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SF-7043

B. E. - III (Sem. VI) (Civil) Examination

May / June - 2011

Estimating & Specifications

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. - 3 (SEM. 6) (CIVIL)

Name of the Subject :

☛ ESTIMATING & SPECIFICATIONS

☛ Subject Code No. : 7 0 4 3 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Figure to the right indicate full marks.

(3) Assume missing data suitably with appropriate remarks.

(4) Show complete calculations. Answer in tabular format where necessary.

SECTION - I

1 Attempt any four of the following : **10**

(i) What is estimation ? Which data are required to prepare an estimate ?

(ii) Explain purposes of preparing an estimate.

(iii) What is contingencies ?

(iv) Write current market rates of cement, sand, brick, aggregate and teak wood.

(v) Explain prime cost.

(vi) Explain floor area method of an approximate estimate.

2 Estimate the following quantities for two room building as shown in Fig. 1

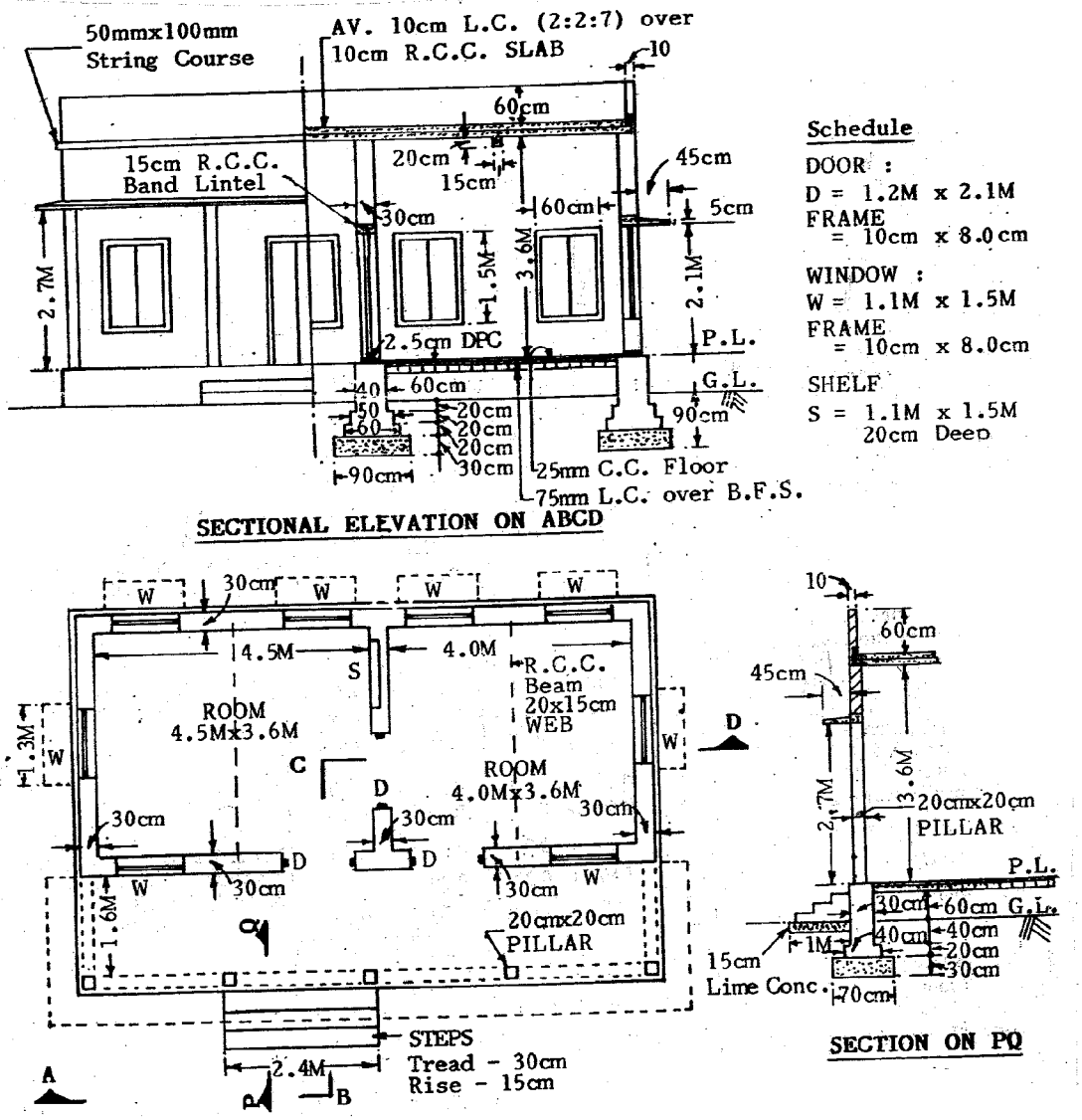

Fig. 1

(i) Earthwork in excavation. 5

OR

(i) Lime concrete (1:3:6) for foundation. 5

(ii) First class brick masonry work in 1:6 C.M. in foundation and plinth. 8

(iii) First class brick masonry work in superstructure in 1:6 C.M. 8

OR

(iii) Cement concrete (1:2:4)

(iv) 2.5 cm thick D.P.C. (1:2:4) 5

OR

(iv) Sal woodwork for frames. 5

3 Fig. 2 shows 20 m long RCC retaining wall. Workout following quantities.

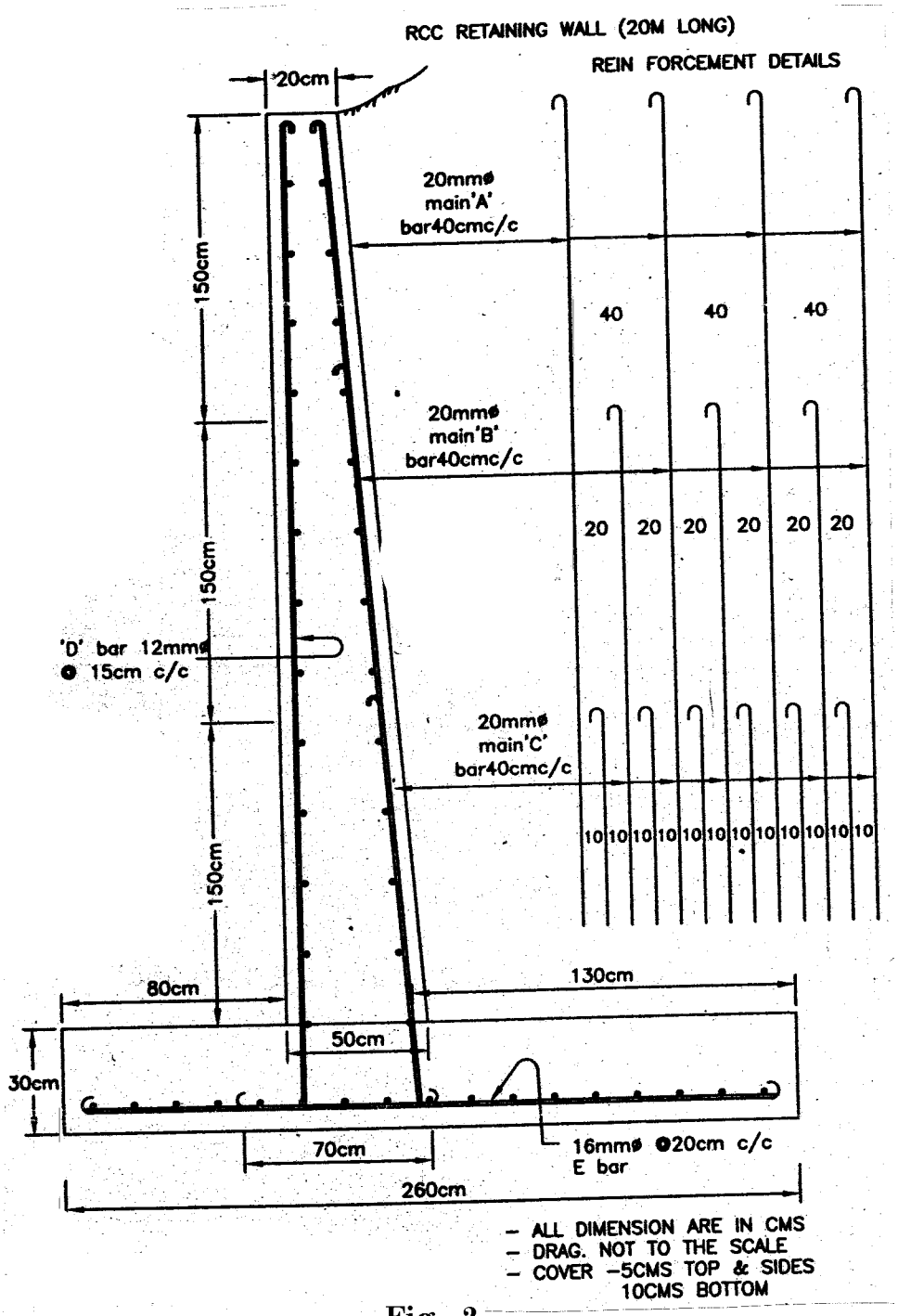

Fig. 2

(i) R.C.C. work (1:2:4) for retaining wall **4**

(ii) Formwork for retaining wall. **4**

(iii) 20 mm ∅ steel required. **6**

SECTION - II

4 Attempt any three : **15**

(i) Give specification for plastering with cement or lime mortar.

(ii) Give detailed specification for glazing.

(iii) Give detailed specification for cement mortar.

(iv) Specification for white washing in three coats.

5 Answer any three of the following : **15**

(i) Calculate the material and labour required for first class brick work in super structure with 20 x 10 x 10 cm brick with 1:6 cement for $10m^3$ of brick work.

(ii) Explain the term 'lead' and 'lift'. Enlist the material and labour required for 2.5 cm thick 1:2:4 cement concrete floor for 10 m^3 of it. Carry out rate analysis.

(iii) Define rate analysis. Write about the purpose and essentials of rate analysis.

(iv) Define specification. What are the objects of specification ?

6 Prepare a detailed estimate for earth work for a portion of road from the following data : **20**

(i) Formation width of road = 10 m

(ii) Side slope = 1:2 in banking
= 1 : 1 $^1/_2$ in cutting

Distance in (m)	**R.L. of G.L. (m)**	**R.L. of formation level (m)**	**Remark**
0	114.50	150.0	
100	114.75	150.0	Upward gradient
200	115.25	150.0	1:2 from 0 m to
300	115.20	150.0	600 m
400	116.10	150.0	
500	116.85	150.00	
600	118.00	150.00	
700	118.25	150.00	
800	118.10	150.00	Downward gradient
900	117.80	150.0	1.4 from 600 m to
1000	117.75	150.0	1200 m
1100	117.80	150.0	
1200	119.50	150.0	

Value of θ = 0.125