Code No.: 3174

FACULTY OF ENGINEERING

B.E. IV/IV Year (Civil) II Semester (Main) Examination, May/June 2011

ESTIMATING AND SPECIFICATIONS

Time : 3 Hours] [Max. Marks : 75

Answer **all** *questions from Part A.*
Answer any **five** *questions from part B.*
Assume any data suitably, if necessary.
Use of standard data book may be permitted.
All questions carry equal marks.

Part A — (Marks : 25)

1. Differentiate between detailed estimate and abstract estimate.
2. What is balanced depth of cutting and filling in road works?
3. What are Lead and Life Charges?
4. Explain the need of Standard Schedule of rates.
5. Write down the weights of 6mm, 12mm, 16mm, 20mm and 25mm steel rods and for 1m length.
6. Draw different cross sections of Irrisation canal works.
7. Workout the number of cement bags required for 10sq.m of 2.5 cm thick cement concrete floor.
8. What do you understand by 'Work charged Establishment'?
9. What is Work Order and Measurement Book?
10. Briefly explain about Tender form and Tender notice.

Part B — (Marks :50)

11. Prepare the detailed estimate for the following items of work for the residential building as shown in the figure 1 by centre line method.
    (a) Earthwork an excavation the foundation.
    (b) First class brickwork for superstruture.

[P.T.O.

12. Prepare a detailed estimate of earthwork for a length of 1km of a road, having formation width of the road as 10mm. The ground has no transverse slope. Side Slopes are 1½:1 in cutting and 2:1 in banking.

Distance (m)	0	100	200	300	400	500	600	700	800	900	1000
Ground level (m)	72.76	72.41	71.80	72.0	71.48	70.75	70.44	70.46	70.96	71.23	71.64
Formulation level	72.0 ← Downward gradiant of in400 upto 500m				← Upward gradiant of in Rs.400 upto 1000m						

13. Calculate the quantity of earthwork in embankment for a portion of a channel with the following data.

Bed width =3m; Free board =44cm;

Slope of dissing = 1:1; Side Slope of banking = 1½:1; Full supply depth =1m; Top width of both the banks = 1.5m

Distance (m)	0	30	60	90	120	150
Ground level (m)	225.24	224.80	224.43	224.12	224.50	224.98
Proposed Bed Level (m)	224.0	223.94	223.88	223.82	223.76	223.70

14. Calculate the quantity of steel required for an R.C.C square column with footing as shown in the fig 2. The size of the column is 20cm. Also, prepare a schedule of bars for the R.C.C Column.

15. Find out the unit rates for the following finished items required for a building
    (a) First class brickwork in superstructure in cement mortar 1:4 for 1cum.
    (b) 1: 2: 4 cement concrete required for slab and beam for 1cm for R.C.C work.
    The following rates of materials and labour at the site may be considered.
    (i) Sand Rs.290 per cum
    (ii) Aggregate Rs.700 per cum
    (iii) Cement Rs.240 per bag of 50kg.
    (iv) Mixing mortar Rs.50 per cum
    (v) Standard bricks Rs. 2500 per 1000 No's
    (vi) Steel Rs.40,000 per tonne
    (vii) First Class Mason Rs. 450 per day
    (viii) Man Mazdoor Rs. 300 per day
    (ix) Woman Mazdoor Rs. 250 per day
    (x) Bar building Rs.12 per kg
    (xi) Centering and Shuttering Rs.320 per cum.

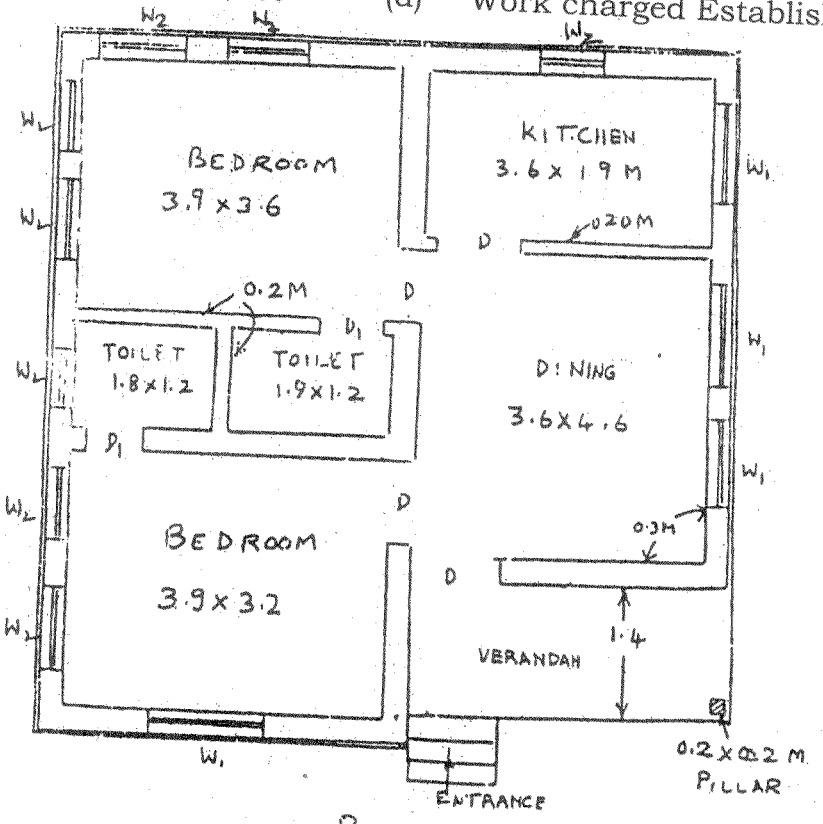
16. (a) What is a Tender? Explain its significance. How the tenders are processed and finalised?

    (b) What is the necessity of specification? Write down specifications for a first-class building.

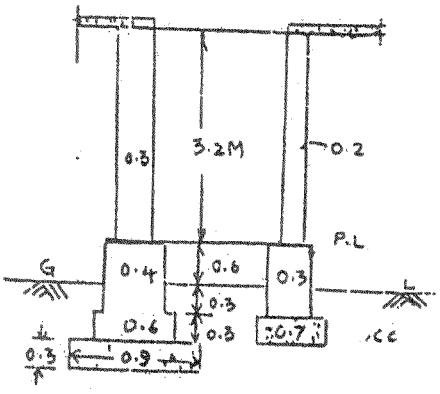
17. Write short notes on the following:

    (a) Measurement Book (b) Muster Roll system

    (c) Conditions of contract (d) Work charged Establishment.



PLAN



SECTION OF 30CM WALL

SECTION OF 20CM WALL & VERANDAH PLINTH WALL

REFERENCE

DOOR D1 : 1.0 X 2.1M
D2 . 0.9 X 2.1M
WINDOW W1 1.5 X 1.1M
W2 1.2 X 1.1M
VENTILATOR : 0.7 X 0.3M

FIG. 1

NOTE : ALL DIMENSIONS ARE IN METRES

[P.T.O.

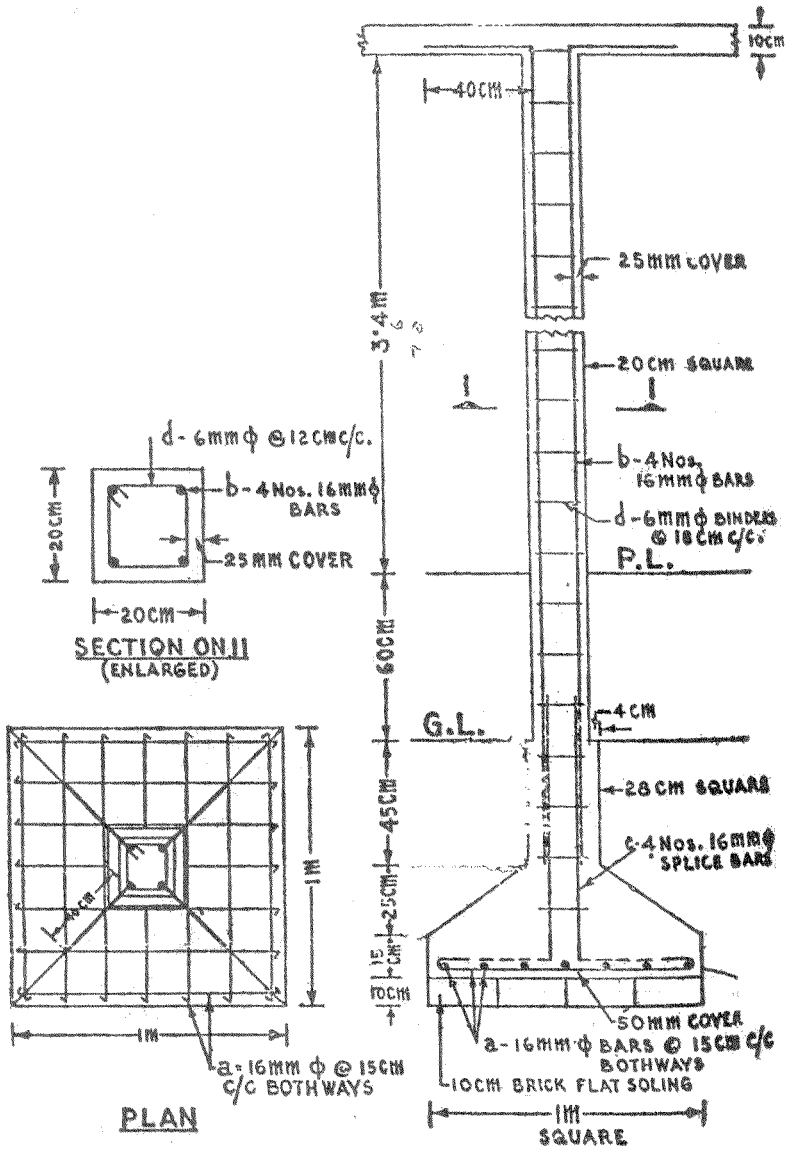


FIG.2