University of Mumbai

Civil Engineering Examination

Sub: CE-C701 / Quantity Surveying Estimation and Valuation
Year/Sem:- B.E. / VII Sem   Max. Marks: 80
Duration: - 2Hrs

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Q1. Attempt all the MCQS   **(20 X 2 mark= 40 marks)**

1. Which IS code is used to refer details regarding measurement of building and civil engineering works?
    a) IS 1200
    b) IS 2502
    c) IS 1786
    d) IS 800

2. While estimating the qualities for the construction of a building, the correct metric unit is
    a) Meter for length
    b) Cubic metre for area
    c) Square meters for volume
    d) Liter for capacity

3. In the mid-section formula which of the below statement is false
    a) The mean depth is the average of depths of two consecutive sections
    b) The area of mid-sections is calculated by using mean depth
    c) The volume of the earth work is calculated by multiplying the mid-section area by the distance between the two original sections
    d)The volume of the Prismoidal is over-estimated and hence a Prismoidal correction is applied

4. _____is an approximate estimate made to find out an approximate cost in a short time
    a) complete estimate
    b) preliminary estimate
    c) quantity estimate
    d) detailed estimate

5. Which of the below given factors need not be considered during preparation of detailed estimate
    a) quantity of materials
    b) availability of materials
    c) design charts and calculations
    d) local labour charges

6. Pick up the item of work not included in the plinth area estimate:
     a) Wall thickness
     b) Room area
     c) Verandah area
     d) Courtyard area

7. The floor area included the area of the balcony upto:
     a) 25%
     b) 85%
     c) 75%
     d) 50%

8. Thickness of plastering is usually:
     a) 40 mm
     b) 6 mm
     c) 12 mm
     d) 25 mm

9. In case of steel rolling shutters, for the estimation of painted area; the plain area is multiplied by
     a) 0.75
     b) 1.1
     c) 1.25
     d) 1.50

10. If the bearing is not specified for the lintel in the estimation it is usually taken as
     a) Thickness of lintel subjected to a minimum value of 12 cm
     b) ¾ of lintel thickness of 12 cm whichever is larger
     c) ½ of lintel thickness
     d) 15 cm

11. Which of the following is estimated by using a bending scheduled?
     a) Brick work
     b) Concrete work
     c) Earth work
     d) Steel work

12. Which one of the following shows total quantities of all the items of materials required for the completion of the construction?
     a) Bar bending schedule
     b) Material statement
     c) Sundries
     d) Work charged establishment

13. If B is the width of formation, d is the height of the embankment, side slope S:1, for a highway with no-transverse slope, the area of cross section is

     a. Bd+Sd2

     b. ½ (Bd+Sd2)

     c. B*d-Sd1/2

     d. B+d+Sd

14. The normal lead and lift allowed for the earthwork in the excavations of the foundations are

     a) 50m and 2m

     b) 30m and 1.5m

     c) 20m and 1m

     d) 30m and 2m

15. The correct sequence in the formation of a contract is:

     a. Offer, acceptance, agreement, consideration

     b. Agreement, consideration, offer, acceptance

     c. Offer, consideration, acceptance, agreement

     d. Offer, acceptance, consideration, agreement

16. ……………..is a one sided contract in which only one party has to perform his promise or obligation

     a. Void contract

     b. Illegal agreement

     c. Unilateral contract

     d. Bilateral contract

17. The multiplier of the net annual return(income) or rent to obtain the capital value is know as Year's purchase

     a) $1/(I_p + I_c)$

     b) $1/(I_p - I_c)$

     c) $I_p/(I_p + I_c)$

     d) $I_c/(I_p + I_c)$

18. If a bar is cranked at both ends at 45˚ then total length of the bar will be

     a) L + 2 x 0.42d

     b) L - 2 x 0.42d

     c) L + 2 x 0.27d

     d) L - 2 x 0.45d

19. Bar bending schedule is prepared to find out the quantity of

    a) Fine aggregates

    b) Reinforcing steel

    c) Coarse aggregates

    d) Cement

20. Lap length for compression members is _____.

    a) 50d

    b) 30d

    c) 80d

    d) 20d

Q2. Attempt any FOUR   **(04 X 05 marks= 20 marks)**

1. Rules for deduction in plastering as per IS 1200.
2. B.O.T. Contract
3. Easement rights.
4. Pre-bid conference
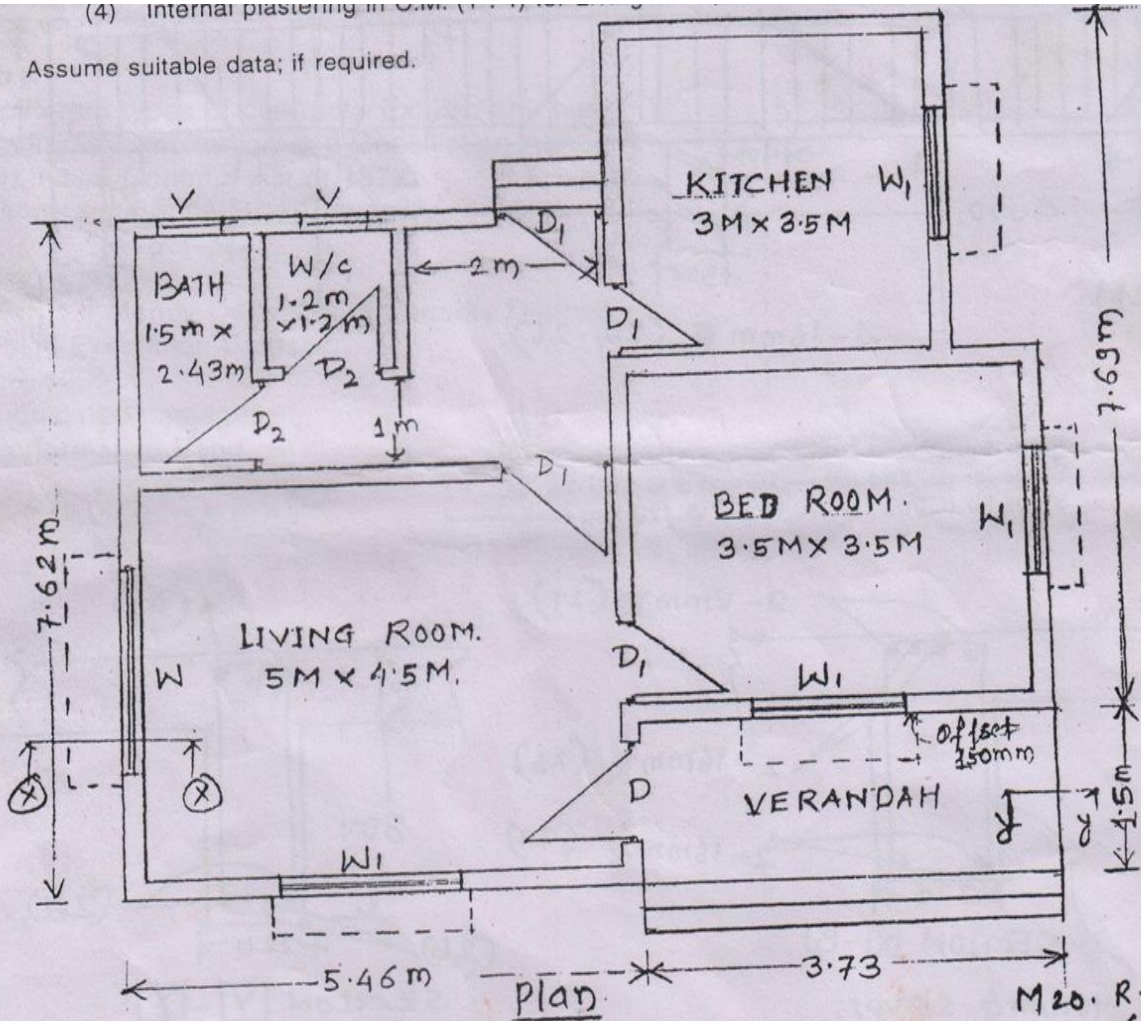5. Main inclusions of Tender Notice
6. Arbitration

Q3. Attempt any TWO   **(02 X 10 marks= 20 marks)**

1. Following Figs. shows plan and sectional details of a Load bearing structure. Workout the quantities of the following items of work from figures. Attempt Q. 1 a) or Q. 1b).

    a) i) P.C.C in footing beds.
        ii) Brick work in c:m 1:5 in Superstructure

    b) i) Excavation for all footings.
        ii) Internal and External Plaster

(4) Internal plastering in C.M. (1:4) for 2...

Assume suitable data; if required.

Plan

KITCHEN W₁
3M × 3.5M

BATH
1.5 m ×
2.43m

W/c
1.2 m
× 1.2 m

← 2m →

D₁

D₁

D₂

D₂

1 m

D₁

BED ROOM.
3.5M × 3.5M

W₁

LIVING ROOM.
5M × 4.5M.

W

D₁

W₁

D

VERANDAH
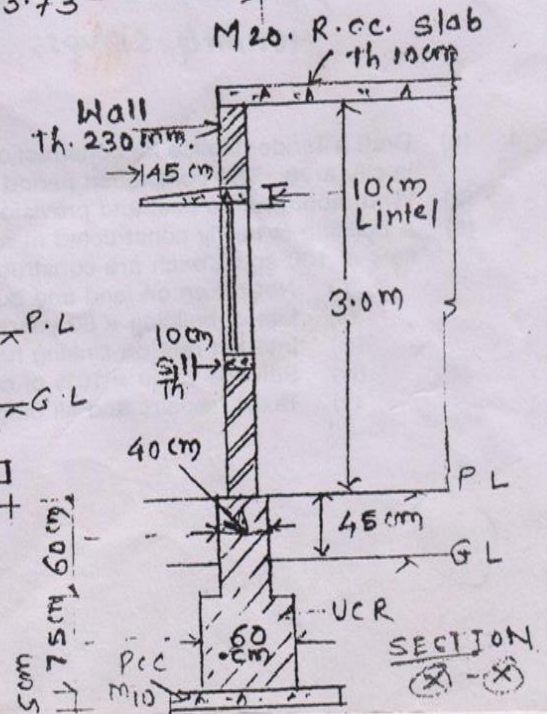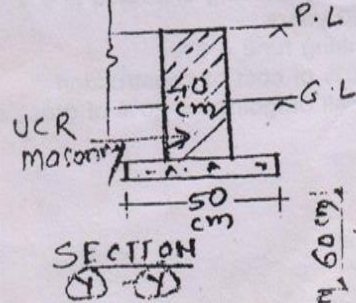
Offset
150mm

1.5 m

W₁

7.62 m

← 5.46 m → ⟵ 3.73 →

All internals and external walls 230 mm Th
Riser = 150 mm and Tread = 250 mm

Schedule
D = 1.2 × 2.1 m
D₁ = 1.0 m × 2.1 m ⎫ Doors
D₂ = 0.9 × 1.8 m

Windows
W = 2.0 × 1.5 m
W₁ = 1.5 × 1.5 m
V = 0.5 × 0.9 m

M20. R.CC. slab
Th 10cm

Wall
Th. 230mm.

→ 45 cm

10 cm
Lintel

3.0 m

10cm
Sill
Th

40 cm

P.L

G.L

P.L

45 cm

G.L

UCR

UCR
masonry

40
cm

50
cm

SECTION
(Y)-(Y)

5cm

75cm

60 cm

60
cm

PCC
M10

SECTION
(X)-(X)

2. Determine standard rent per flat from the following data:-

    A building is constructed newly with costs of Rs.55 lakhs on a plot of valuation Rs.70 lakhs. Building consists of 20 flats of 75 sq.m.area each are constructed.

    i) Net return on land and building = 9% ii) Life of building = 40 years
    iii) Interest rate on Sinking fund = 5% iv) Salvage Value = 10%
    v) Repairs and Maintenance = 2.5% of the building cost
    vi)Taxes and other expenses = 20 % of the gross rent.

3. Calculate the quantity of earthwork in cutting and in banking for the portion of road with the following data.

G.L.	120.5	120.10	119.7	119.2	118.5	118.2	117.7	117.3	117.5
Chainage	0(A)	1	2	3	4	5	6	7	8 (B)

The road is uniform down gradient from point 'A' with formation level of 118.90, to a point 'B' with formation level of 118.10. Distance between two points is 320 meters. The formation width in cutting is 5.5 meters and in banking is 6.0 meters. Side slope in cutting is 1.5:1 and in banking is 2:1. Estimate the cost of earthwork by considering existing District Schedule Rates.