

314313

25226

4 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following :** **10**
- a) State the meaning of term estimating.
 - b) Give the units of measurements for
 - i) Dado
 - ii) Neeru plaster
 - iii) P.C.C.
 - iv) Barbed wire fencing.
 - c) Distinguish between unit quantity method and total quantity method.
 - d) Enlist the data required to prepare detailed estimate.
 - e) Define approximate estimate.
 - f) Define cost and value.
 - g) Explain the work-charge establishment.

P.T.O.

- 2. Attempt any THREE of the following : 12**
- a) Describe in brief revised and supplementary estimate.
 - b) The plinth area of a proposed building is 350 sq.m. The known cost of construction for similar structure is Rs. 19,35,000/- having plinth area 215 sq.m. Calculate approximate cost of proposed building.
 - c) Draw the format of Measurement sheet, Abstract sheet and Face sheet.
 - d) Explain center line method of taking out quantities.
- 3. Attempt any THREE of the following : 12**
- a) Describe the procedure for preparing approximate estimate of a water supply project.
 - b) Calculate quantity of materials for 10m³ P.C.C.
 - c) Prepare the rate analysis for 100 m³ Brick Masonry in cement mortar (1:3).
 - d) Differentiate with respect to four points Long wall Short wall method and centreline method of detailed estimates.
- 4. Attempt any THREE of the following : 12**
- a) What is bar bending schedule ? State any two advantages of preparing bar bending schedule.
 - b) Explain in brief straight line method and sinking fund method.
 - c) State any four methods for calculation of earth work for road. Explain any one method.
 - d) Explain the precautions to be taken while taking mortgage.
 - e) Enlist any four methods of calculation of depreciation and explain any one of them in detail.

5. Attempt any TWO of the following :**12**

- a) Prepare the rate analysis of 10m^3 R.C.C. work in C.C. (1:2:4)
- b) R.C.C. beam 300mm wide and 450mm deep and length 5000mm is reinforced with 4 no. of 12mm bar placed in one row, out of 4, 2 bars are straight and 2 bars are bent up respectively. In addition to this, 2 anchor bars of 10 mm diameter are provided at top. 6mm ϕ stirrups are provided at 150mm C/C. The over all cover provided to the beam is 25mm. Calculate the total quantity of steel and also prepare bar bending C schedule.
- c) Work out materials required for 40m^3 brick masonry in cement mortar 1:6.

6. Attempt any TWO of the following :**12**

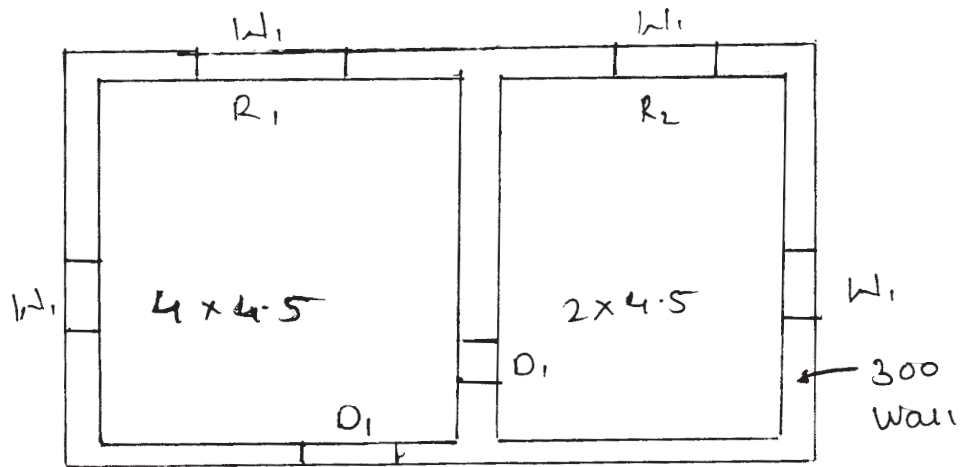
- a) Calculate the quantity of earth work required for the earthen dam by trapezoidal formula using following data Top width of embankment = 3 m.

RL of top = 105.00 m

Side slope on both side 2H : 1V

CH	200	230	260	290	320	350
RL of Ground	100	98	97.5	95.2	96	97

- b) A building is constructed in 1973 fetches a rent of Rs. 12000 per year. The life of building is estimated to be 80 years. The investment at 8% security and allowing redemption capital at 5%. Calculate the capitalized value of the property if outgoings are 30% of rent.
- c) Estimate the quantity for
 - i) Excavation in Hard Murum 1m wide
 - ii) External plastering
 - iii) Flooring for R_1 and R_2
 (Refer Figure No. 1)



1) $W_1 = 1.5 \times 1.2$

2) $D_1 = 1.2 \times 2.1$

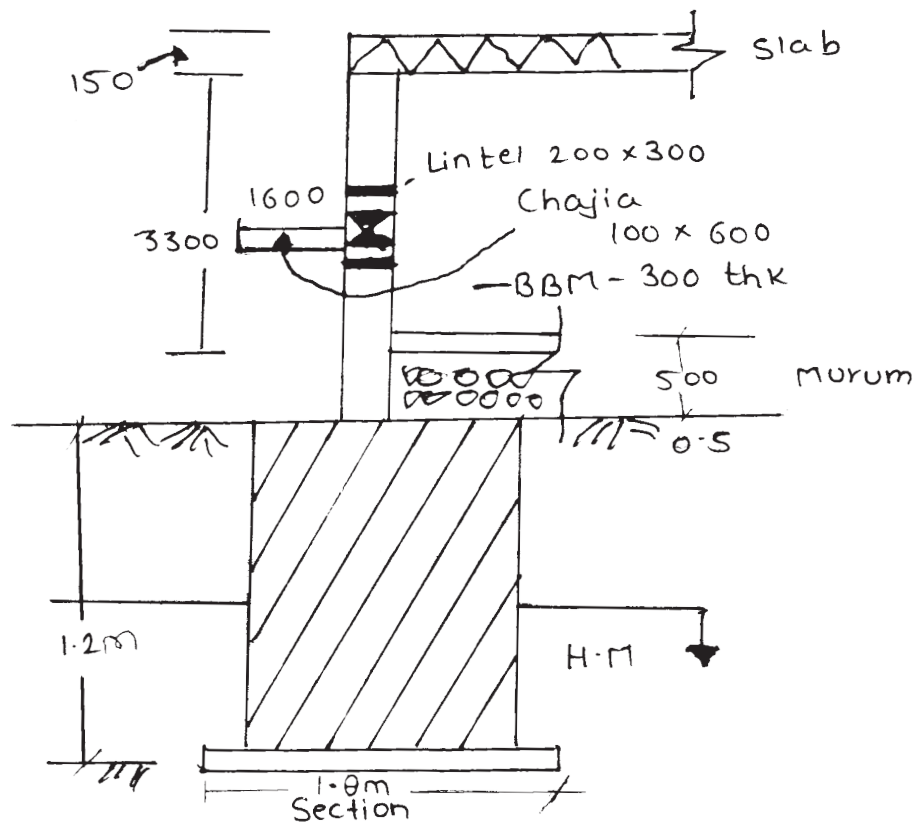


Fig. No. 1