

BACHELOR OF ARCHITECTURE THIRD YEAR SECOND SEMESTER - 2018

SUBJECT: Quantity Surveying & Specifications

Time: Three Hours

Full marks: 100

SECTION- I - 40 Marks

Question no. 1 is COMPULSORY. Please answer any TWO from the rest.

1. Write specifications for the following materials and item of works on the following (any FOUR):
(4 X 5 = 20)
 - a) Cement
 - b) Sand
 - c) Earthwork in filling
 - d) Earthwork in excavation of foundation trenches
 - e) Lime
 - f) First-class Bricks

2. What do you mean by 'Detailed Estimate'? What are the factors that need to be considered during preparation of 'Detailed Estimate'? (5 + 5 = 10)

3. What do you understand by 'Open or Manufacturers Specifications'? State the advantages and disadvantages of such kind of specifications. (5 + 5 = 10)

4. State the purpose of 'Rate Analysis'? Name and define the two types of 'Overhead or Establishment Charges'? (5 + 5 = 10)

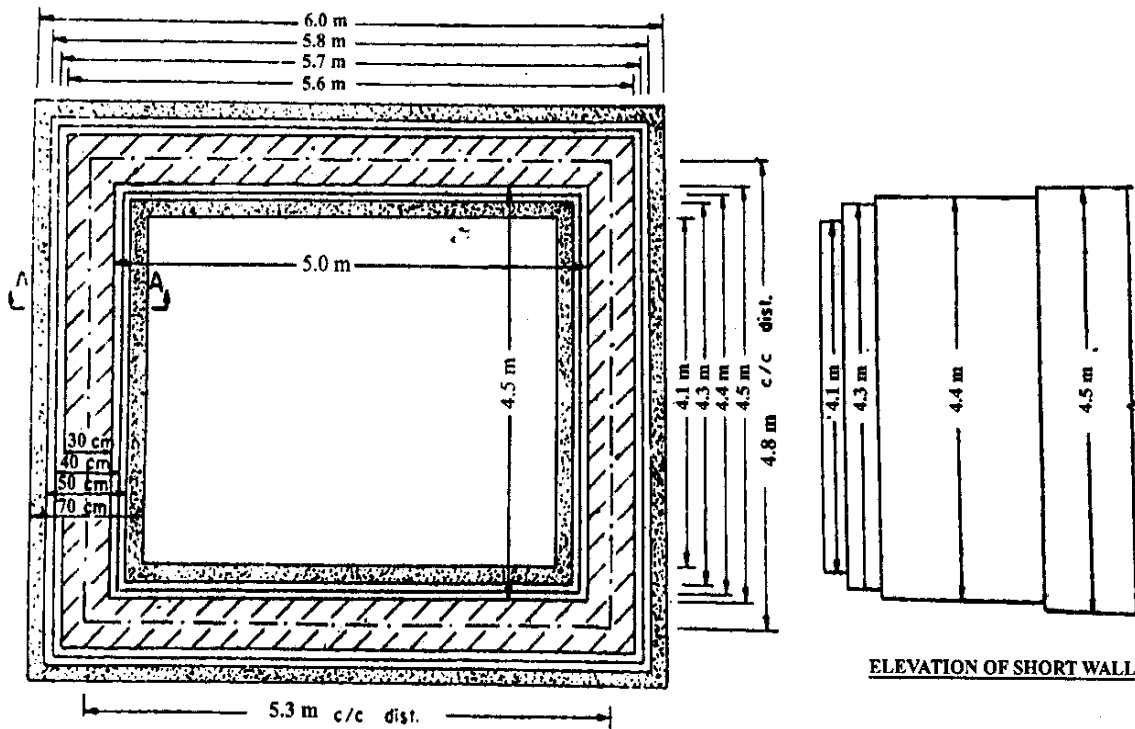
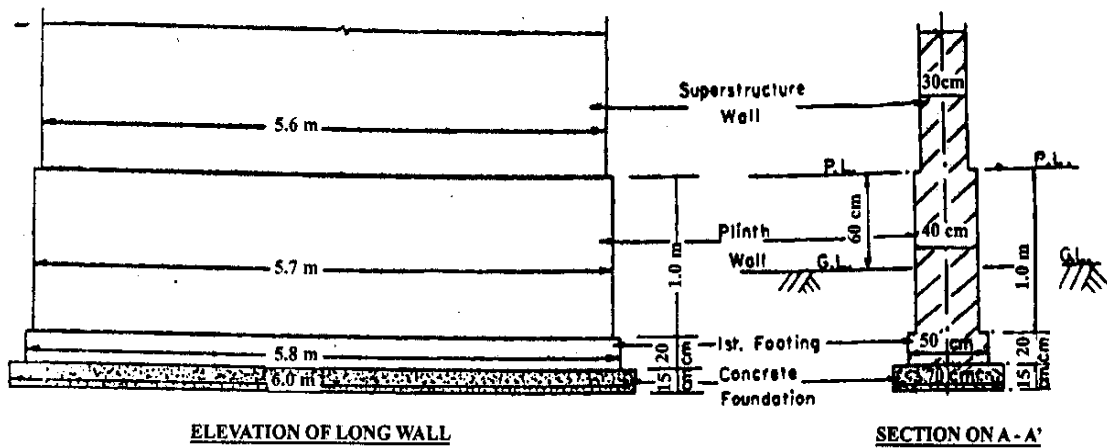
SECTION – II - 60 Marks

All quantities to be provided in BOQ format.

1. From the drawings provided below determine the estimate of quantities of:
 - a. Earthwork in excavation in foundation
 - b. Lime concrete in foundation
 - c. Brickwork in foundation and plinth

Use both 'Centre line method' & 'Long and short method' for deriving the estimates.

(20 marks)



PLAN OF FOUNDATION & FOOTING AFTER REMOVING EARTH

2. In a certain locality, the cost of construction of a 100 sqm plinth area building costs Rs. 2,75,000. The height of the building from ground level to the top of roof is 3.5m and the height of a parapet wall on the terrace is 90 cm.
Now, find the cost of similar building of plinth area equal to 150 sqm to be constructed in the same locality by both 'plinth area rate' and 'volume rate'.

(10 marks)

3. Draw a preliminary estimate for a framed three storied office building having carpet area of 400sqm, for each floor. Assume areas occupied by corridor, verandah, lavatories, staircase etc. as 25% of built up area and that occupied by walls and columns as 8.5% of the same.

Take into consideration,

- i) Built up rate for ground floor (excluding foundation) = Rs. 1200 per sqm.
- ii) Built up rate for 1st & 2nd floor = Rs. 1500 per sqm.
- iii) Extra for foundation = 15% of superstructure cost
- iv) Extra for special Architectural treatment = 2% of building cost
- v) Extra for Water supply & Sanitation = 7% of building cost
- vi) Extra for Electrical installation = 12% of building cost
- vii) Extra for contingencies = 6% of total cost
- viii) Extra for work charged establishment = 5% of total cost

(10 marks)

4. Estimate the cost of an underground masonry tank from the given drawings and its specifications. Calculate using both 'Centre line method' & 'Long and short wall method'.

The general specifications provided are:-

Foundation – Cement concrete (1:2:4)

Masonry – 1st class brickwork in cement mortar (1:4)

Flooring – 2.5 cm thick artificial stone, i.e. cement concrete (1:2:4) with 16mm down stone chips

Floor and wall finishing (inside) – 20 mm cement plaster (1:3) finished smooth with neat cement

Top and outside up to 20cm below G.L. – 12 mm cement plaster (1:4)

Local rates given are:

Earthwork in excavation = Rs. 1400

BFS = Rs. 50

CC in foundation = Rs. 1650

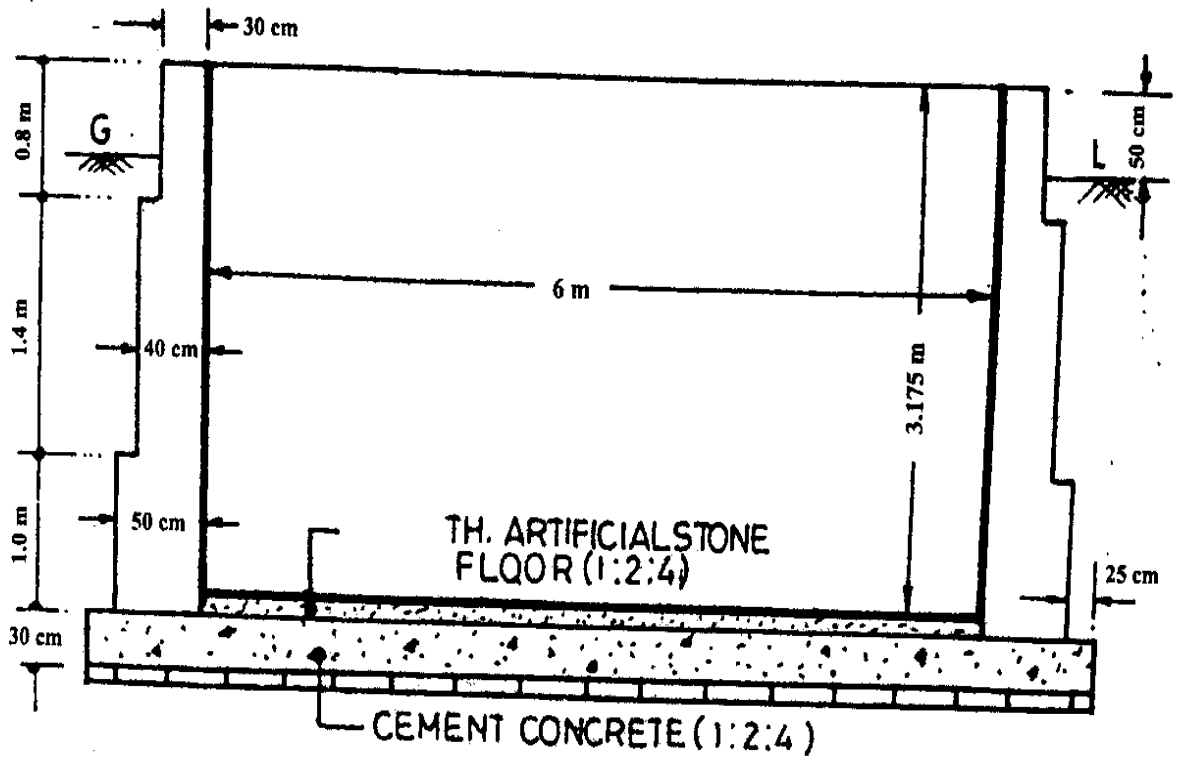
1st class brickwork in cement mortar = Rs. 1250

2.5 cm thick artificial stone = Rs. 65

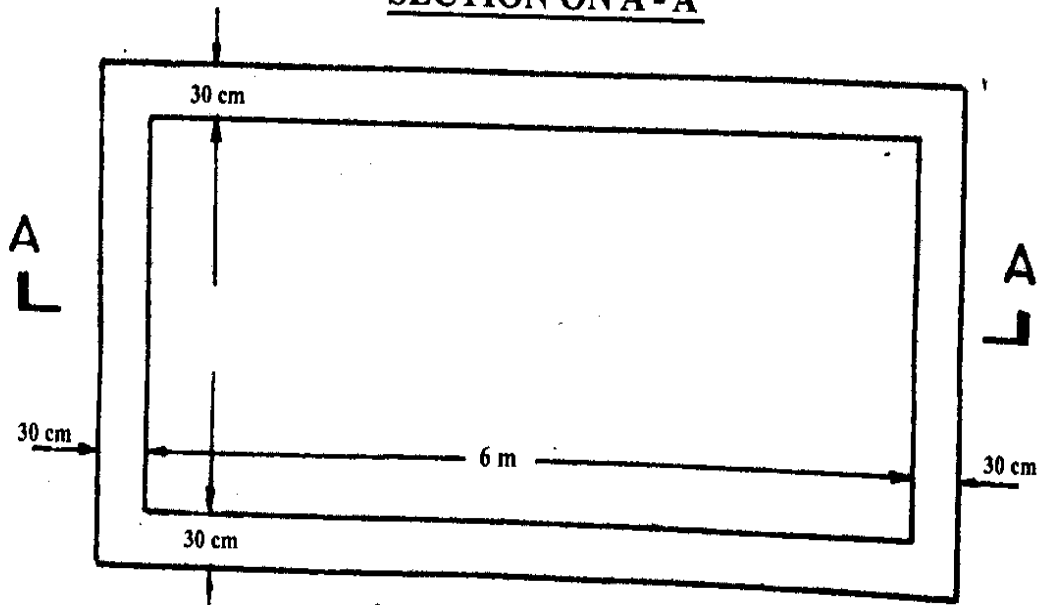
20 mm thick cement plaster = Rs. 40

12 mm thick cement plaster = Rs. 25

(20 marks)



SECTION ON A - A'



PLAN