

537

October 2023

Time - Three hours  
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.  
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART - A

1. Define Estimate.
2. How much cement is required to prepare  $1\text{m}^3$  of cement mortar 1:4 mix and 1:6 mix?
3. What is data? List its types.
4. State the charges to be added in preparing mortars.
5. What is Trade system?
6. Prepare detailed quantity for 100mm thick RCC roof slab of room size 4m X 5m.
7. Write any three advantages of group system.
8. What is meant by squaring?
9. What is report writing?
10. Write short notes on year purchase.

PART - B

11. (a) Explain about cubical content method and typical bay method.

(Or)

- (b) Write detailed specification for weathering course.

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12. (a) Prepare the data for RCC roof slab 120mm thick of mix 1:2:4 using 20mm hard broken stone with reinforcement at 80 kg/m of concretes including cutting, bending, tying, centering, curing etc. - 1m<sup>2</sup>

**Materials and labours required:**

(i) Cement concrete 1:2:4 using 20mm hard broken stone - 10m<sup>3</sup>

Broken stone	- 9.0m <sup>3</sup>
Sand	- 4.5m <sup>3</sup>
Cement	- 3240 kg
Mason I class	- 3.5 Nos.
Mazdoor I grade	- 21.2 Nos.
Mazdoor II grade	- 35.8 Nos.

(ii) RCC roof 120mm thick with reinforcement 80 kg/m<sup>3</sup> of concrete including cutting, bending, tying etc., - 1m<sup>2</sup>

Cement concrete 1:2:4	- as required
Steel	- as required
Binding wire	- 1% of steel required.
Cutting, bending and tying	- as steel required.
Centering	- as required and add 20% extra for sides.

**Cost of materials and labour charges :**

Broken stone 20mm	- Rs.2200/m <sup>3</sup>
Steel	- Rs.58000 / tonne
Binding wire	- Rs.100/kg
Mason I class	- Rs. 550 each/day
Mason II class	- Rs.500 each/day
Mazdoor I grade	- Rs.400 each/day
Mazdoor II grade	- Rs. 300 each/day
Centering charges	- Rs.250/m <sup>3</sup>
Cutting, bending & tying	- Rs.3800 each/day

(Or)

- (b) Prepare the data for Painting two coats with synthetic paint with primer of approved quality and colour for new wood works - 10 m<sup>2</sup>

**Materials and labour required:**

Priming coat for new wood work - 10 m<sup>2</sup>

Wood primer	- 1.44lit
Painter I class	- 0.70 no.

Painting two coats over the new wood work - 10 m<sup>2</sup>

Priming coat	- 10 m <sup>2</sup>
Synthetic enamel paint for wood	- 2.55 lit
Painter Ist class	- 1.20 nos.

**Cost of materials and labour :**

Wood primer	- Rs. 400/lit
Synthetic paint for wood	- Rs. 700/lit
Painter Ist class	- Rs. 450/each

13. (a) Taking off quantities using Trade system for RCC 1:2:4 mix for Community hall with RCC columns and T-beams given in the Sketch-1.

(Or)

- (b) Taking off quantities using Trade system for the following works of R.C.C SINGLE SPAN SLAB CULVERT given in the Sketch-2.

- (i) Earthwork excavation  
(ii) Foundation Concrete 1:3:6

14. (a) Prepare the detailed estimate of quantities for the following items for a ONE ROOMED BUILDING given in sketch -3 by Group system.

- (i) Earthwork excavation in foundation  
(ii) Cement concrete 1:4:8 in foundation

(Or)

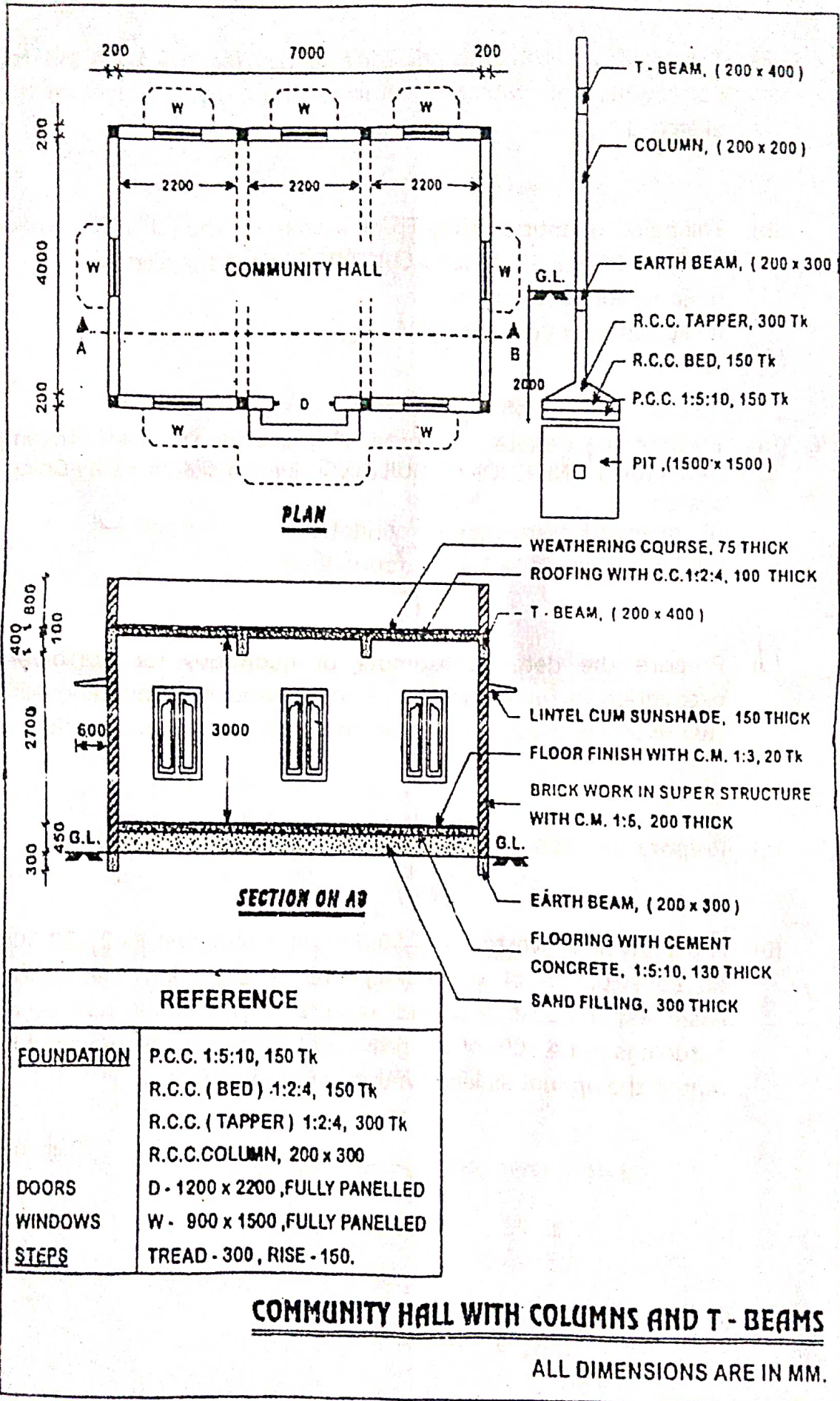
- (b) Prepare the detailed estimate of quantities for Earthwork excavation in foundation for A small residential building with two rooms with R.C.C roof given in sketch -4 by Group system.

15. (a) Prepare the report on estimate for a village road of WBM.

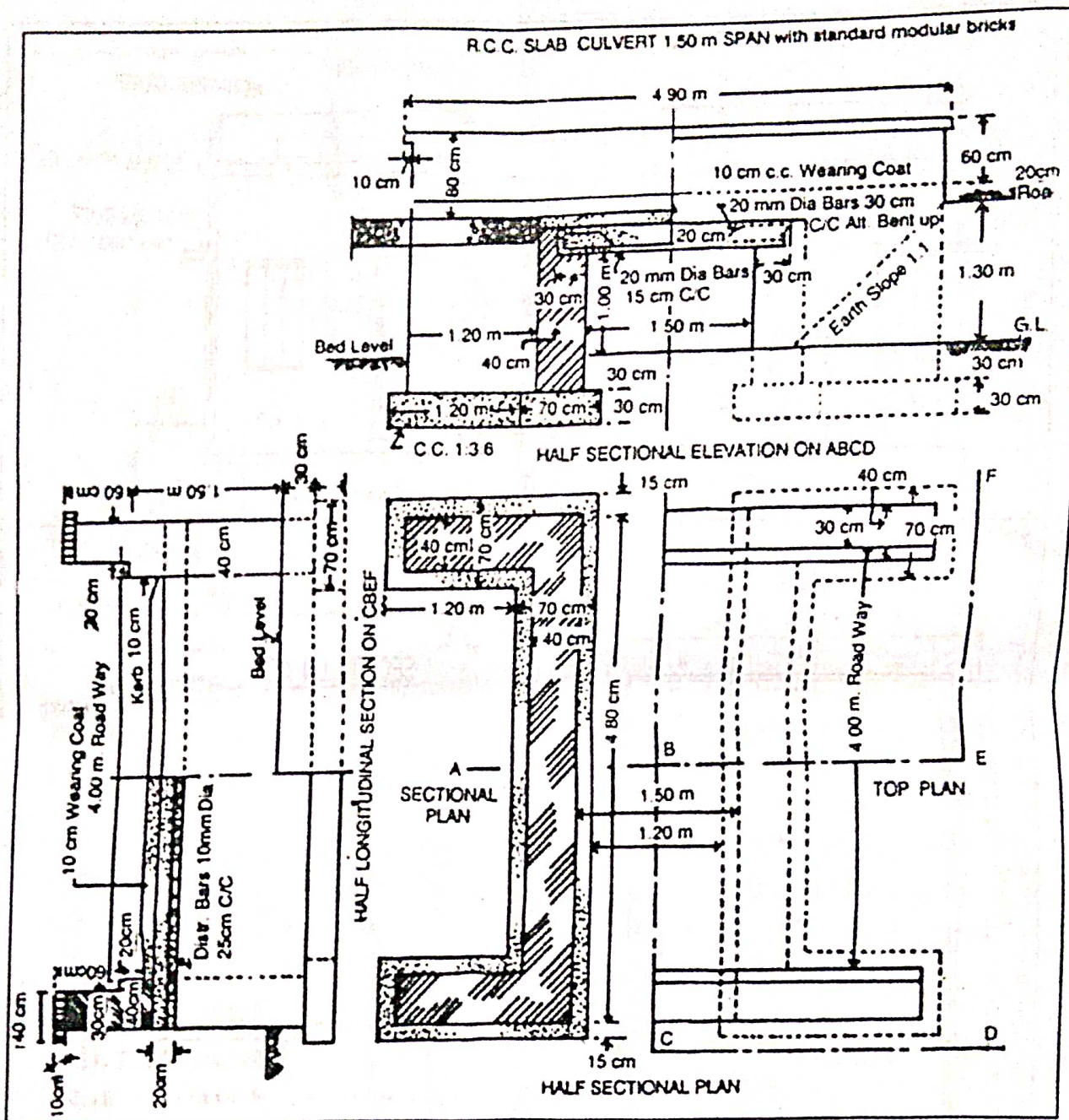
(Or)

- (b) A person has invested Rs.7,50,000 on a plot and Rs.22,30,000 on construction of a building over it expecting 7% return. Assuming the cost of annual repairs to be Rs.2500 and other outgoings to be 30% of the gross rent, calculate the reasonable rent, if the annual sinking fund co-efficient is 0.01 .

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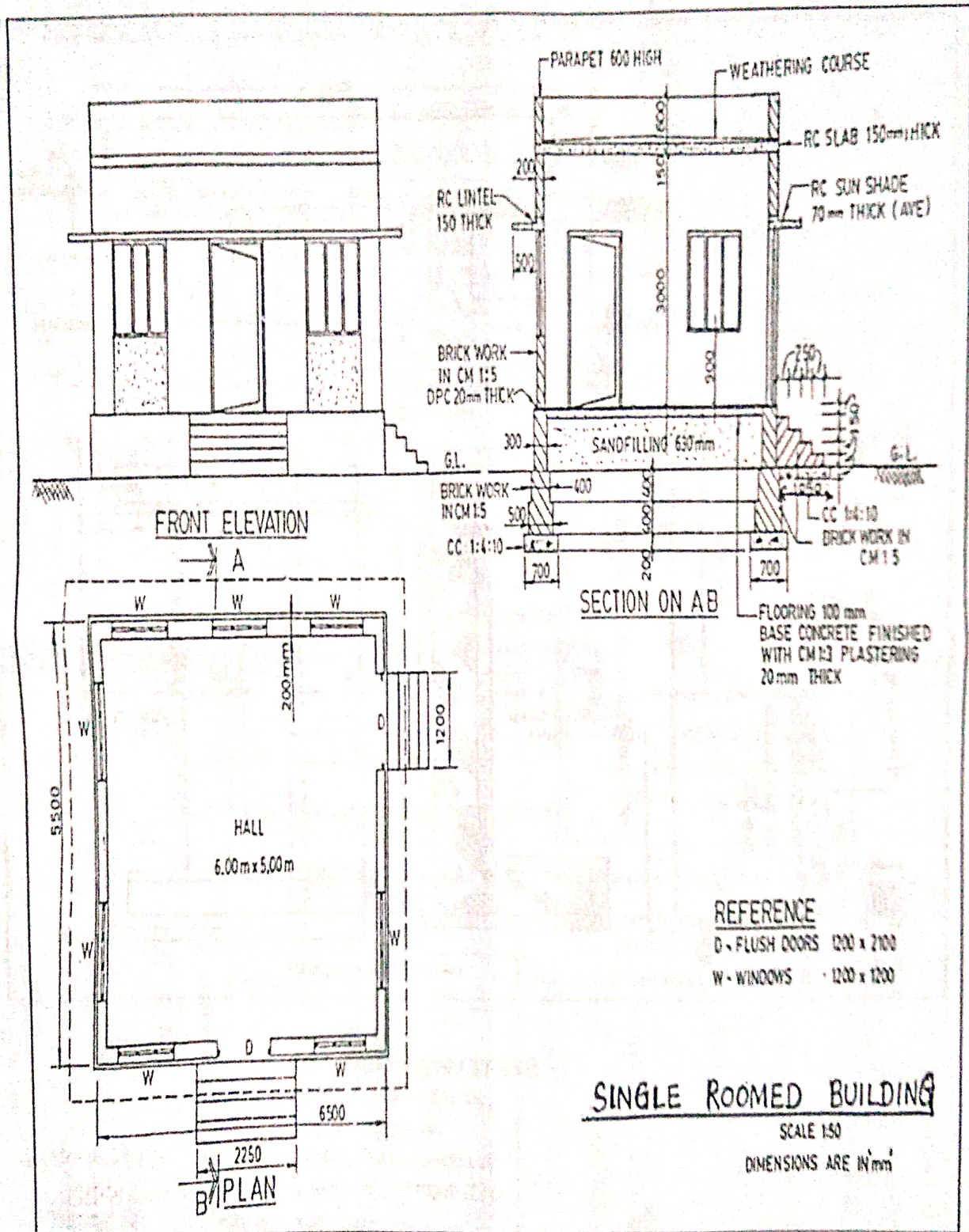


SKETCH-1



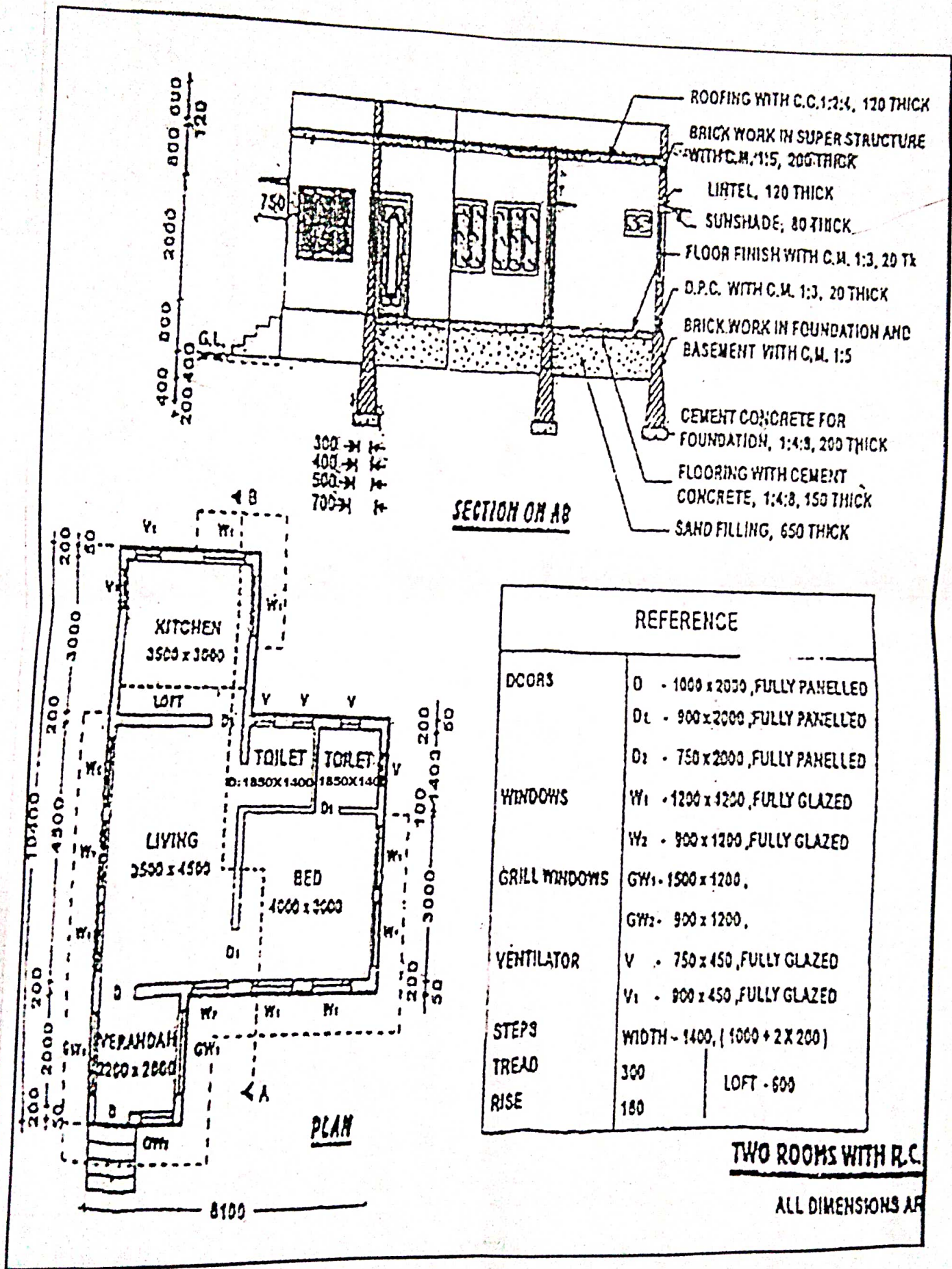
SKETCH-2

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SKETCH-3

185/612-6



SKETCH-4