Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.TECH/CE(OLD)/SEM-4/CE-402/2013

2013

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) Net instalment of annual or periodical payment for repayment of the capital invested in a property for a specified period is called

a) sinking fund b) annuity

c) deferred income d) year's purchase.

ii) For cement concrete the size of coarse aggregate shall be

a) 25 mm graded down to 10 mm

b) 25 mm graded down to 5 mm

c) 25 mm graded down to 2 mm

d) none of these.

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

a) market value b) book value

c) assessed value d) reversionary value.

iv) Advancement of money against any form of security is called

a) lease b) loan

c) mortgage d) rent.

v) Which of the following methods for calculating depreciation cannot be used when scrap value is zero ?

a) Straight line method

b) Constant percentage method

c) Sinking fund method

d) Quantity survey method.

vi) A document containing detailed description of all the items of work, their quantities together with their current rates is called

a) tender

b) schedule of rates

c) abstract of estimated cost

d) bill of quantities.

vii) Water absorption capacity of 1st class brick is

a) one fourth b) one sixth

c) one eighth d) one tenth

of its dry weight.

viii) Size of modular brick in cm is

a) $15 \times 8 \times 8$ b) $22 \times 10 \times 10$

c) $19 \times 9 \times 9$ d) $25 \times 12 \times 10$.

ix) First Class Brick should have an average compressive strength of not less than

a) 50 kg/sq.cm. b) 75 kg/sq.cm.

c) 90 kg/sq.cm. d) 100 kg/sq.cm.

x) If a bar is cranked at both ends at 45° then total length of bar is equal to

a) $L + 2 \times 0{\cdot}52\ d$ b) $L + 0{\cdot}52\ d$

c) $L + 2 \times 0{\cdot}42\ d$ d) $L + 0{\cdot}42\ d$

d being the distance between the bars.

xi) Contingency taken for the preparation of estimate is

a) 1% to 2% b) 3% to 5%

c) 6% to 7% d) 0·5% to 1·5%.

xii) Floor area is the

a) plinth area less than wall area

b) plinth area plus the wall area

c) same as plinth area

d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. A person has purchased an old building at a cost of Rs. 90,000 on the basis that the cost of land is Rs. 50,000 and the cost of building structure is Rs. 40,000. Considering the future life of the building be 20 years, work out the amount of annual sinking fund at 4% interest when scrap value is 10% of the cost of building structure.

3. Write short notes on any *two* of the following : $2 \times 2\frac{1}{2}$

a) Freehold property

b) Mortgage

c) Rent fixation.

4. A leasehold property is to produce a net income of Rs. 12,000 per annum for the next 60 yrs. Find out the value of the property. Assume that the landlord desires a return of 7% on his capital & the sinking fund to replace the capital is also to accumulate at 6%. What will be the value of the property if the rate of interest for redemption of capital is 3%.

5. Prepare a preliminary estimate for a framed four-storied office building having a carpet area of 300 sq.m. for each floor. Assume areas occupied by corridor, verandah, lavatories, staircase etc. as 25% of built-up area and that occupied by walls and columns as 8·5% for the same.

6. Write shortly on steps required for preparing a road project.

7. Write short notes on cement concrete.

GROUP – C

(Long Answer Type Questions)

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

8. a) Briefly write about cement plastering.

   b) Briefly write about white washing and distempering.

   c) Differentiate between scrap value & salvage value and book value & sinking fund.

9. A R.C.C. T-beam rests on 30 cm walls over a clear span of 6 m. The details for Tor steel reinforcement have been shown in the **Figure 1**. Work out the details of bars for the beam, giving bar bending schedule & total weight of steel required. Weight of 20 mm, 16 mm, 10 mm & 8 mm are 2·46 kg/rm, 1·58 kg/rm, 0·62 kg/rm & 0·39 kg/rm.

10. Estimate the cost of an underground water tank from the given drawings and specifications. Take local market rates. 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 stonechips. Floor and wall finishing inside 20 mm cement plaster (1 : 3) finished smooth with neat cement. Top and outside up to 20 cm below G.L.-12 cm cement plaster (1 : 4). (**Figure-1**)

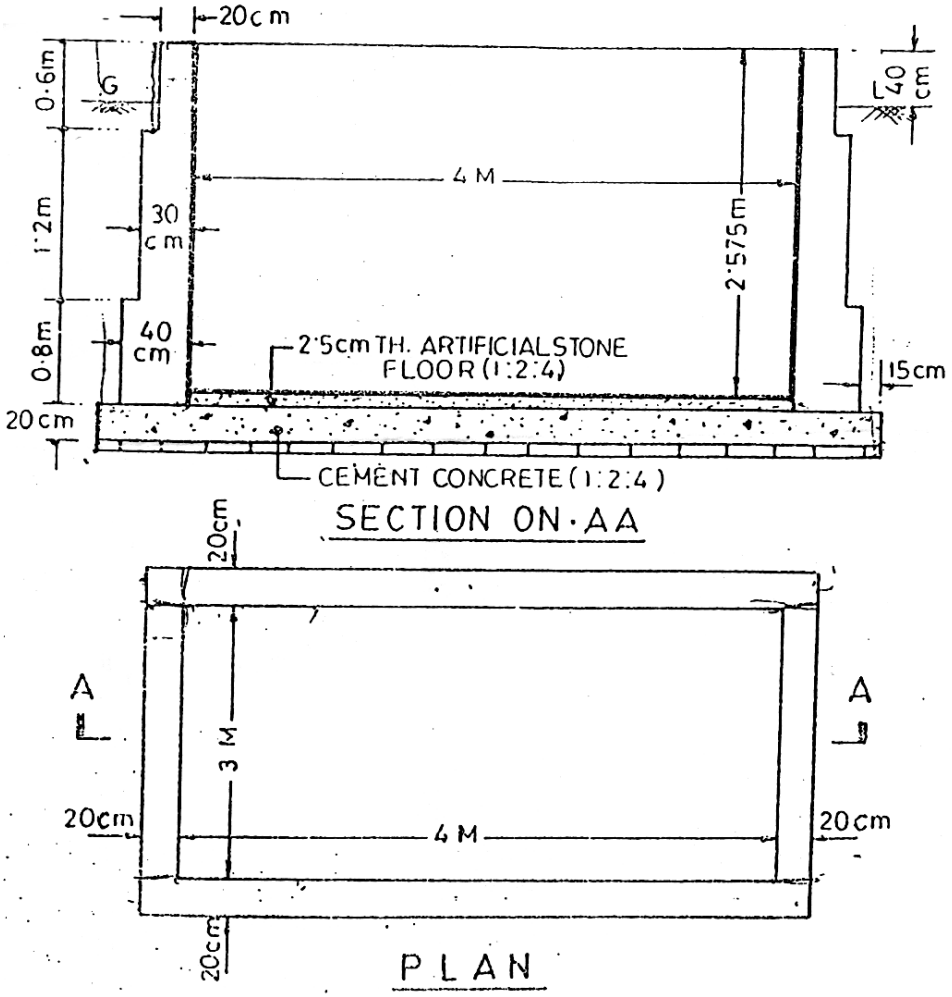

Figure -1

11. The plan and sections of a one roomed building is shown in figure. Prepare an estimate for the building for following items : (i) Earth work in excavation, (ii) Earth work in plinth filling, (iii) Lime concrete in foundation, (iv) First class brickwork in cement mortar for foundation and plinth, (v) First class brickwork in superstructure. (**Figure-2**).

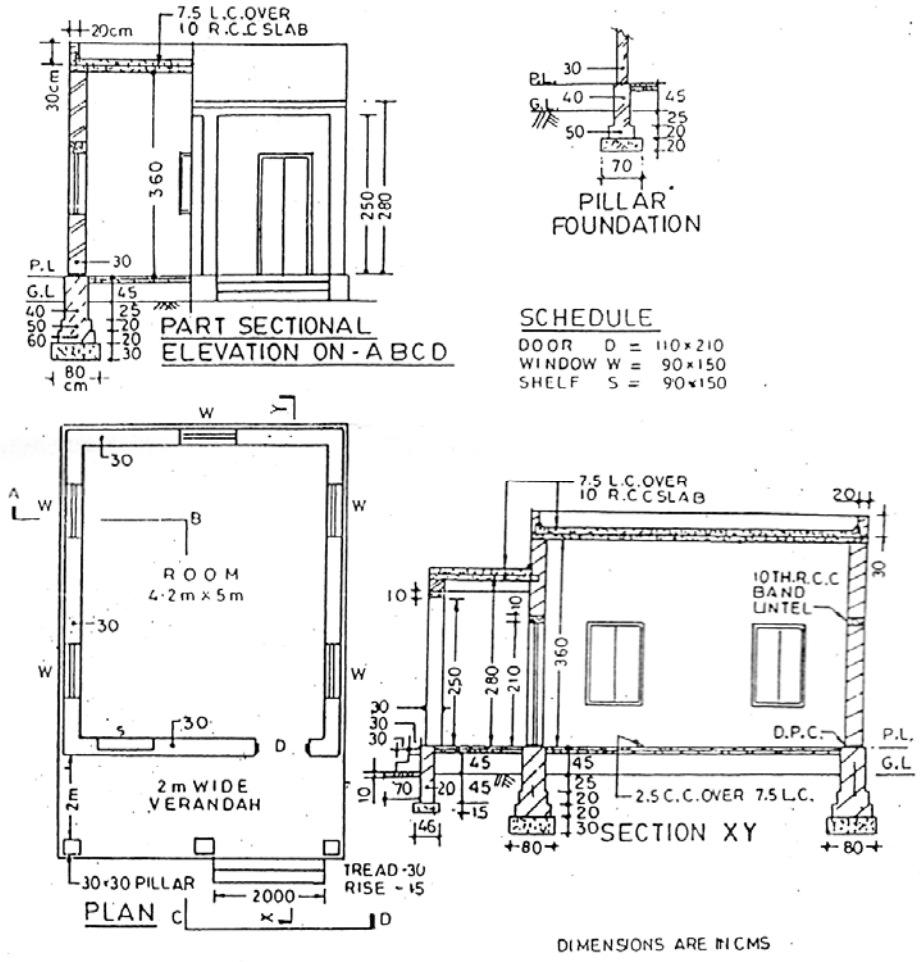

Figure - 2

12. The ground level at various chainages along the centre line of a proposed road are as follows :

Chainage	21	22	23	24	25
Ground level	180·5	183·36	185·52	187·1	186·5

The ground level has uniform cross slope 1 in 8, the chain is of 30 m long. The road formation is proposed at uniform gradient passing through the G.L. at end chainage with formation width as 8 m & slide slope of cutting as 1 : 1. Estimate the quantity of earthwork for proposed road section in a tabular form.

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