

Code: CE7T3

IV B.Tech - I Semester – Regular Examinations – October - 2017

**ESTIMATION AND COSTING
(CIVIL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22

1.

- a) Mention the need for estimation.
- b) What are the objectives of preparing estimation of work?
- c) Tabulate formats of detailed estimate and abstract estimate separately.
- d) State the methods of preparing approximate estimates.
- e) What is standard data book?
- f) Write short notes on leads statement.
- g) What do you understand by standard schedule of rates?
- h) State the different methods of estimating steel for R.C.C work in a building.
- i) State the Trapezoidal rule and indicate its use.
- j) List the methods of valuation of the buildings.
- k) How is the rental value of the property determined?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Prepare a detailed estimate for C.C. 1:2:4 using 20 mm HBS for R.C.C. work for a building with the following data: 8 M
- i) Thickness of wall : 0.23 m
 - ii) Size and number of windows : 1.0 m x 1.5 m – 4 Numbers
 - iii) Size and number of doors : 1.0 m x 2.0 m – 2 Numbers
 - iv) Roof Slab : 6.0 m x 8.0 m with 100 mm thick.
- b) Explain in detail the different types of standard specifications used in building construction. 8 M
3. Prepare the detailed estimate for the following items of works from the given Figure-1 by using Long wall and Short wall method: 16 M
- i) P.C.C. (1:4:8) using 40 mm HBG metal for foundations.
 - ii) R.R. Masonry in CM (1:6) for foundation.
 - iii) R.C.C. (1:1.5:3) for lintels and R.C.C slab.

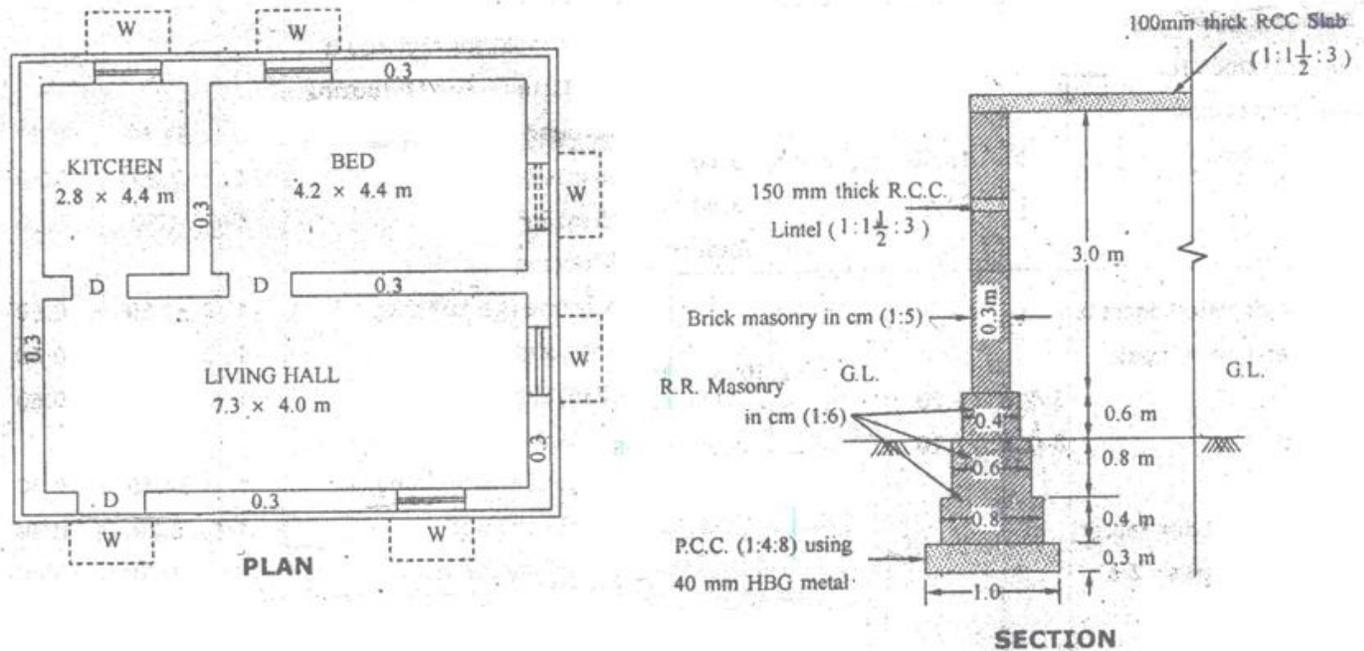


Figure: 1

4. a) Workout quantity of reinforcement for the R.C.C lintel.

The lintel is used for a clear span of 1.80 m and has bearing of 230 mm on the walls on either sides. The reinforcement details of lintel are: 8 M

i) 12 mm diameter main bars 2 Numbers straight and 2 numbers crank at $\frac{1}{5}^{\text{th}}$ of clear span.

ii) 10 mm diameter anchor bars 2 Numbers at top.

b) Find the lead in equivalent distance on metalled road for the following items: 8 M

i) HBG metal 20 mm size : 100 km MR+ 7 km CT

ii) Sand: 8 km MR + 4 km CT + 2 km ST

iii) Bricks: 8 km MR + 2 km CT.

5. a) Briefly discuss the various types of Contracts in detail.

8 M

b) A residential building was constructed 20 years back on a plot of area 223m^2 . The plinth area of building is 62m^2 . The present cost of construction of the building is Rs: 8,00,000.00. The cost of land is 500 per m^2 . The rate of depreciation of the building is 1%. Calculate the total value of the property.

8 M

6. a) The road has the following data:

8 M

Change in m	0	30	60	90	120	150	180	210	240
G.L. in m	30.80	31.25	31.85	32.25	33.00	33.65	34.50	34.85	35.5

The formation level at chainage zero is 32.00 m and having a rising gradient of 1 in 120. The top width is 10 m and the side slope 2:1. Assuming the transverse slope of the ground is level. Calculate the volume of earth work by using Prismoidal rule.

b) Explain in brief the various types of reports on estimates for the construction of roads.

8 M