FACULTY OF ENGINEERING
B.E. 4/4 (Civil) I Semester (New) (Suppl.) Examination, July 2014
ESTIMATING AND SPECIFICATIONS

Time: 3 Hours]   [Max. Marks: 75

Note : Answer **all** questions from Part – **A** and **any five**
questions from Part – **B**.

PART – A

1. For 12 mm thick cement plastering of 1 : 6, what is the quantity of cement required ?
2. What is tender notice ?
3. What is Economical depth ?
4. What are the units for estimating the quantities of brick work and plastering ?
5. For the rate analysis of ashlar masonry in CM 1 : 6, list the materials and labour required.
6. What do you understand by 'Work charged establishment ?
7. Differentiate between plinth area and floor area.
8. Define the term Contract and list the Essentials of Contract.
9. Define the term lead and lift.
10. Explain the concept of BOT projects.

PART – B

11. Prepare a detailed estimate for the following items of work for a residential building plan shown in Fig. 1. Using center-line method.
    a) Earthwork excavation for foundation
    b) 1st class brickwork in superstructure with CM (1 : 6)

W = 1.5 x 1.3m   V = 1 x 0.5m
D = 2.3 x 1.6m   D$_1$ = 2 x 1.3m
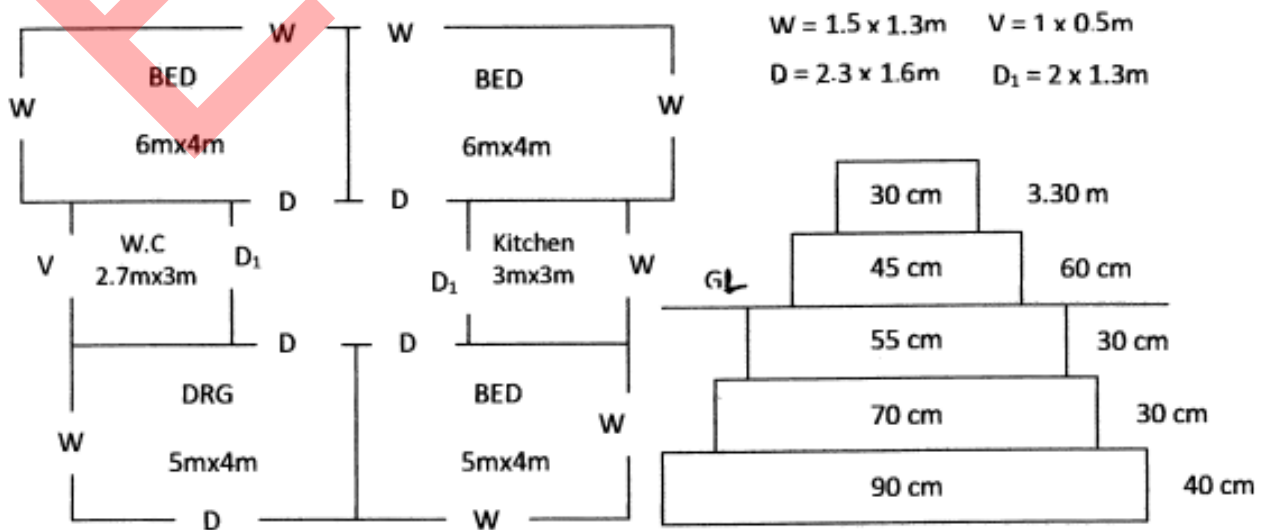
12. Estimate the quantity of earthwork for a portion of a road from the following data :
Formation width of the road is 8 m, side slopes are 2 : 1 in filling and 1.5 : 1 in cutting. Cutting is zero at 0 chainage and the road has a longitudinal slope of 100 : 1 falling gradient.

Chainage (m)	0.00	20.00	40.00	60.00	80.00	100.00
R. L. of ground	51.00	51.50	51.65	52.05	52.15	52.15

13. What is the necessity of specification ? What are its types ? Explain different methods of estimating volume of earthwork.

14. Work out unit rates of the following :
   a) 1st class brickwork in superstructure in CM (1 : 6) for 1 cu.m.
   b) 1 : 1.5 : 3 cement concrete required for slab and beam for 1 cu.m. RCC work

   Adopt the following rates of materials and labour at the site.
   i) Cement   Rs. 250/- per bag
   ii) Sand   Rs. 300/- per cu.m.
   iii) Aggregate   Rs. 450/- per cu.m.
   iv) Mixing mortar   Rs. 30/- per cu.m.
   v) Standard Bricks   Rs. 2,500/- per 1000 Nos.
   vi) Steel   Rs. 35,000/- per tonne
   vii) Brick layer   Rs. 500/- per day
   viii) Man Mazdoor   Rs. 300/- per day
   ix) Woman Mazdoor   Rs. 250/- per day
   x) Bar Bending   Rs. 40/- per day
   xi) Centering and Shuttering   Rs. 800/- per day

15. Compute the quantity of steel reinforcement in an R.C.C. roof slab of 4.5 m clear span, 7 m long and 180 mm thick, having 12 mm dia main bars at 15 cm c/c and 8 mm dia distribution bars at 20 cm c/c with alternate bent up bars. Also prepare schedule of bars for R.C.C. slab.

16. Write short note on the following :
   a) Earnest money and security deposit
   b) PPP projects
   c) Liquidated damages.

17. Explain different types of contract with merits and de-merits.

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