

PMM/KS/15/2756/3015

**Faculty of Engineering & Technology**  
**Eighth Semester B.E. (Civil)/Sixth Semester B.E.P.T.**  
**(Civil) Examination**  
**ESTIMATING AND COSTING**  
**Sections—A & B**

Time—Four Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Answer any **TWO** questions from Section A and any **THREE** questions from Section B.
- (3) Question No. 1 from Section A is compulsory.
- (4) Assume suitable data wherever necessary.
- (5) Use of non-programmable calculator is permitted.

**SECTION—A**

1. Estimate the quantities for the following items of work for the given Building Plan and typical wall section in Fig. 1 :
  - (i) Earthwork in excavation in foundation trenches.
  - (ii) II<sup>nd</sup> class brick masonry in CM 1:6 in foundation and plinth.
  - (iii) II<sup>nd</sup> class brick masonry in CM 1:5 in superstructure excluding steps.

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ferenc  
.2 m ×  
.9 m ×  
.5 m ×

(iv) 12 mm thick internal plaster for ceiling and wall in CM 1:4.

(v) RCC 1:1.5:3 for slab.

Prepare a centre line diagram and clearly mention their centre to centre length separately. 25

**(Fig.1 printed in separate sheet)**

2. (a) Calculate the quantity of earthwork of a portion of irrigation canal with following data :

Bed width = 3m, free board = 44 cm, slope of digging = 1:1, side slope of banking = 1.5:1, fully supply depth = 1 m, top width of both the banks = 1.5 m.

Distance	R.L. of ground (m)	R.L. of proposed bed (m)
0	225.24	224.0
30	224.80	223.94
60	224.43	223.88
90	224.12	223.82
120	224.50	223.76
150	224.98	223.70

- (b) Estimate the quantity of earthwork for a portion of a road for 1200 m length from following data :

Formation width of road = 10 m

Side slope :

- (i) In Banking – 2 : 1  
 (ii) In Cutting – 1.5 : 1

Distance	R.L. of ground	R.L. of formation
0	114.50	<u>1150.00</u>
100	114.75	↑
200	115.25	Upward
300	115.20	gradient
400	116.10	1 in 200
500	116.85	(upto 600 m)
600	118.00	↓
700	118.25	Downward
800	118.10	gradient
900	117.80	1 in 400
1000	117.75	↓
1100	117.90	↓
1200	119.50	↓

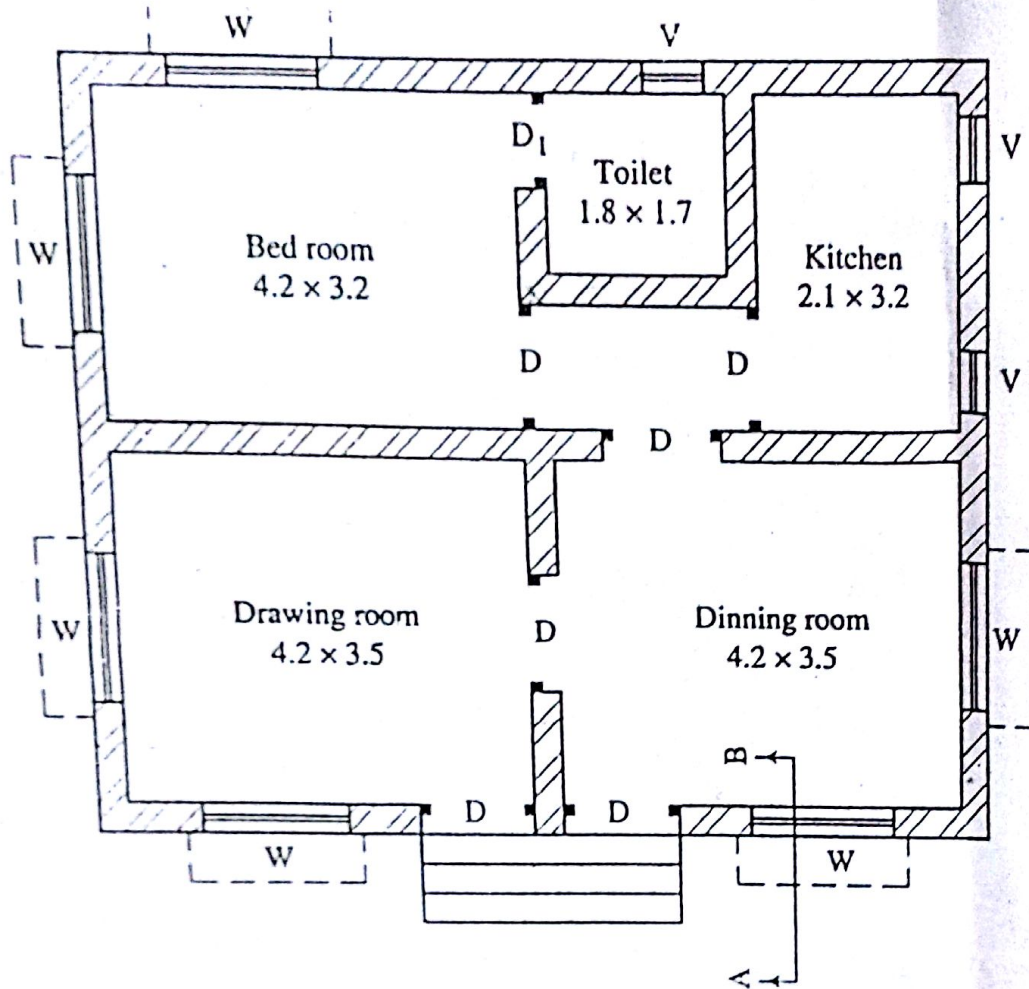
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3. (a) Enlist various methods of preparing approximate estimates for residential buildings. Explain any two in detail. 5
- (b) Calculate the quantity of concrete for R.C.C footing as shown in Fig. No.2. Also, calculate the quantity of steel in Bar bending schedule for the same. Assume covers in :
- (i) Column – 25 mm
- (ii) Column Footing – 50 mm 10
- (Figure No.2 printed in separate sheet)**

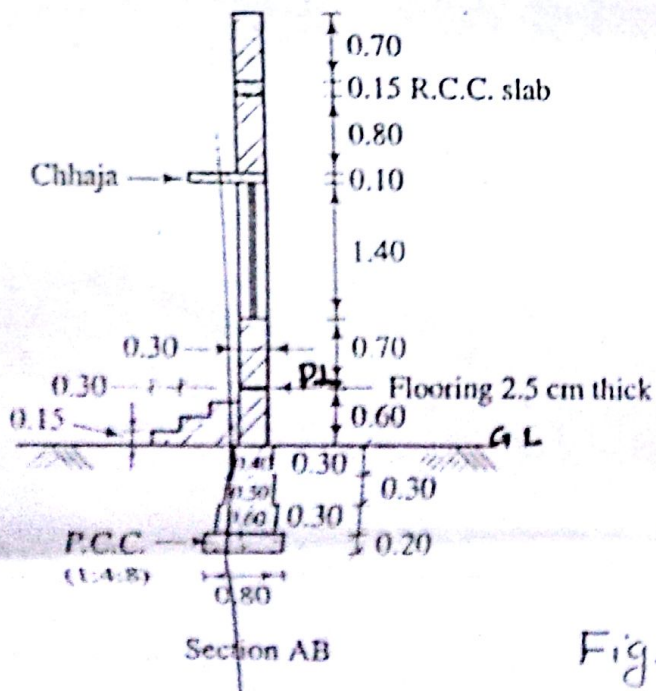
### SECTION—B

4. (a) What are the objects of specification ? Enlist types of specifications. 5
- (b) Write a detailed specification of the following items (any TWO) :
- (i) Second class brick masonry in CM 1:6 in superstructure
- (ii) Laying PCC 1:4:8 mix in foundation.
- (iii) 12 mm thick cement plaster in cement mortar in proportion 1:4. 8
5. (a) What do you mean by rate analysis ? Explain the various factors affecting the rate analysis of any item. 6

- (b) Give rate analysis of the following (any **TWO**) :
- (i) 12 mm thick cement plaster in CM 1:4.
  - (ii) RCC (1:2:4) with 2% steel excluding shuttering and centering.
  - (iii) First class brick masonry in CM 1:6 in superstructure.  
(Size of brick 19 cm × 9 cm × 9 cm) 8
6. (a) Differentiate between 'Earnest Money Deposit' and 'Security Deposit'. 6
- (b) Enlist the various types of contract and explain any two types of contracts. 7
7. (a) The owner of a building gets a net annual rent of Rs. 3,500. The future life of the building is estimated 12 years. But if recommended repairs are carried out immediately at an estimated cost of Rs. 30,000, it is expected to last for at least 30 years. Assuming the rate of interest as 8%, determine whether it is economical to carry out the recommended repairs to the building or leave it as it is. 7
- (b) Distinguish between the following :
- (i) Scrap value and Salvage value
  - (ii) Depreciation and Obsolescence. 6
8. Write short notes on (any **THREE**) :
- (i) Arbitration
  - (ii) M.A.S. account
  - (iii) Land Act acquisition
  - (iv) Purpose of valuation
  - (v) Tender notice. 13



Plan



Section AB

- Reference
- D - 1.2 m x 2.1 m
  - D<sub>1</sub> - 0.9 m x 2.0 m
  - W - 1.5 m x 1.4 m
  - V - 0.6 m x 0.45 m

Fig. No-1

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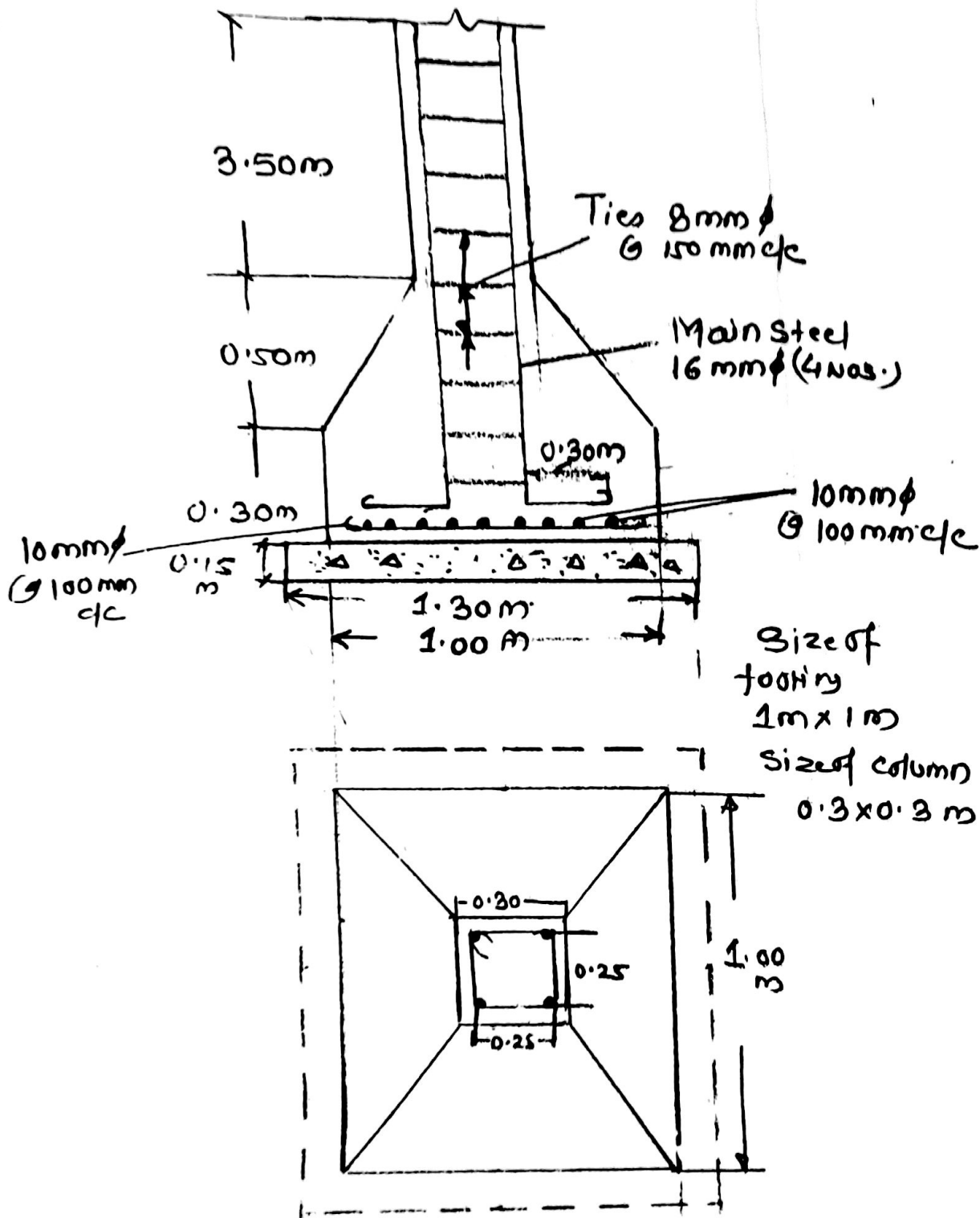


fig NO-2 (Q.3 (B))

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