* R M - 7 0 4 3 / 3 0 0 *

RM-7043

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

April / May – 2010

Estimating & Specifications

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

Instruction :

(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) Answer the **two** sections in **separate** answer book.

(3) Figures to the **right** indicate full marks.

(4) Assume missing data suitably with appropriate remarks.

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

SECTION - I

1 Attempt any **three** : **9**

(i) What is contingencies?

(ii) State the names of extra work with % of building cost considered in addition to normal estimation.

(iii) Enlist the types of estimates.

(iv) What is the difference between long wall - short wall method and centerline method of estimation.

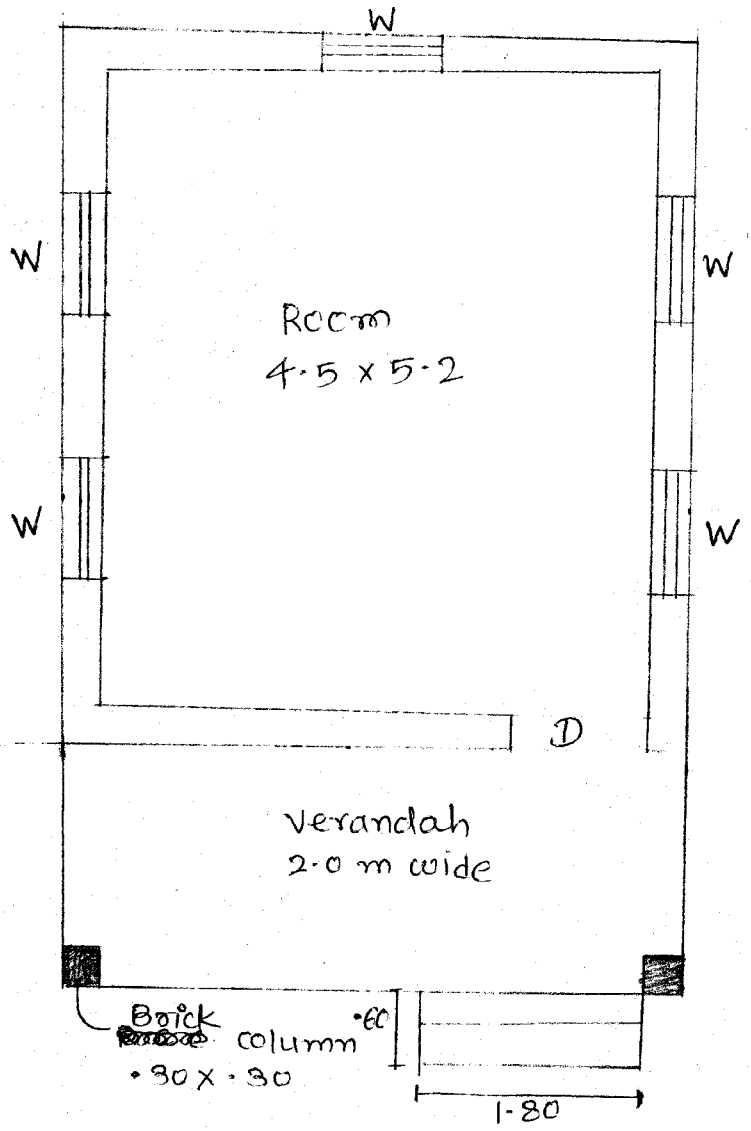
(v) In absence of detailed design, what percentage for steel concrete may be taken for :

(a) lintel

(b) slab

(c) column.

2 Estimate the quantities for the given figure by long wall short wall method. **25**



Wall thickness = 30 cm

D - DOOR - 1·0 x 2·10

W - Window - 0·90 x 1·50

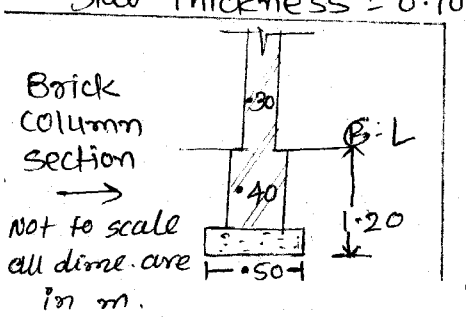
Slab thickness = 0·10 m

Plinth height = 45 cm

Ceiling height of

Room = 3·30 m

Verandah = 2·8 m



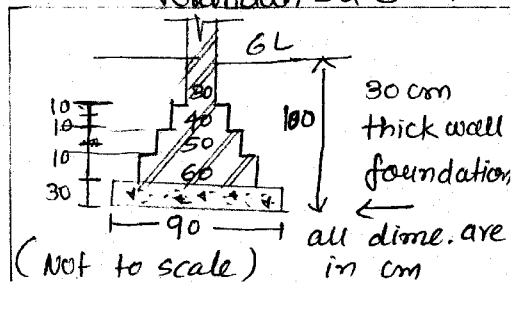


Fig. 1

(i) Excavation for foundation.

(ii) First class brickwork in cement mortar (1:6) in foundation and plinth.

(iii) First class brickwork in CM (1:6) in superstructure.

(iv) Kotah stone flooring.

(v) Wood work for door and windows.

3 (a) Work out the quantities of the following items of a retaining wall shown in figure : **6**

(i) Cement concrete in foundation

(ii) Stone masonry (length of the wall = 200 m)

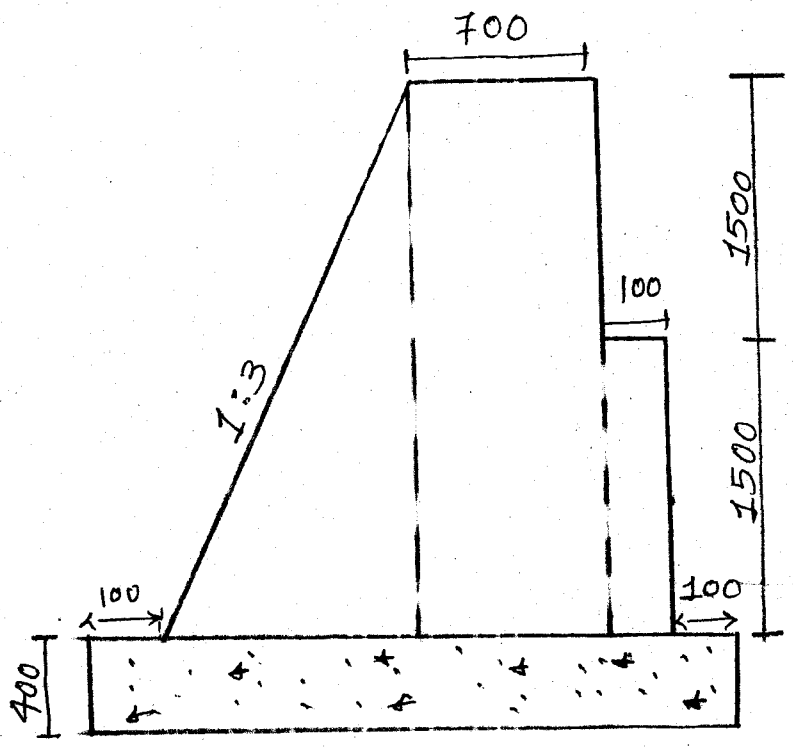


Fig. 2

(b) Find out the quantities for RCC beam as shown in figure **10**

(i) C.C. work

(ii) Steel work.

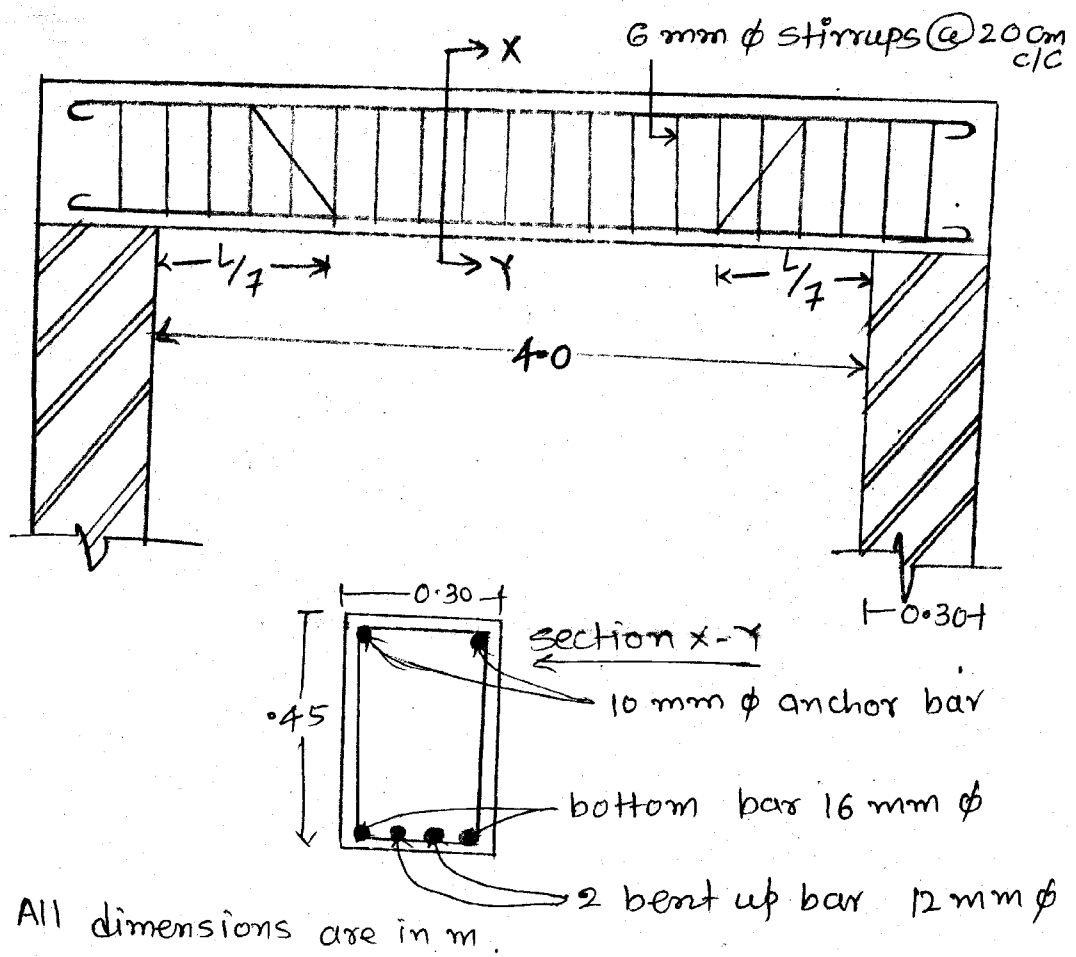


Fig. 3

OR

(b) Estimate the quantity of earthwork for a proposed road for 400 m length with the following data : **10**

Ch. (m) :	0	40	80	120	160	200	240	280	320	360	400
G. L. (m) :	149.00	148.90	148.50	148.80	148.60	148.70	149.20	149.40	149.30	149.00	148.60

Formation width of the road = 10 m

Side slope = 2:1

Downward gradient = 1 in 200.

Formation level = 150.00

SECTION - II

4 Answer any **three** : **15**

(i) Explain the term general and detailed specification. Calculate the amount of ballast, sand and cement required for 1:2:4 and 1:6:12 cement concrete for 1 m^3 each.

(ii) Give detailed specifications for : (a) Wooden chaukhats of doors and windows (b) glazing.

(iii) Name three items in residential buildings whose unit of measurement is metre. Give the % of steel for lintels beams and columns.

(iv) 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.

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

(i) Explain how quantity calculation for water supply connection can be done for various items of a residential building.

(ii) Give specification for lime concrete in foundation: material, mixing, curing and measurement.

(iii) Cement concrete 1:2:4, materials, hand mixing, curing and slump, give specifications.

(iv) For brick work class I give the specification for mortar, quality of bricks, soaking and laying of bricks.

6 Calculate the volume of brickwork in steps and area of plastering on the three treads for the circular steps as shown in the figure for question no.6 **20**

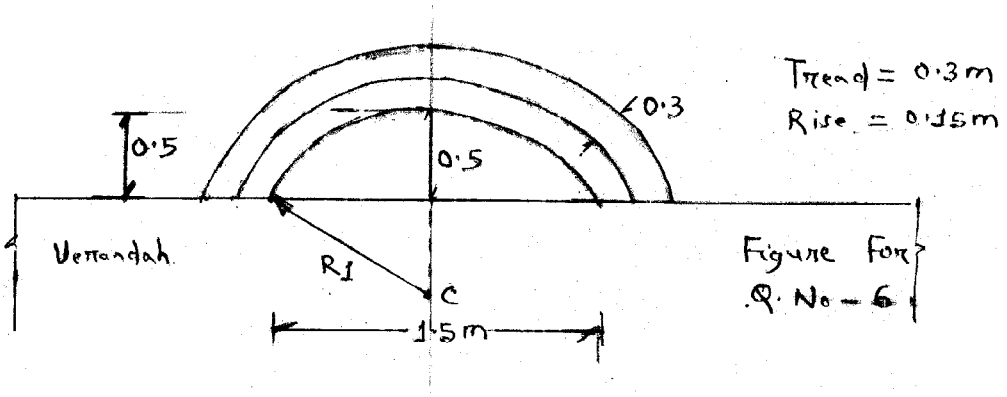


Fig. 4
