with neat cement. Top and outside up to 20 cm below G.I. 12 mm cement plaster (1 : 4).



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