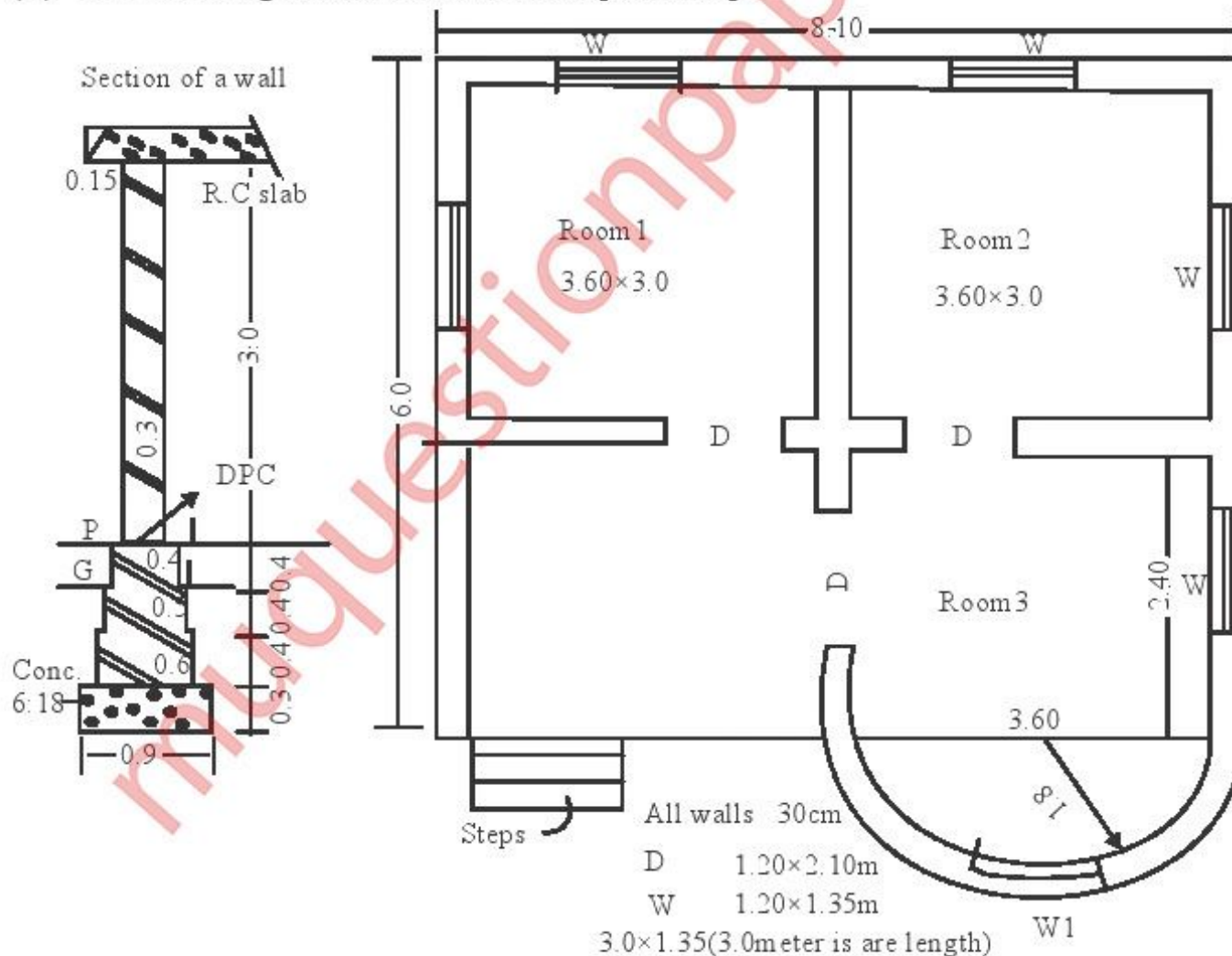


- N.B.:
- (1) Question No.01 is compulsory.
  - (2) Out of remaining questions, attempt any three questions.
  - (3) In all four questions to be attempted.
  - (4) All questions carry equal marks.
  - (5) Answer to each new question to be started on a fresh page.
  - (6) Figures in brackets on the right hand side indicate full marks.
  - (7) Assume Suitable data if necessary.

1. (a) Work out the quantities of below mentioned items of work from given plan and section provided in fig.
- |  |   |
|--|---|
| (i) 1 <sup>st</sup> Class BW in cement mortar 1:3 in foundation up to plinth | 5 |
| (ii) External plastering, 20 mm thick in CM (1:2) (including plinth steps)   | 5 |
| (iii) 150 mm thick DPC in cement concrete 1:1.5:3                            | 5 |
| (iv) R.C.C M 25 grade in slab, lintels and plinth steps.                     | 5 |



All dimensions are in meters in plan and section, No chajja is provided, Riser for plinth steps: 10 cm, Tread for plinth steps: 30 cm, Lintel bearing: 15cms on the load bearing walls, DPC is 100 mm thick, RCC slab is 100 mm thick, RCC slab projection beyond wall edge 150 mm, Width of plinth steps is 1.5 meters, Lintel thickness is 150 mm

2. (a) Perform rate analysis for internal plastering 15 mm thick in cement mortar 1:4 including scaffolding. 6  
 (b) Prepare the abstract sheet for quantities calculated in question number 1. 6  
 (c) Enumerate the different types of specifications for items of construction work? 8  
 Write the detailed specification for External plastering, 20 mm thick in C.M(1:4).
3. (a) Prepare approximate estimate for G+6 R.C.C residential building consisting of four flats per floor and each flat has a carpet area of 80 sq mt. Assume area occupied by walls and columns etc as 8.5 % of built up area and area of circulation as 25% of built up area. Assume cost of construction of superstructure as Rs 10,000/- per sq mt. Assume suitable percentages for services, contingencies and work establishment charges. 8  
 (b) What is an unbalanced tender? Explain BOT contract type? Explain void and voidable contract? What are the essentials of a valid contract? 12

4. (a) Draft a tender inviting notice for civil works of construction of flyover over express highway for an estimated amount of Rs 180 crores and project duration of 15 months. 8  
 (b) Work out the Earthwork quantities in embankment and cutting for the chainage length of 600 mtrs. 12  
 The particulars are:

Formation width = 20mts. Side slopes : in embankment = 2:1 (H:V) & in cutting = 1.5:1 (H:V)

There is no transverse slope.

Rising gradient of 1 : 250 upto 250 mt chainage

Rising gradient of 1 : 100 upto 600 mt chainage

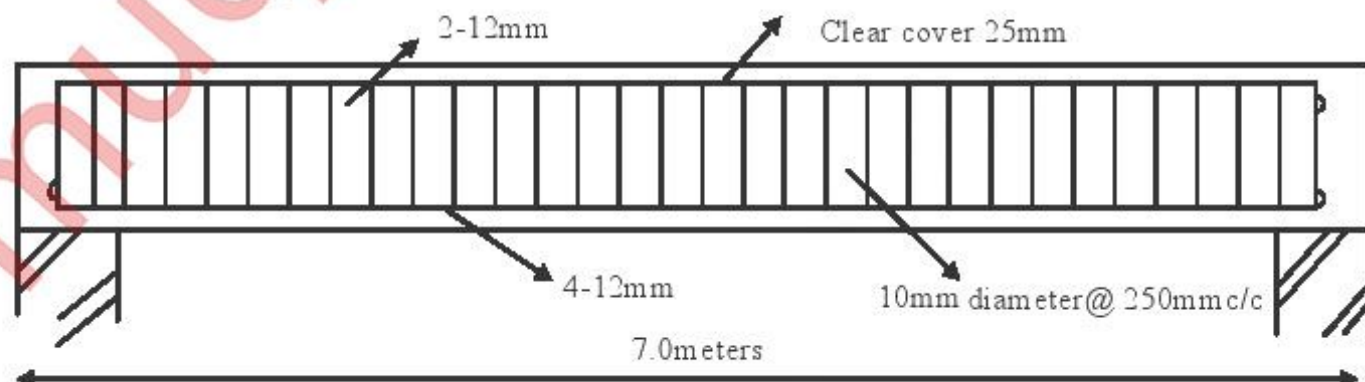
Meters Chainage	0	50	100	150	200	250	300
R.L of ground	152.0	152.35	152.6	152.80	153.0	152.65	152.2
R.L of Formation		151.6					

Meters Chainage	350	400	450	500	550	600
R.L of ground	151.50	151.20	150.55	150.35	150.50	150.75
R.L of Formation				155.40		

Estimate the cost of earthwork by considering existing District Schedule Rates.

5. (a) Work, out the quantity of steel in a 7.0 meter long simply supported beam of size 350 × 600 mm overall. Bottom bar: 4 – 12 mm diameter straight bars. Anchor bar: 2–12mm diameter straight bars, stirrups 10mm diameter @ 250 mm c/c throughout the length of the beam. Clear cover as 25 mm on all sides. 8



- (b) Explain the following 12
- (i) Liquidated damages for delay and un liquidated damages
  - (ii) Price escalation / variation clause
  - (iii) Contingencies and work establishment charges
  - (iv) Security deposit and Earnest money deposit
6. (a) A building newly constructed including services costs Rs 20 lacs over a plot of land costing Rs 7 lacs. 8  
Workout monthly standard rent per flat from the following data:-
- (i) Expected net return from building at 8.5 %
  - (ii) Expected net return from land at 5 %
  - (iii) Rate of interest on sinking fund: 4 %
  - (iv) Design life of building : 80 years
  - (v) Salvage value: 10% of the cost of building
  - (vi) Annual repairs and maintenance: 1/2 % of building cost
  - (vii) Taxes and other outgoings: 28.5 % of gross rent
- (b) Write short notes on the following (any four) 12
- (i) Specify the rules for deduction for openings as per IS 1200 for items of work as plastering to walls.
  - (ii) Explain lease hold property and free hold property.
  - (iii) Arbitration and Conciliation Act 1996.
  - (iv) Belting Method of valuation
  - (v) CBRI method of approximate estimate