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BOARD DIPLOMA EXAMINATION, (C-09)
JUNE - 2019
* **DIPLOMA IN CIVIL ENGINEERING**
QUANTITY SURVEYING
FOURTH SEMESTER EXAMINATION

**Time: 3 Hours**   **Total Marks: 80**

## PART - A   (10 x 3 = 30 Marks)

Note 1:Answer all questions and each question carries 3 marks

*   2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences*

1. Write the units of measurement of the following items of work.
   a) Earth work excavation b) R.C.C for footings c) Masonry Work

2. The internal dimensions of a room are 3.0 X 3.6 m. If the thickness of wall in super structure is 230mm, calculate the centre line length for the room.

3. Calculate the length of the members DC, EG and DG for the truss shown in the figure.
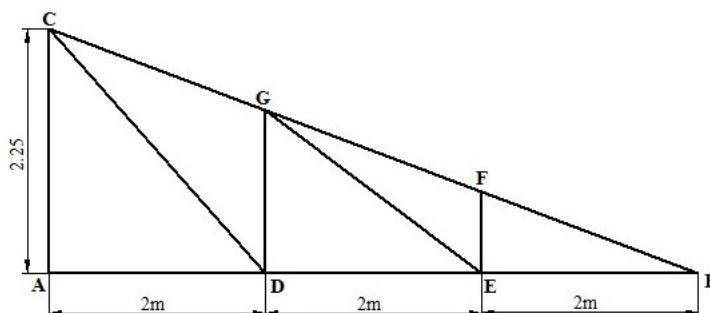

4. For a Hipped roof shown in the following drawing. Calculate
   a) Length of the common rafter
   b) No. of common rafters spaced at 500 mm c/c.
   Note:
   Wall thickness = 300 mm, Eaves projection = 500 mm, Rise of roof = 1700 mm
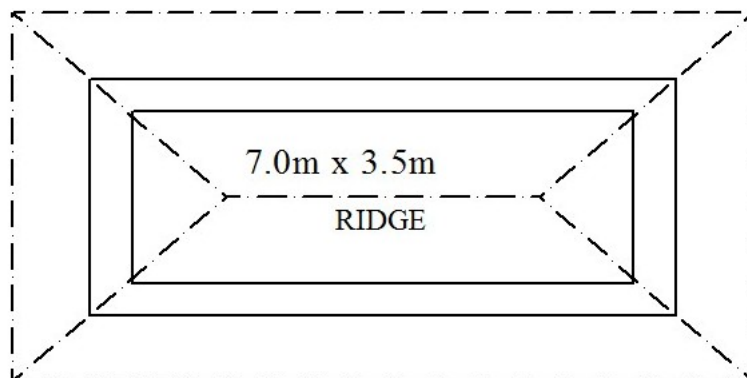
5. Calculate the cement required in bags for preparing C.C (1:5:10) using 40mm H.B.G. metal for 25m^3 work.

6. Calculate the length of steel rod of 10 mm dia as shown in figure. Assume end cover as 20 mm
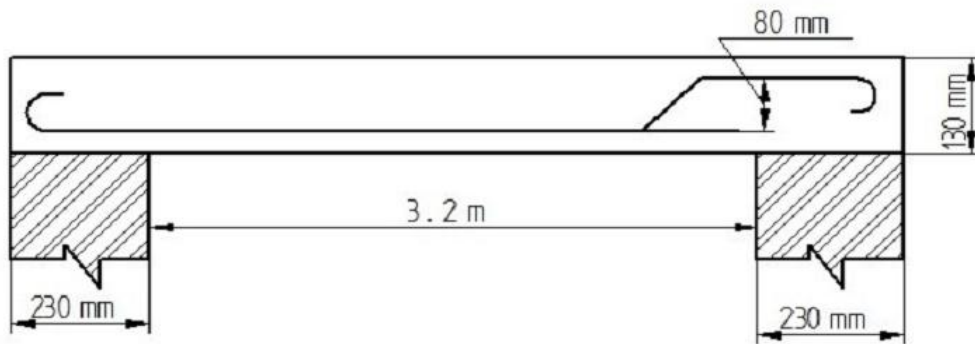
7. Explain "Trapezoidal rule" and "Prismoidal rule" with usual notations.

8. The cross section of a soak pit of 1.8 m diameter is shown in figure. Prepare the detailed estimate for the following items of work .
   a) Earth work excavation for soak pit
   b) 40 mm size brick jelly.
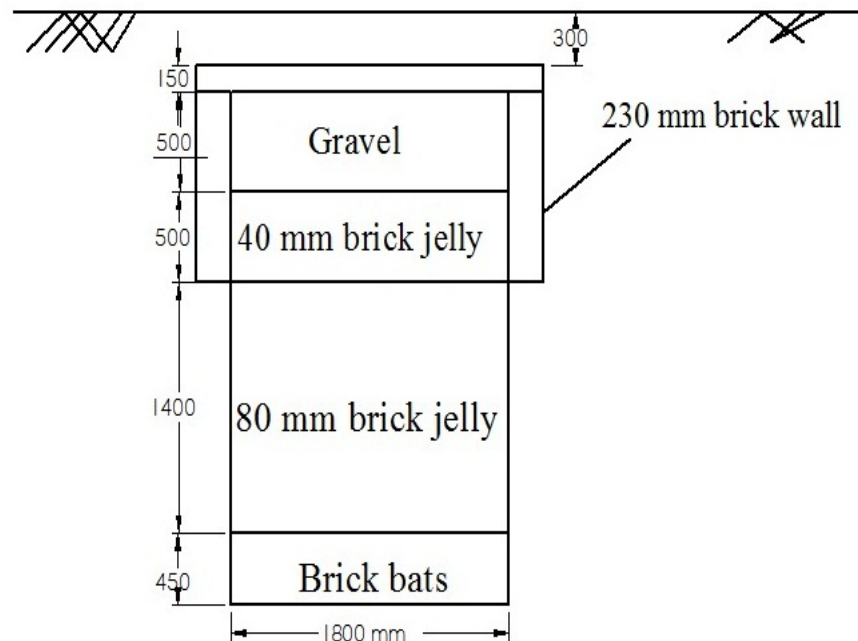
9. Write short notes on depreciation.

10. State any four types of out goings to be consider during fixation of rent.
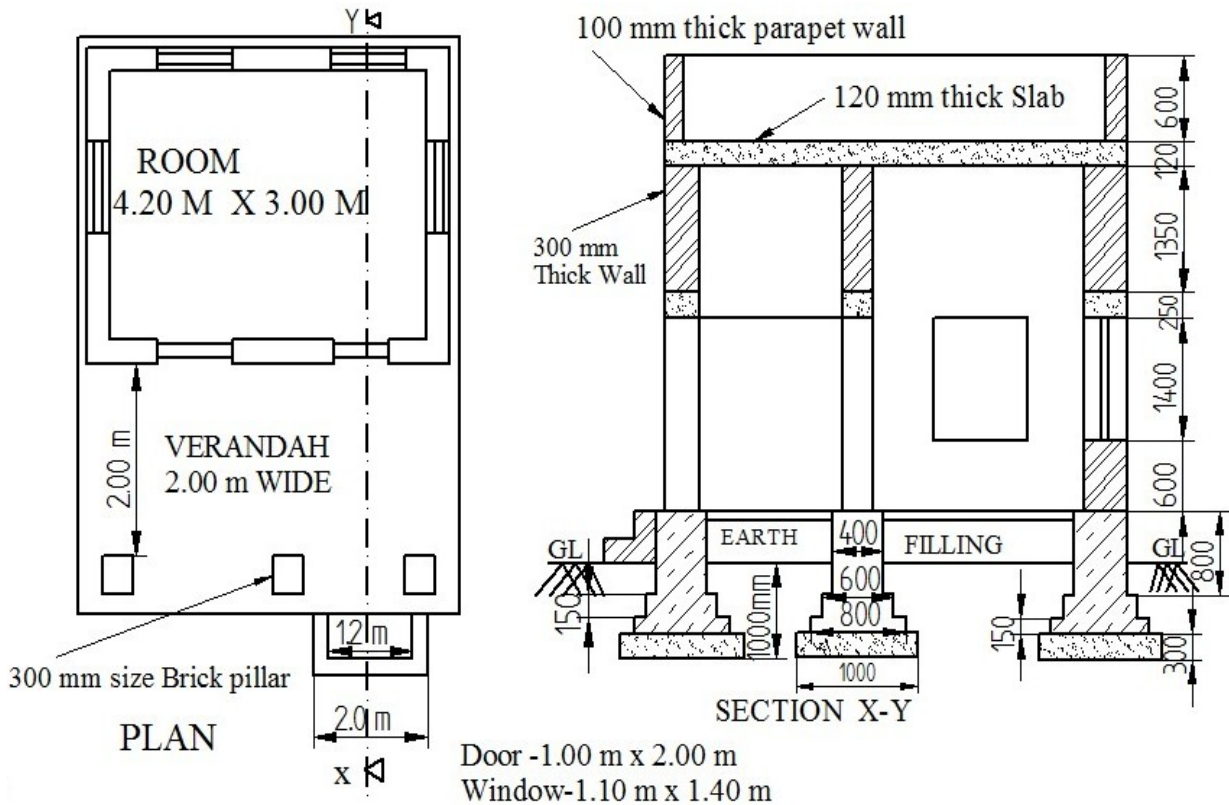
PART - B   (5 x 10 = 50 Marks)

Note 1:Answer any five questions and each question carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11.

Prepare the detailed estimate for the following items of work for the buliding shown in fig.
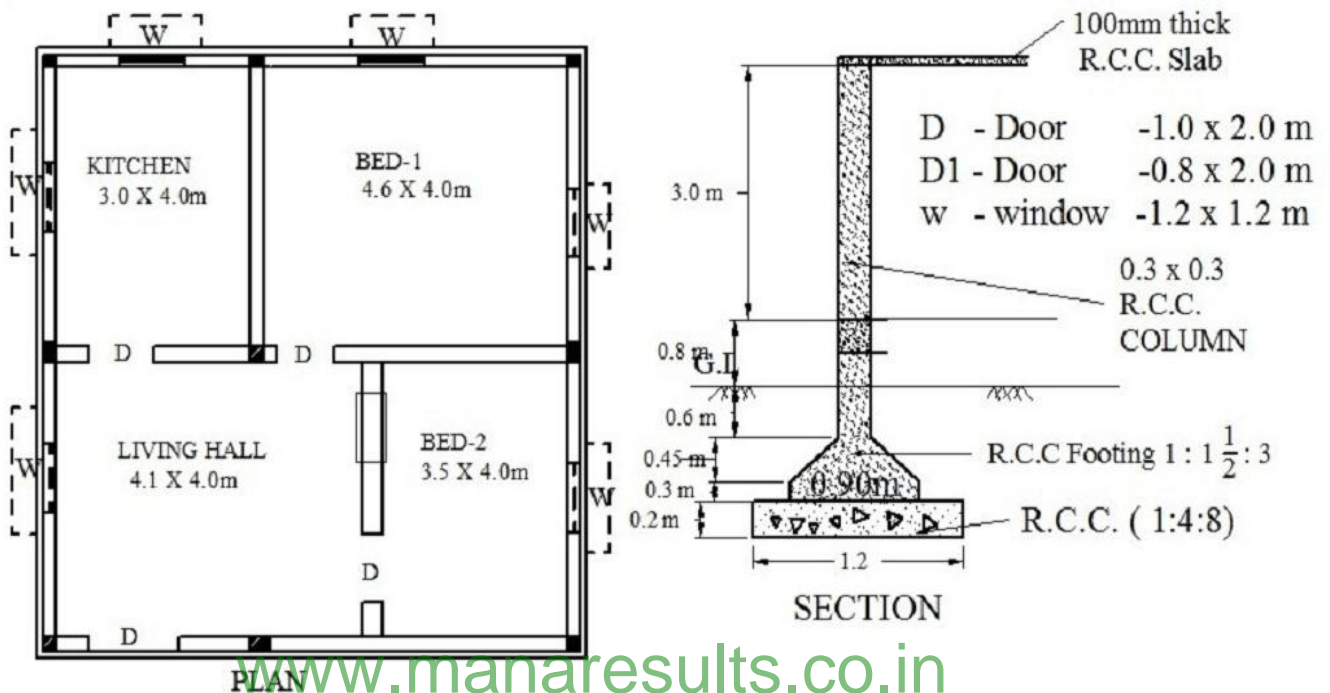1. Earth work excavation for foundation in hard gravelly soils.
2. R.R. masonry in CM 1:6 for footing and basement.

ROOM
4.20 M X 3.00 M

VERANDAH
2.00 m WIDE

2.00 m

300 mm size Brick pillar

PLAN

Y

1.2 m

2.0 m

x

100 mm thick parapet wall

120 mm thick Slab

300 mm Thick Wall

SECTION X-Y

GL   EARTH   400   FILLING   GL

600   120   1350   250   1400   600

150   1000mm   600   800   150   300

800

1000

Door -1.00 m x 2.00 m
Window-1.10 m x 1.40 m

Prepare the detailed estimate for the following items of work for the building shown in fig

12

(a). R.C.C 1 : 1 $\frac{1}{2}$;3 in columns up to G.L. only including footings.

(b). R.C.C.1 :2: 4 in slab

KITCHEN
3.0 X 4.0m

BED-1
4.6 X 4.0m

LIVING HALL
4.1 X 4.0m

BED-2
3.5 X 4.0m

W   W

D   D

D

D

PLAN

100mm thick R.C.C. Slab

D - Door   -1.0 x 2.0 m
D1 - Door   -0.8 x 2.0 m
w - window -1.2 x 1.2 m

0.3 x 0.3 R.C.C. COLUMN

R.C.C Footing 1 : 1 $\frac{1}{2}$: 3

R.C.C. (1:4:8)

3.0 m

0.8 m   G.L

0.6 m

0.45 m

0.3 m

0.2 m   0.90m

1.2

SECTION

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13. Calculate the cost of the following items of work using the lead statement given below.

a) C.C. for foundations (1:5:10) using 40 mm HBG metal   unit 1 m^3

0.92 m^3	40 mm HBG metal
____ cum	Sand
____ cum	Cement
0.2Nos.	Mason
3.2 Nos.	Mazdoor
L.S.	Sundries

b) First class brick work in C.M. (1:8)   Unit – 1cum

500 Nos.	First class bricks
0.38 cum	CM (1:8)
1.40 Nos.	Brick layers
2.80 Nos.	Mazdoor
L.S.	Sundries

Labour charges:

a)	Mason / Brick layer	Rs. 70.00/ day
b)	Mazdoor	Rs. 40.00 / day
c)	Mixing charges of cement mortar	Rs. 10.00 / cu.m

Lead statement

S.No	Materials	Rate at source Rs.	Leads in km	Conveyance charges
1	40mm HBG metal	250.00 /cu.m	12 kms M.T. + 10 kms C.T.	Rs. 6.00/km/cu.meter
2	Sand	75.00 / cu.m	6 kms MT + 5.0kms ST	Rs. 4.00/km/cu.meter
3	Bricks	900 / 1000 nos.	6 kms MT	Rs.5.00 per KM per 1000 nos.
4	Cement	2500 per tonne	At site	

14. Prepare the data sheet and calculate the cost of the items given below :
   a. C.C. (1:5:10) using 40 mm HBG metal – unit 1 cu.m.

0.92 m³	40 mm HBG metal
_____	Sand
_____	Cement
0.06 Nos.	Mason I class
0.14 Nos.	Mason II class
1.80 Nos.	Man Mazdoor
1.40 Nos.	Women Mazdoor
L.S.	Sundries

   b. R.R. Stone masonry in C.M. (1:6) – unit 1 cu.m.

1.05 cu.m	Rough stone
0.05 cu.m	Bond stone
0.34 cu.m	C.M. (1:6)
0.54 Nos	Mason Ist class
1.26 Nos.	Mason 2nd class
1.40 Nos.	Man Mazdoor
1.40 Nos.	Women Mazdoor
LS	Sundries

Rates of labour and materials at site:

HBG 40 mm size	= Rs. 440. 00 / 1 cu.m
Sand	= Rs. 200.00 / 1 cu.m
Cement	= Rs. 3400.00 / 1 cu.m
Rough stone	= Rs. 280. 00 / 1 cu.m
Bond stone	= Rs. 700.00/ cu.m.
Mason Ist class	= RS. 160.00 per day
Mason 2ndclass	= Rs. 140.00 per day
Man Mazdoor	= Rs. 110.00 per day
Women Mazdoor	= Rs. 110.00 per day
Mixing charges for C.M.	= Rs. 20.00 / cu.m

15. From the particulars of a reservoir given below, calculate the capacity of a reservoir between the sill level and M.W.L. using trapezoidal and Prismoidal rule.

Sl.No	Level in meters	Area in Sq.m	Particulars
1	40.00	1500	bed of reservoir
2	42.00	2800	
3	44.00	4200	sill level of sluice
4	46.00	6500	
5	48.00	9500	
6	50.00	12000	F.T.L.
7	52.00	15000	M.W.L.

**16.** Calculate the following quantities for a septic tank shown in fig.
(a) Earth work in excavation for septic tank
(b) Precast R.C.C. work for scum board and baffle wall
(c) CC (1:4:8) for foundation concrete

SECTION

PLAN

SEPTIC TANK
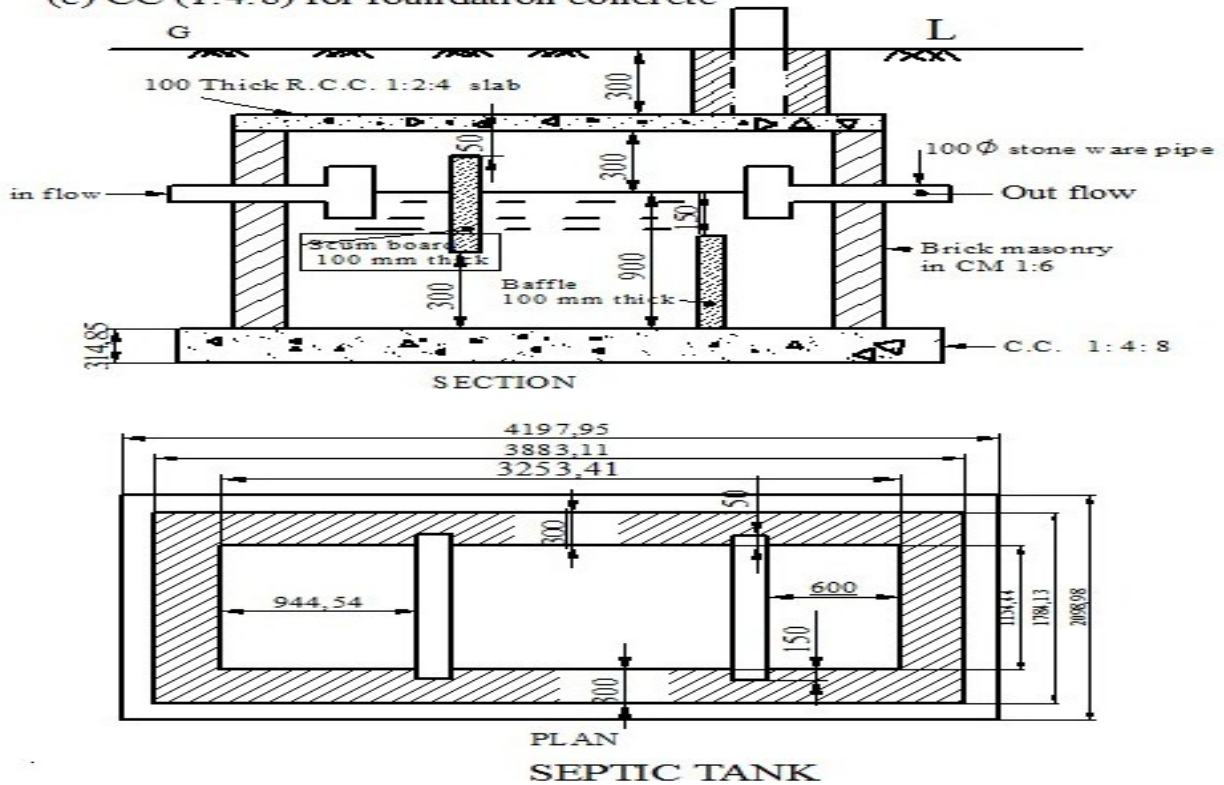
17. Calculate the quantities for the following item of a work for a slab culvert shown in figure.
a) CC (1:4:8) for abutment and wing walls
b) Brick Masonry in CM (1:4) for abutment and wing walls upto bottom deck slab.
c) RCC for deck slab.

Half sec.elevation

Half sec . plan
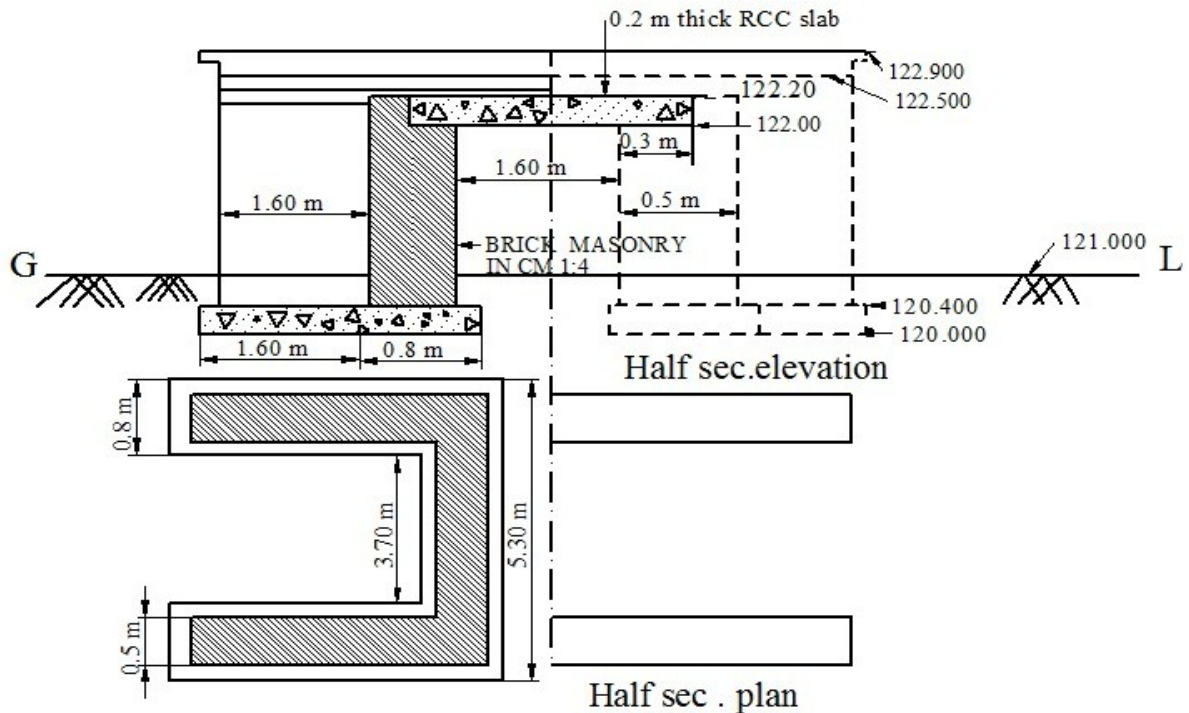
18. Residential building constructed 12 years ago is situated on a plot whose total area is 400m². The plinth area of the building is 240m². The present cost of construction of the building is 1,30,000/- and the cost of the land is Rs 180/m². The rate of depreciation for the value of the building is 1%. Calculate the total value of the property.

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