Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: VI (CIVIL) Engineering

Regular Examination April – June 2015

Subject Name with Code: 2CI604-ESTIMATING & COSTING

Time: 3 Hours **Total Marks: 70**

Instruction: 1. Assume Suitable Data, if necessary.
2. Figure to the Right indicates Full Marks.

Section - I

Que. – 1 (A) Calculate the Cement & Sand required for 10 m^2 of 12mm plaster work (1:4). 4

(B) Write Rate Analysis of following items: 8
1) 1st Class Brickwork in Cement Mortar (1:6) for Superstructure for 10m^3.
2) BBCC (1:4:8) in foundation for 10m^3.

OR

Que. – 1 (A) Calculate Cement & Coarse aggregate required for 10 m^3 concrete work (1:2:4). 4

(B) Write Rate Analysis of following items: 8
1) 12mm thick cement plaster in Cement Mortar (1:3) on wall for 100m^2
2) Sand filling in trenches and plinth.

Que. – 2 (A) Using LW and SW method, Estimate the Quantities for following item of work for a Building shown in **Fig.1.** 8
1) Excavation in foundation.
2) Brickwork in foundation below G.L.

(B) Prepare an Abstract Sheet for Quantities mentioned in above said Que-2 (A). 3

OR

Que. – 2 (A) Using LW and SW method, Estimate the Quantities for following item of work for a Building shown in **Fig.1.** 8
1) 2.5cm thick flooring at plinth
2) Earth filling in foundation.

(B) Prepare an Abstract Sheet for Quantities mentioned in above said Que-2 OR (A). 3

Que. – 3 Estimates the following Quantities For RCC Beam shown in **Fig.2**: 12
1) Cement Bags, Sand and Coarse Aggregates (1:1.5:3).
2) Bar Bending Schedule

Section – II

Que. – 4 (A) Estimates the quantities of Brickwork & Plastering required in 4m long, 3m high & 30cm thick wall. Also Calculate the cost if the rate of brickwork is 320 Rs/m^3 & of plastering is Rs. 9 /m^2 4

(B) Prepare detailed estimate and L-section for earthwork for a portion of a road from the following data. RL of formation 115m. Upward gradient 1 in 200 up to 600m and downward gradient 1 in 400 for remaining length..Formation width of a road is 10 m, side slope 2:1 in banking and 1.5:1 in cutting. Adopt suitable rates. 8

Distance (m)	0	100	200	300	400	500	600
RL of Ground (m)	114	114.2	114.9	115.1	116.1	117.2	118

Distance (m)	700	800	900	1000	1100	1200
RL of Ground (m)	118.2	118.1	117.8	117.75	117.9	117.5

OR

Que. – 4 (A) Write down rules for deduction in plastering work. 4

(B) Prepare a detailed estimate of a R.C.C Retaining wall of 40 meters in length whose cross section is given in **Fig.3**. Steel bars in reinforcement shall have to be taken separately. Assume suitable rates. 8

Que. – 5 (A) Work out detailed specification for the following item of work: 8
1) Brick masonry in Cement Mortar (1:6).
2) Ashlar Masonry

(B) Write down quality of good estimator. 3

OR

Que. – 5 (A) Work out detailed specification for the following item of work: 8
1) White washing
2) Door & Window

(B) Explain Approximate Estimate. 3

Que. – 6 Prepare the detailed estimate of a Septic Tank with Sock-pit for 25 users from the given drawings Fig.4. Septic tank shall be of first class brickwork in 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 sock-pit shall be of second class brickwork in 1:6 cement mortar and middle portion shall be of dry brickwork. Roof covering slabs and baffle wall shall be of precast R.C.C. The length of the connecting pipe from latrine seat may be taken as 3 m. Assume suitable rates. 12

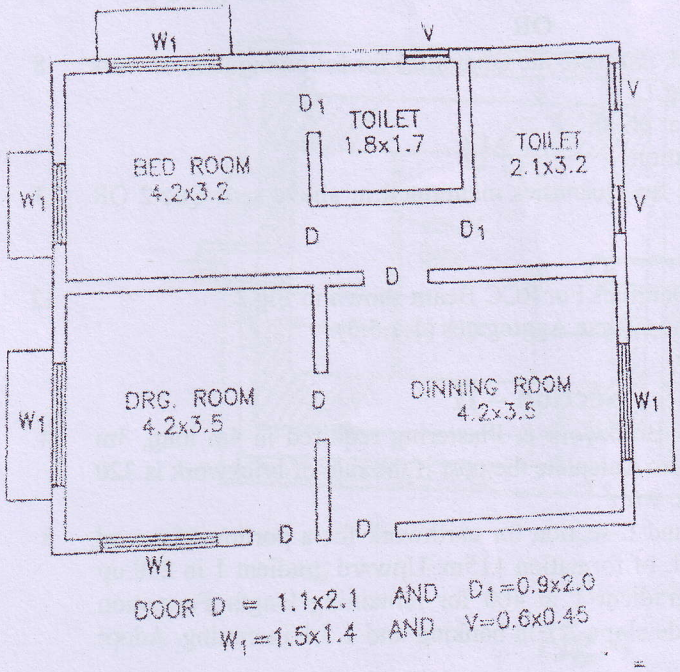
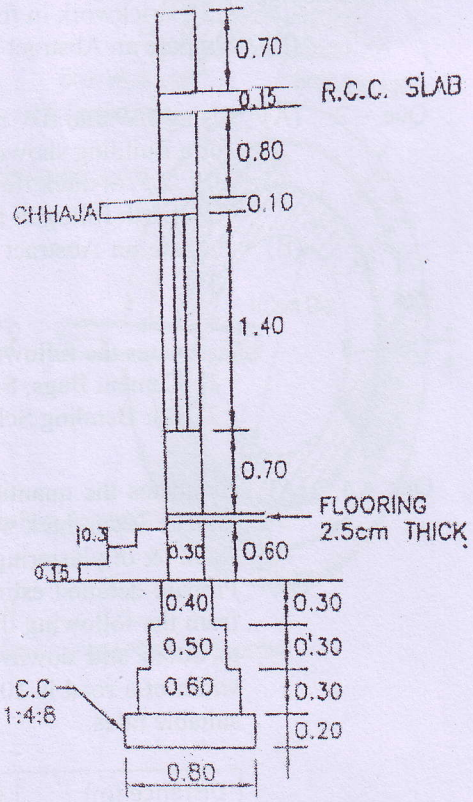
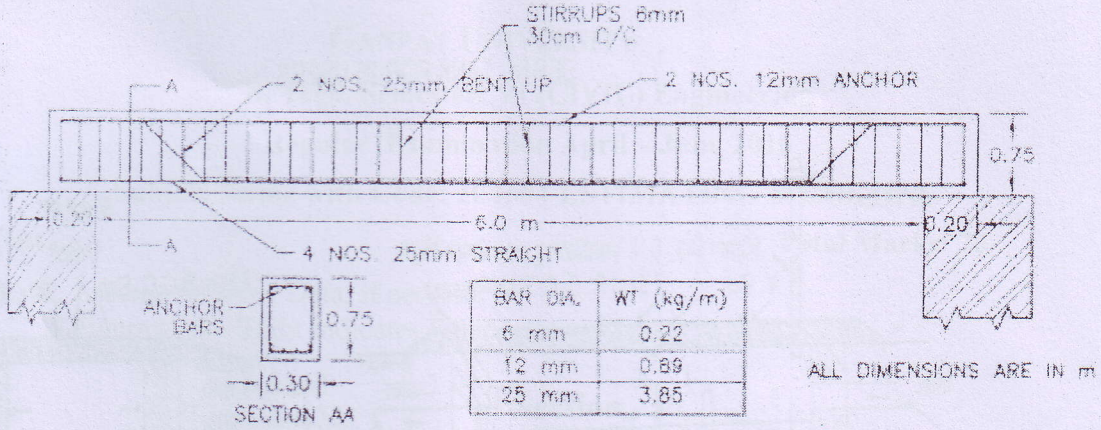


Fig.1





BAR DIA.	WT (kg/m)
6 mm	0.22
12 mm	0.89
25 mm	3.85

Fig.2

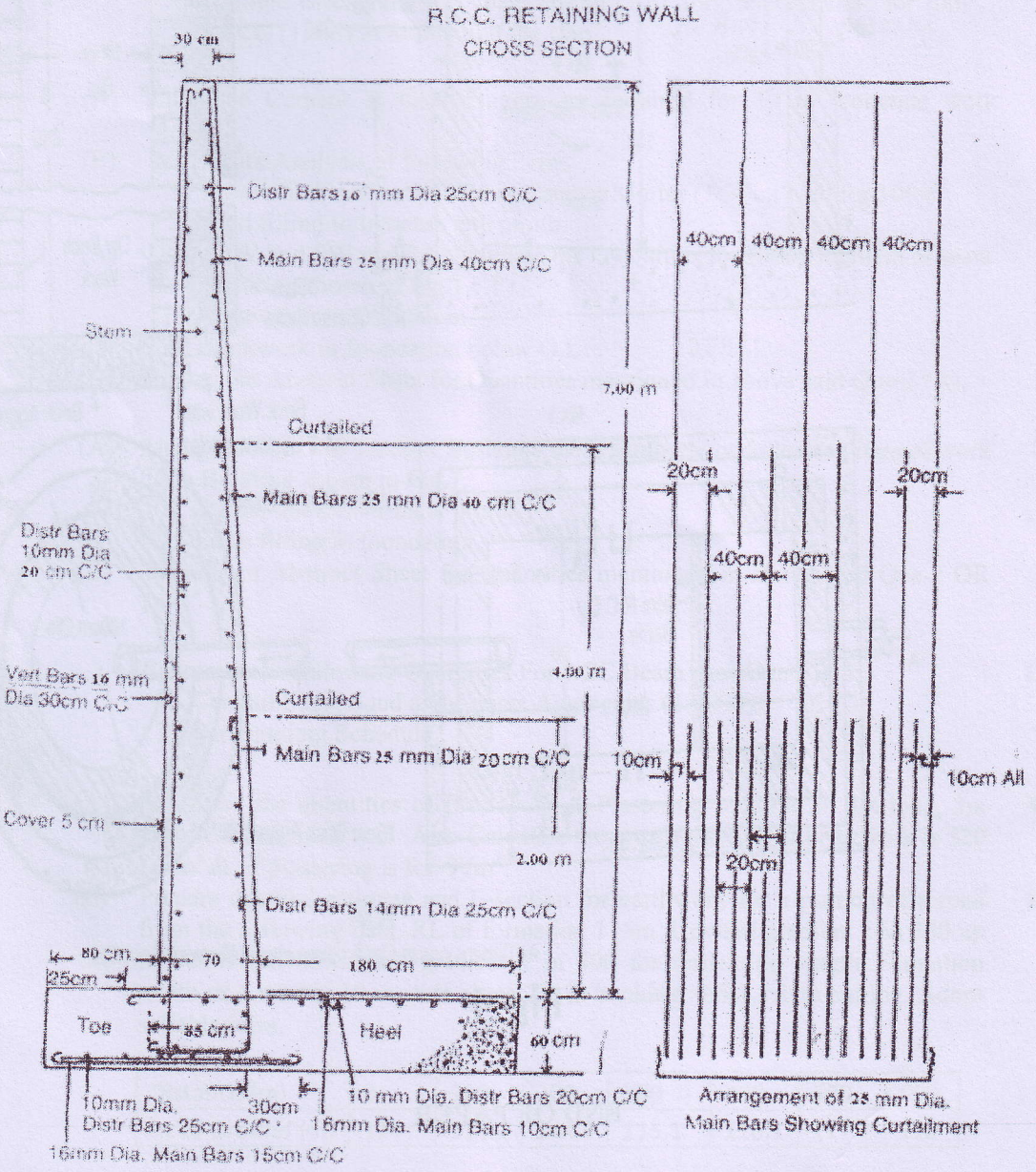
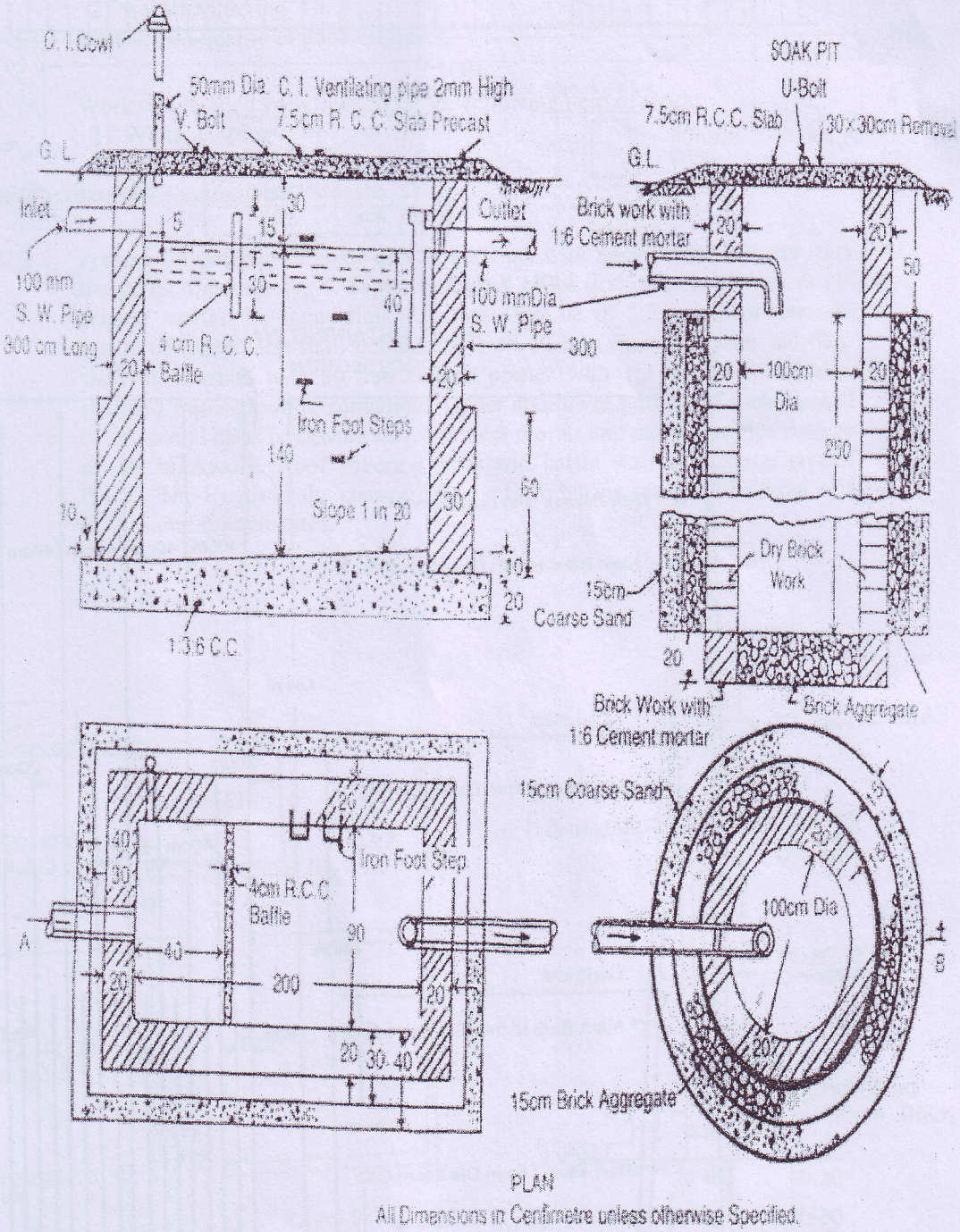


Fig. 3

SEPTIC TANK FOR 25 USERS



PLAN

All Dimensions in Centimetre unless otherwise Specified.

Fig.4

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