

# QUANTITY SURVEY AND VALUATION

## Unit IV

### Rate Analysis

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- The first cost (cost at origin),
- Cost of transport , railway freight (if any), etc. Local taxes and other charges.

- **LEAD STATEMENT**

- The distance between the source of availability of material and
- construction site is known as "Lead " and is expected in Km.
- The cost of conveyance of material depends on lead.
- This statement is required when a material is transported from a distant place, more than 8kms (5 miles).

Material Estimation:

Components of Rate Analysis

Materials Labor Equipment Transportation Water charges Overheads

Contractor's profit

## Rate Analysis of Cement Concrete (CC) Bed (1:4:8)

- **Materials Required (Approx.)**
- MaterialQuantityCement4.4 bagsSand0.44 m<sup>3</sup>40 mm Aggregate0.88 m<sup>3</sup>WaterAs required
- **Labour Required**
- Mason – 0.30 day
- Mazdoor (Helpers) – 3.00 days
- Bhisti (Waterman) – 0.30 day
- Mixer operator (if machine mixing) – As required
- **Cost Components**
- Material Cost
- Labour Cost
- Mixer & Vibrator Charges
- Water Charges
- Transportation
- Overheads (2–5%)
- Contractor's Profit (10%)

# Rate Analysis of Brick Work

- **Materials**

- MaterialQuantityBricks500 NosCement1.6 BagsSand0.34 m<sup>3</sup>

- **Step 2: Labour**

- LabourQuantityMason1 DayMazdoor2 DaysHelper1 DayBhisti

■ Care must be taken, while taking dimensions from the drawings in the bill of quantities because the walls in this part of the structure are in the form of steps with changing dimensions.

■ **This item is calculated in cft and the unit for payment is Rs. per 100 cft.**

■ In the description of work, the quality of bricks and mortar ratio must be specified. For example,  
**"Brickwork in foundation and plinth using first class bricks laid in (1:4) or (1:6) cement-sand (c/s) mortar"**

# Rate Analysis of Cement Plastering (12 mm Thick, Cement Mortar 1:6)

- **Materials Required (Approx.)**

- MaterialQuantityCement2.2 BagsSand0.46 m<sup>3</sup>WaterAs required

- **Labour Required**

- LabourQuantityMason1.20 DayMazdoor (Helper)1.20 DayBhisti (Waterman)0.20 Day

# Rate Analysis of RCC Slab (M20 Concrete)

- **Materials Required (Approx.)**

- Material Quantity Cement 8 Bags Sand 0.44 m<sup>3</sup> 20 mm Aggregate 0.88 m<sup>3</sup> Reinforcement Steel 80–100 kg Water As required

- **Labor Required**

- Labour Quantity Mason 0.50 Day Carpenter 1.00 Day Bar Bender 0.75 Day Helpers 3.00 Days Vibrator Operator 0.25 Day