

Estimation & Costing (DI04006021)

Lecture 17: Total Quantity Method: Numericals

Numerical Problem 1

Problem Statement

Calculate the total cost of a room $4m \times 3m$ (internal) with wall thickness 0.3m. Height of wall is 3m. Rates: Brickwork = Rs 4000/ m^3 , Plastering = Rs 200/ m^2 .

Solution:

Total perimeter of wall (centre line) =
 $2 \times [(4 + 0.3) + (3 + 0.3)] = 2 \times [4.3 + 3.3] = 15.2 \text{ m.}$

1. Brickwork Quantity:

$$V = L \times B \times H = 15.2 \times 0.3 \times 3 = 13.68m^3.$$

Cost of Brickwork = $13.68 \times 4000 = \text{Rs } 54,720.$

Numerical Problem 1 (Contd.)

2. Plastering Quantity (Inside + Outside):

Inside perimeter = $2 \times (4 + 3) = 14$ m.

Outside perimeter = $2 \times (4.6 + 3.6) = 16.4$ m.

Total length for plaster = $14 + 16.4 = 30.4$ m.

Area of Plaster = $L \times H = 30.4 \times 3 = 91.2m^2$.

Cost of Plastering = $91.2 \times 200 = \text{Rs } 18,240$.

Total Cost

Total Cost = Cost of Brickwork + Cost of Plaster
 $= 54,720 + 18,240 = \text{Rs } 72,960$.

Comparison Diagram

