

Estimation & Costing (DI04006021)

Lecture 15: Methods of Detailed Estimate

Introduction to Methods

Depending upon the level of detail and stage of the project, quantities and costs can be calculated using two main methods:

- 1 **Unit Quantity Method**
- 2 **Total Quantity Method**

Core Difference

Unit Quantity Method focuses on finding the all-inclusive rate of a composite unit of a structure, whereas Total Quantity Method separates each item of work and prices them individually.

Unit Quantity Method

- The structure is divided into composite units (e.g., one km of road, one running meter of boundary wall, one bay of a factory shed).
- The total cost of one such complete unit is worked out by detailed estimation.
- The total cost of the project = (Cost of 1 unit) $\times$ (Total number of units).

Example

Cost of 1 km of a standard 2-lane highway is calculated as Rs 5 Crores.

For a 20 km stretch, Cost = $20 \times 5 = 100$ Crores.

Total Quantity Method

- The entire work is broken down into individual items of work (excavation, concrete, brickwork, plaster).
- Total quantity of each item for the whole project is calculated.
- Each total quantity is multiplied by its unit rate to find the total cost.
- **Application:** Used for almost all detailed building estimates.

Item 1 qty	Item 2 qty	Item 3 qty
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Sum of Individual Costs = Total Cost