

R16

Code No: 137CN

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech IV Year I Semester Examinations, December - 2019

ESTIMATION, QUANTITY SURVEYING AND VALUATION

(Civil Engineering)

Time: 3 Hours

Max.Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

- 1.a) Explain about items of work (i) Earthwork and (ii) Damp proof course. [2]
- b) What is an approximate estimate? Write its limitations [3]
- c) Explain about trapezoidal rule? [2]
- d) Explain about partially cutting and partially filling and also their Area calculation in earthwork estimation? Draw the figure? [3]
- e) What do you mean by RMC and how many cum it contains? [2]
- f) Describe the procedure for the calculation of rate per unit cum of RR stone masonry in foundation and plinth [3]
- g) Draw the figure of cranked bar. [2]
- h) Define conditions of contract and mention their object and importance. [3]
- i) What are the main purposes of valuation? List out the methods? [2]
- j) Write shorts notes on Book value and Monopoly value. [3]

PART-B

(50 Marks)

- 2.a) Estimate the quantities of the following items using any of the method
 - i) Earthwork in Excavation in foundation
 - ii) Lime Concrete in foundation
 - iii) 1st Class Brick work in cement mortar 1:6 in foundation & plinth.
 - iv) 2.5 cm c.c damp proof course
 - v) 1st class brickwork in lime mortar in super structure.

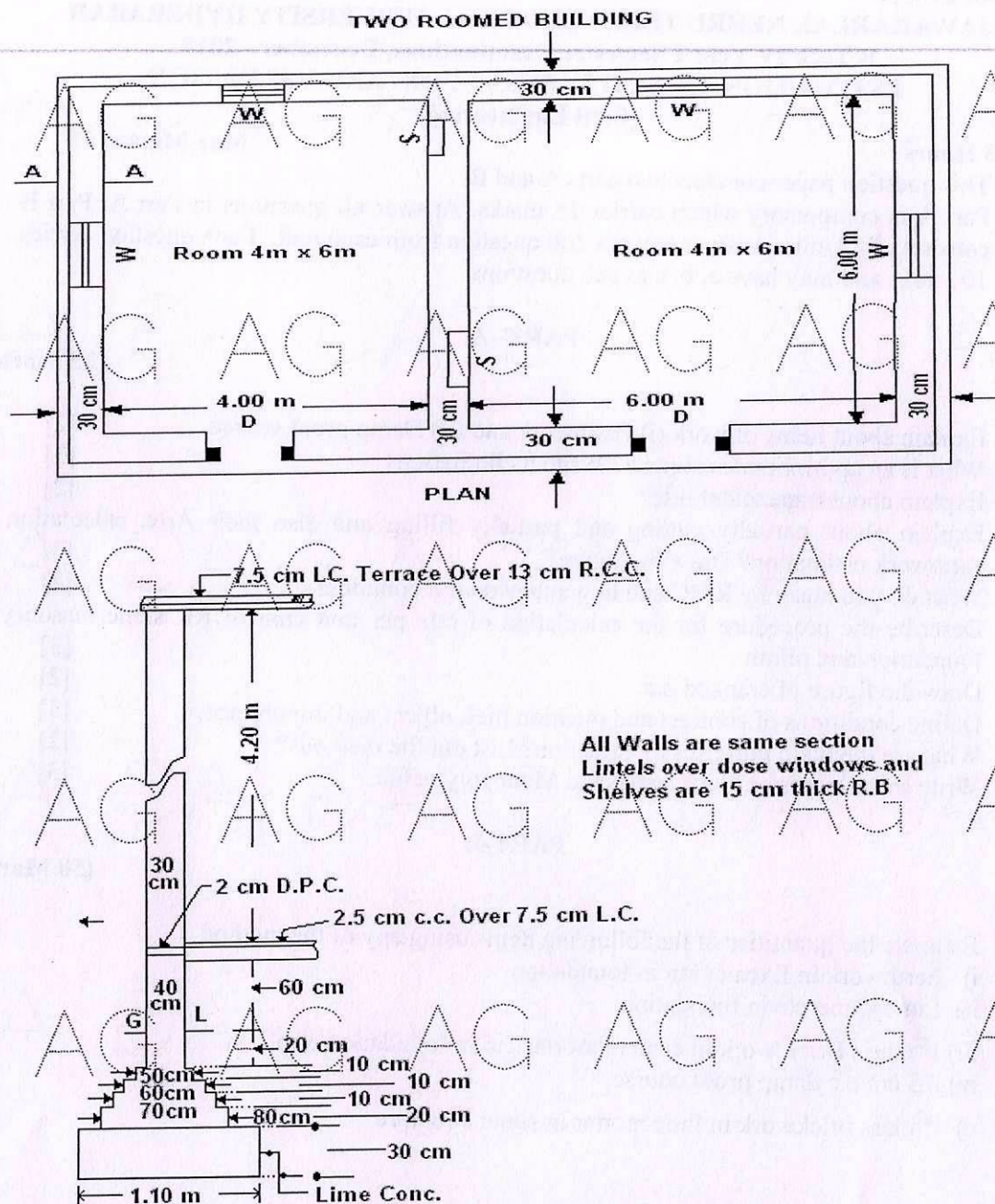


Fig: Plan and fectional details of a two romed buildings.

b) What do you mean by detailed estimate and abstract estimate?

[10]

OR

3.a) Estimate the quantities of the following items using Centre line Method

- i) Earthwork in Excavation in foundation
- ii) Lime Concrete in foundation
- iii) 1st Class Brick work in cement mortar 1:6 in foundation & plinth.
- iv) 2.5 cm c.c damp proof course
- v) 1st class brickwork in lime mortar in super structure.

b) Explain about long wall and short wall method.

[10]

4. The formation width of a road embankment is 9.0m. The side slopes are 2.5:1. The depths along the center line of road at 50.0m intervals are 1.2, 1.1, 1.4, 1.2, 0.9, 1.5 and 1.0m. It is required to calculate the quantity of earthwork by
- Prismoidal rule.
 - Trapezoidal rule.

[10]

OR

5. Estimate the cost of earthwork for a portion of a road from the following data: by using "Mean Sectional Area Method". Road width at the formation surface is 8m. Side slopes 2:1 in banking and 1.5:1 in cutting. Length of chain is 30m. Formation Level is 70.0 at 20th chainage.

Chainage	20	21	22	23	24	25	26	27	28	29	30
Ground Level	71.20	71.25	70.90	71.25	70.80	70.45	70.20	70.35	69.10	69.45	69.70
Upward Gradient	1 in 200										

The rates of earthwork as Rs. 275 per % Cum in banking and Rs. 350 per % Cum in cutting.

[10]

- 6.a) Calculate rate per unit cum of RCC work in Beams, (1:1:2) excluding steel but including centering and shuttering
- b) What are the requirements of rate analysis?
7. Analyse the rates of white washing with lime on new work and white washing with lime on old work to give and even shade. Assume the data required.

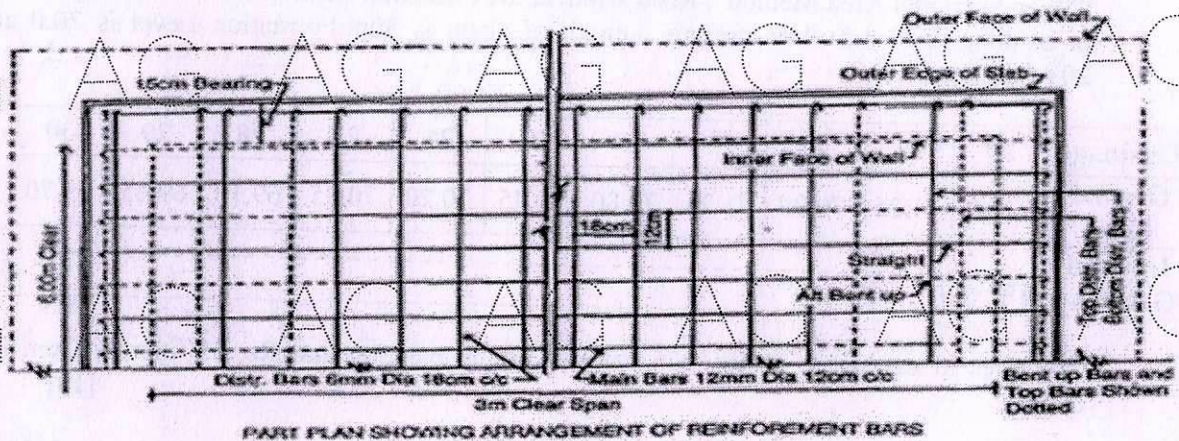
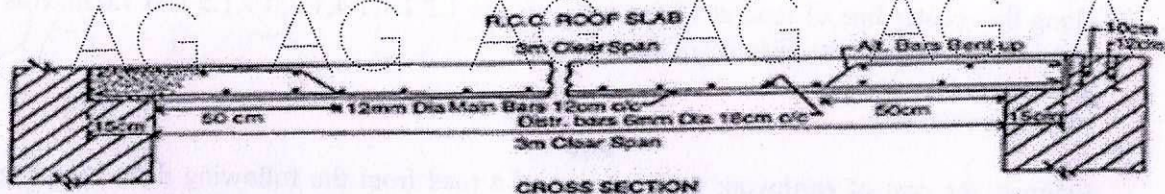
[10]

OR

8. Prepare a detailed estimate of a RCC roof slab of 3m clear span and 6m long from the given drawings. RCC work including shuttering and centering and steel reinforcement in detail shall be taken separately. Also, prepare a schedule of bars. Take cost of RCC work excluding steel and its bending but including centering and shuttering and binding of steel = Rs.800/- per cu.m, and cost of steel bars (mild steel) including its bending = Rs.700/- per quintal.

[10]

(CO4)



OR

- 9.a) Draw the sketch of the steel bars and derive the additional length in two cases - one bent up of 45° cranked bar and one bent up of 30° cranked bar. [10]

- b) Write short note on (i) Contract (ii) Earnest Money Deposit.

- 10.a) A colonizer intends to purchase a land of 100,000 sq m area located in the suburb of a big city to develop it into plots of 700 sq.m each after providing necessary roads and parks and other amenities. The current sale price of small plots in the Neighborhood is Rs.25.00 persq.m. The colonizer wants a net profit of 25%. Work out the maximum price of the land at which the colonizer may purchase the land. [10]

- b) Explain any one method of valuation of buildings.

OR

- 11.a) Differentiate between the following

i) Drawings and specifications

ii) Brief specifications and detailed specifications

- b) List and explain standard specifications of a first class building. [10]

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