

GANPAT UNIVERSITY

B. Tech. Semester: IV (CIVIL) Engineering

Regular Examination May – June -2014

2CI 604 ESTIMATING AND COSTING

Time: 3 Hours / As per Scheme

Total Marks: 70

- Instruction:** 1 Answer to the two sections must be written in **separate** answer books.
 2 Figures to the right indicate **full** marks.
 3 Assume suitable data if required.

Section - I

Que. – 1 Attempt the following question.

15

- A Reduced levels of Ground along the centre line of a proposed road from chainage 10 to chainage 20 are given below. The formation level at 10th chainage is 107 and the road is in downward gradient of 1 in 150 up to the chainage 15 and then the gradient changes to 1 in 100 downward. Formation width of road is 10 m and side slopes of banking are 2:1. Length of the chainage is 20m. Draw longitudinal section of the road and a typical cross section and prepare an estimate of earthwork at the rate of Rs. 375 per cum.

Chainage	Distance (m)	RL of Ground (m)	RL of Formation (m)
10	300	106.2	107
11	320	106.4	106.9
12	340	105.9	106.45
13	360	105.8	106.2
14	380	105.65	106
15	400	104.95	105.8
16	420	104.6	105.6
17	440	104.65	105.35
18	460	104.3	104.9
19	480	104.1	104.6
20	500	103.9	104.15

OR

- Que. – 1 A Define Estimation and Enlist Different Type of Estimate. Also Explain Enlist the need of Estimate. 5
- B Describe different Methods for finding out quantity of earth embankment. 5
- C Write down the Specification for the Brick Work Ist Class. 5
- Que. – 2 Analyze the Rates of Following Items. 20
- A 12 mm Plastering (1:6) (for 1Sq m)
- B Cement Concrete -1:1:2 (for 1cum)
- C Lime Concrete in Foundation with 40mm Gauge Brick Ballast (for 1cum)
- D Earth work in banking or in excavation in road or canal work in layer of 20 cm including ramming, dressing etc up to 30m lead and 1.5m lift (100 cum).

Que. - 2 Calculate the Detail Quantity of the following slab culvert as shown in fig-1

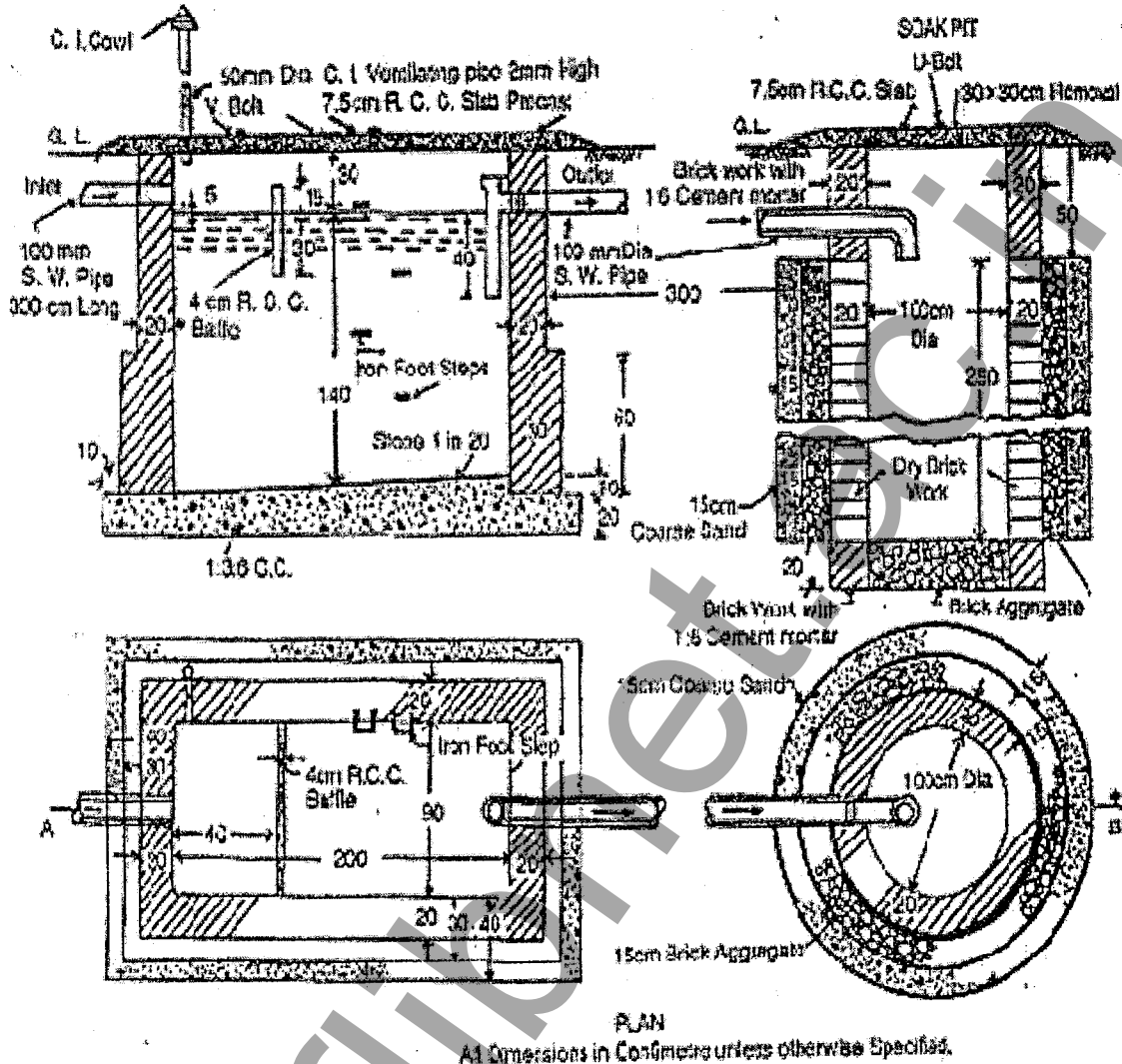


Fig-1

Prepare a Detailed estimate of a septic tank with Soak pit for 25 users from the given Drawings, Fig-1. Septic tank shall be first class brickwork 1:4 cement mortar the foundation and floor shall be of 1:3:6 cement concrete. Inside of septic tank shall be finished with 12 mm cement plaster and floor shall be finished with 20 mm cement plaster with 1:3 mortar mixed with standard water proofing compound. Upper and lower portion of soak pit shall be of second class brickwork in 1:6 cement mortar and middle portion shall be of dry brickwork. Roof covering slab and baffle wall shall be precast R.C.C. the length of the connecting pipe from latrin seat may be taken as 3 metres. Assume suitable Rates.

Section – II

Que. – 3

Prepare an estimate in quantity sheet and abstract sheet format of the following items of residential building as shown in (Fig-2) 15

1. Excavation for the foundation.
2. PCC in foundation (1:4:8)
3. Marble Flooring in all rooms
4. White Washing inside.

OR

Que. – 3

Prepare an estimate in quantity sheet and abstract sheet format of the following items of residential building as shown in (Fig-2). 15

1. Excavation for the foundation.
2. First class brick work.
3. Plastering inside and outside.

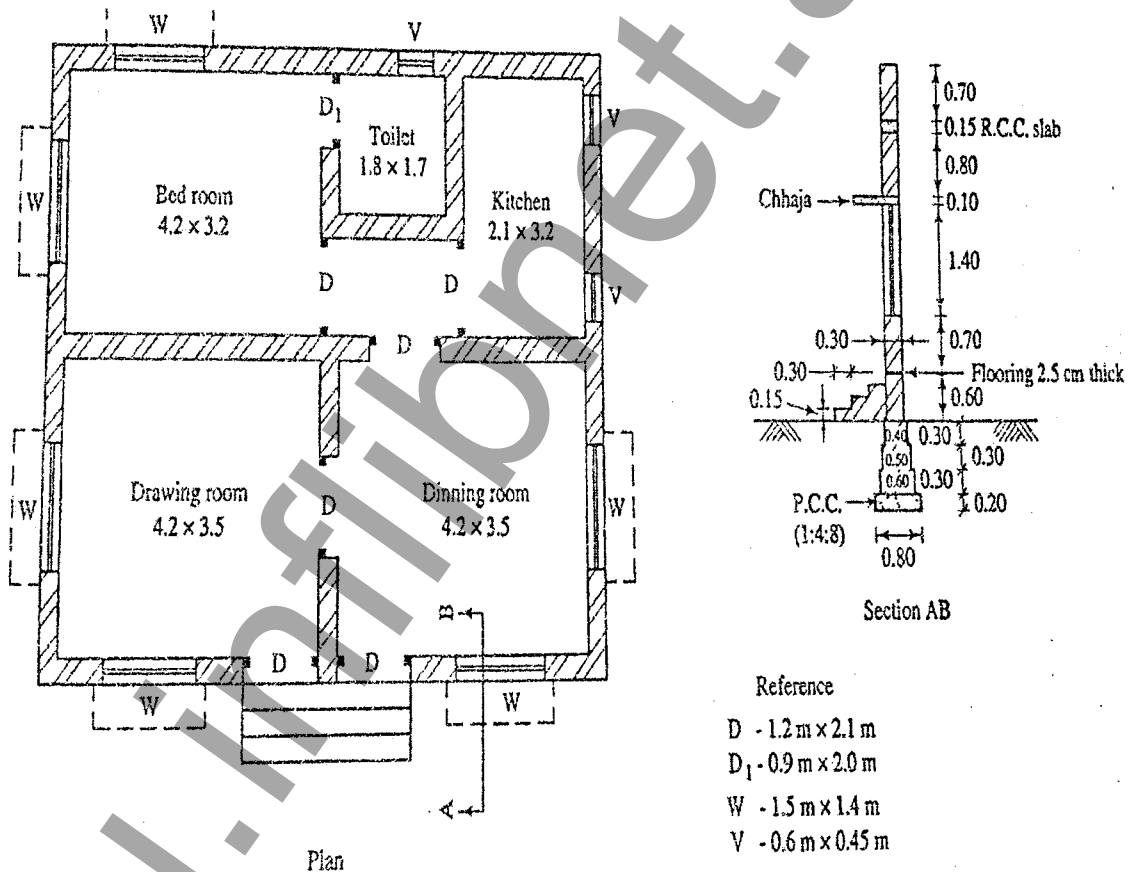


Fig-2

Que. – 4

Prepare a detailed estimate with abstract sheet of RCC column with footing as shown in figure:3 (see on page no 5) 10

1. Earth work in excavation
2. Reinforced Cement Concrete (1:1.5:3)
3. Steel Reinforcing bars including bending.

Que. - 5

Prepare a Detailed estimate in quantity sheet and abstract sheet format of RCC Slab in proportion 1: 1.5: 3 as shown (fig-4). For a room of size 3.0 m X 4.0 m With following assumption: 10

- Top and bottom cover of 20 mm
- Side cover is of 50 mm
- Alternate bar of main steel is bent-up.
- Hook is provided on both ends.
- 12 mm Bars are provided as the main bars.

1. Cement Concrete
2. Steel quantities
3. Schedule of bars in RCC Slab.

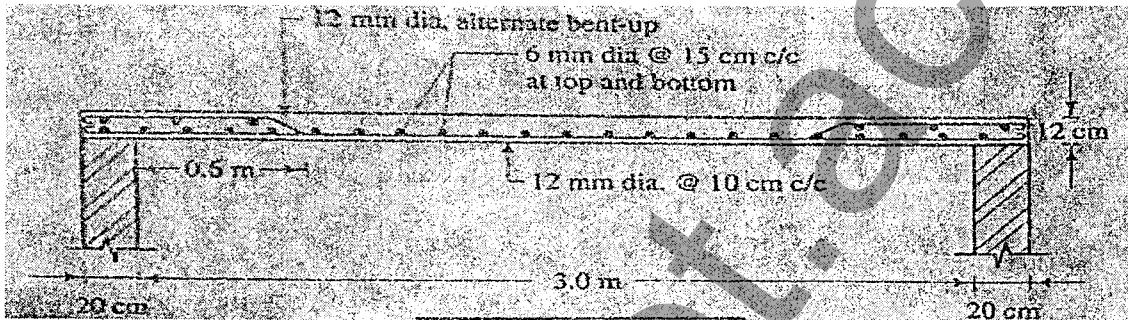


Fig-4

END OF PAPER

R.C.C. COLUMN AND FOOTING

Weight of steel

8 mm ϕ = 0.39 kg/m

12 mm ϕ = 0.89 kg/m

16 mm ϕ = 1.58 kg/m

