17501

11920

4 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Attempt any <u>THREE</u> of the following:** **12**

(i) Enlist the different methods of approximate estimate.

(ii) Define estimating and costing? State any four purpose.

(iii) Draw the standard format of face sheet and abstract sheet.

(iv) The plinth area of proposed building is 400 sqm. The known cost of construction for similar structure is Rs. 19,35,000 having plinth are 225 sq.m. Calculate approximate cost of proposed building.

b) **Attempt any <u>ONE</u> of the following:** **6**

(i) State the mode of measurements for following items of works.

1) Honey combed brickwork

2) Dado

3) Brick work (10 mm) in partition wall

4) Collapsible gate (steel)

5) Railing

6) D.P.C.

P.T.O.

Marks

(ii) Explain the following terms

1) Provisional sum

2) Prime cost

3) Day work

2. Attempt any TWO of the following: **16**

a) Calculate the quantity of earth work required for the earthen dam by trapezoidal formula using following data.
Top width of embankment = 3m

R.L. of top = 105 m

Side slope of both side 2H : 1V

Chainage (m)	200	230	260	290	320	350
RL of ground (m)	100	98	97.5	95.2	96	97

b) Describe the procedure for preparing detailed estimate by using center line method.

c) (i) The cost of construction of college building is 3 crores for capacity of 600 students and area of construction about 2500 m^2. Prepare approximate estimate of a new proposed college building for 3500 students with the area 14000 m^2. Use service unit method.

(ii) Define

1) Contingencies

2) Work charge establishment

Marks

3. Attempt any FOUR of the following: **16**

a) State the rules of deduction for plastering as per IS 1200.

b) Define task work and state factors affecting task work.

c) Define rate analysis and state its purpose.

d) Give market rates of:

(i) Reinforcing steel

(ii) Coarse aggregate

(iii) Cement bag

(iv) Sand (local)

e) State any four advantages of using software / programs for estimating and costing.

4. a) Workout the quantities of following items (any THREE) of work from Figure No. 1 and enter them in standard measurement sheet. **12**

(i) Excavation in foundation

(ii) Internal plaster (1 : 4)

(iii) UCR masonary in foundation and plinth

(iv) Flooring

(v) 2.5 cm thk. DPC.

Marks

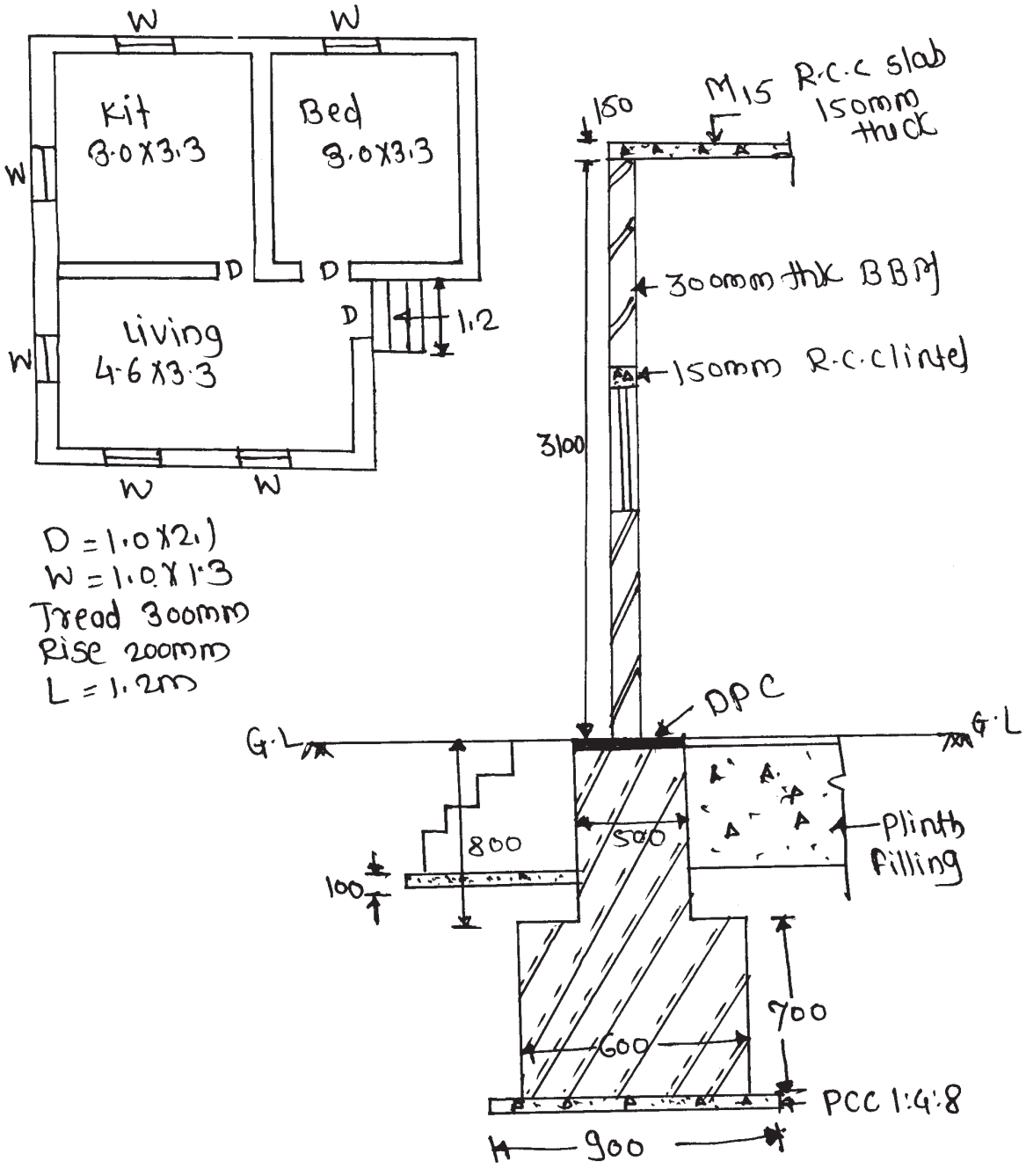


Fig. No. 1

Marks

b) **Attempt any ONE from following:** **6**

(i) Workout quantity of steel for a circular column with following data:

1) Diameter 600 mm, height 4500 mm

2) Main steel 8 bars, 12 mm dia (Tor)

3) Links 6 mm diameter, ms@125 c/c

(ii) Define rate analysis and explain the factors affecting rate analysis.

5. Attempt any TWO of the following: **16**

a) Prepare rate analysis for brickwork in superstructure in cm 1:6 for cu.m.

b) Prepare rate analysis for 60 m^3 cement concrete of proportion (1:2:4)

c) Workout quantity of following items for septic tank of size 1.80 × 5.40 m and height 2.0 m.

(i) Earthwork in excavation

(ii) PCC (1 : 3 : 6)

(iii) BB masonry in cm (1 : 6)

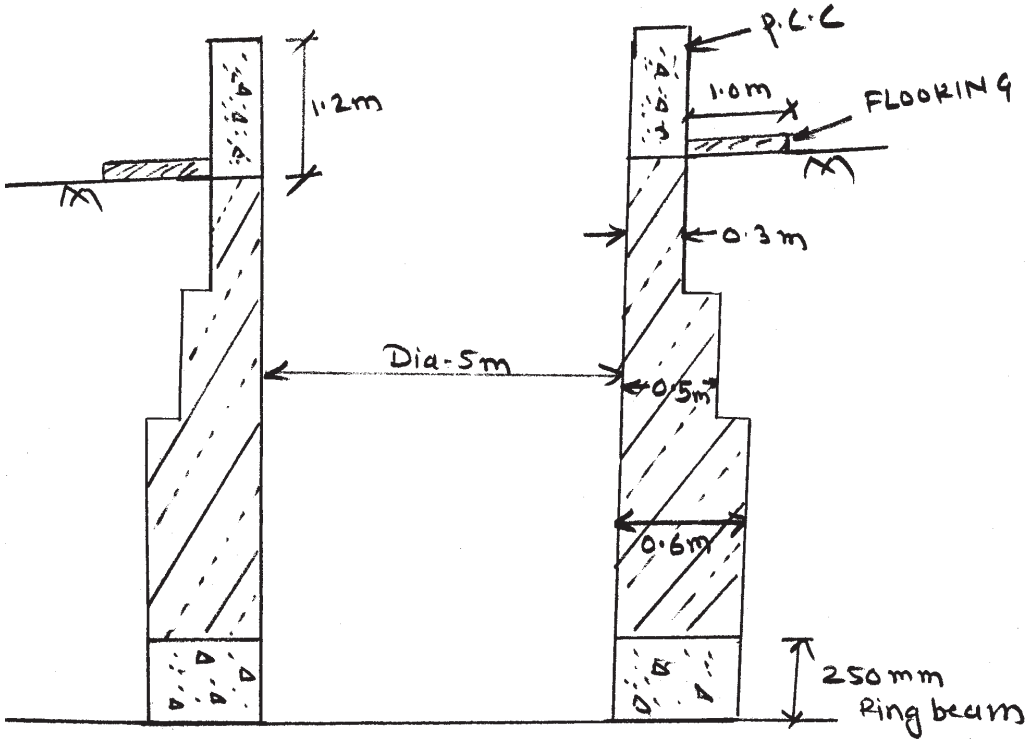
(iv) Slab on septic tank 75 mm thick.

Marks

6. Attempt any FOUR of the following: **16**

a) Explain in brief D.S.R.

b) Work out quantity of UCR foundation of community well (Refer Figure No. 2)



SECTION OF COMMUNITY WELL

Fig. No. 2

c) Workout quantity of flooring of community well. (Refer Figure No. 2)

d) Workout quantity of excavation of community well. (Refer Figure No. 2)

e) Workout quantity of R.C.C. ring beam of community well. (Refer Figure No. 2)