Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.Tech(CE)/SEM-4/CE-402/2010

2010

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) According to the practice of PWD, additional expense due to contingencies is ..... of total expenditure.

a) 1 - 3% b) 5 - 10%

c) 2 - 3% d) 10 - 15%

ii) Plinth Area =

a) floor area – wall area

b) floor area + wall area

c) floor area – wall area + circulation area

d) floor area + wall area + circulation area.

iii) Actual size of standard modular brick is

a) 21 cm ∞ 10 cm ∞10 cm

b) 20 cm ∞ 9 cm ∞ 9 cm

c) 19 cm ∞ 9 cm ∞ 9 cm

d) 20 cm ∞ 10 cm ∞10 cm.

iv) Thickness of wall with $1\frac{1}{2}$ brick is

a) 10 cm b) 20 cm

c) 30 cm d) 40 cm.

v) According to CBRI no. of bricks required for single storeyed building is

a) 2·26 A + 66·8

b) 2·15A + 63

c) – 26·2 + 2·56A – 0·0096A^2

d) 0·295A – 0·75.

vi) A document containing detailed description of all the items of work, quantities (but current rates are not mentioned) is called

a) Tender

b) Schedule of Rates

c) Abstract of estimated cost

d) Bill of quantities.

vii) Weight of 1 bag of cement is approximately

a) 25 kg b) 50 kg

c) 75 kg d) 100 kg.

viii) The approximate weight of 1 cu.m. of mild steel is

a) 75·8 quintals b) 78·5 quintals

c) 78·9 quintals d) 75·9 quintals.

ix) When not specified volume of steel in R.C.C. work is taken as

a) 1% to 1·6% of RCC volume

b) 2% to 4% of RCC volume

c) 0·6% to 1·0% of RCC volume

d) 1·6% to 1·9% of RCC volume.

x) Which is an approximate method of preparing estimate of buildings ?

a) Centre line method

b) Long and short wall method

c) Plinth area method

d) Crossing method.

xi) Thickness of DPC is

a) 2 cm b) 2·5 cm

c) 3 cm d) 3·5 cm.

xii) Water requirement of concrete = ... by weight of cement + ... by weight of aggregates.

a) 25% and 5% b) 24% and 8%

c) 28% and 4% d) 26% and 7%.

GROUP – B

(Short Answer Type Questions)

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

2. What is estimate and value ? Compare scrap value with salvage value.

3. Write down the necessities of valuation and estimation.

4. What is specification ? Why we need specification ?

5. Write down a general specification for "sand" used for R.C.C. work.

6. How will you fix up the rate per unit of an item ?

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. Define (i) Scrap value (ii) Salvage value.

   Differentiate between Scrap value and Salvage value.

8. Define sinking fund and derive the expression of it.

   The owner of a building gets a net annual rent of Rs. 3,500. The future life of the building is estimated 12 years. But if recommended repairs are carried out immediately at an estimated cost of Rs. 30,000, it is expected to last 30 years.

   Assuming the rate of interest as 8%, determine whether it is economical to carry out the recommend repais to the building or leave it as it is.

9. Make analysis of rate for the following :

   a) Brick work (1 : 4)

   b) Cement concrete (1 : 2 : 4).

10. A beam rest over a two supports having clear span 4 m. The width of supports are 250 mm. The depth of beam is 350 mm and width of beam is 250 mm. There are
2 nos- 12 dia tor reinforcement at top and 3 nos - 16 dia tor reinforcement at bottom. Out of 3 no bar of bottom one is bent up from 750 mm from both the face. 8 mm dia stirrups are provided @ 200 mm c/c. Given (i) Clear cover : 25 mm for both top and bottom. (ii) Wt. of reinforcement : for 8 mm, 12 mm, 16 mm are 0.39 kg/m, 0.89 kg/m, 1.58 kg/m respectively. (iii) Grade of concrete : M - 20.

    a) Prepare bar bending schedule of the above

    b) Find out quantities of (i) sand (ii) cement (iii) aggregate (iv) shuttering.

11. The internal length, breadth and height of a underground R.C.C. tank are 7 M, 4 M and 3 M respectively. The top of tank is projected 300 mm above the ground level. The width of wall is 250 mm at top and 400 mm at bottom. The depth of raft foundation of tank is 450 mm and it's projection is
400 mm all round beyond the outside face of wall. The raft is resting on 100 thk P.C.C. (1 : 3 : 6) mat which is projected 100 mm all round beyond R.C.C.

    Find out the following :

    i) Earth work in excavation

    ii) P.C.C.

    iii) R.C.C.

    iv) Shuttering For R.C.C.

12. Write down the detailed specification of

    a) Reinforced Cement Concrete

    b) Cement plastering

    c) Terrazzo flooring. 5 + 5 + 5

13. Estimate quantities of the following items of work for a single-room Servant Quarter (Any data not given may suitably be assumed)

    i) Earth work in excavation in foundation

    ii) Cement concrete (1 : 4 : 8) in foundation

    iii) Brickwork (1 : 6) in foundation and plinth ;

    iv) 25 mm thick damp proof course.

    Following data are given : (a) Internal dimension of the room = 4·5 m ∞ 3·5 m (b) Foundation trench = 80 cm wide and 90 cm deep. (c) Plinth height = 40 cm above G.L. (d) Walls-30 cm thick above plinth and 40 cm thick below plinth with one footing 50 cm wide and 20 cm thick over 80 cm wide and 15 cm deep cement concrete (1 : 4 : 8) layer. (e) Door - 1 m ∞ 2 m — 1 no. (f) D.P.C. - 25 mm thick over plinth (excluding the portion for door opening).