

1.1 QUANTITY ESTIMATION

1.1.1 PHILOSOPHY

An estimate is the anticipated or probable cost of a work and is usually prepared before the construction is taken up. Before undertaking any work or project it is necessary to know its probable cost which is obtained or derived by estimating. The estimate is prepared by computing or calculating the quantities required and then calculating the cost at suitable rates, to get the expenditure likely to be incurred in the construction of the work or structure.

The primary object of an estimate is to enable one to know beforehand the cost of work. The actual cost is known only after the completion of the work from the account of the completed work. If the estimate is prepared carefully and correctly there will not be much difference in between the estimated cost and the actual cost. For accurate estimating the estimator should be experienced and fully acquainted with the methods of construction.

The estimate may be prepared approximately as a preliminary estimate by various methods without going into details of the different items of work, to know the approximate cost or rough cost.

Accurate estimate is prepared in detail item-wise by Detailed Estimate. For 'Detailed Estimate' the work is divided into different items of work, and the quantities under each item are taken out and then an 'Abstract of estimated cost is prepared at suitable rates. Provision for contingencies, 3% to 5% of the estimated cost, is made in the estimate to cover the miscellaneous petty expenditures which do not come under any item of work. Provision is also made in the estimate for work charged establishment at 112% to 2% of the estimated cost.

From the detailed estimate the quantities of various materials and labour required may also be calculated. The estimate also gives an idea of the time required for the completion of the work. The estimate is also required for inviting tenders and to arrange contract and to control the expenditure during the execution.

For complete estimate of a project, besides the estimated cost of the different items of main work, the cost of preliminary works and surveying, cost of land including cost of acquisition, cost of leveling and dressing of ground and the cost of other external services are required to be provided in the estimate. Provision for supervision or departmental charges 5% to 10% of the estimated cost is also made to get the estimated cost of the whole project.

1.1.2 PURPOSE

Estimating is the technique of calculating or computing the various quantities and the expected Expenditure to be incurred on a particular work or project. Incase the funds available are less than the estimated cost the work is done in part or by reducing it or specifications are altered, the following requirement are necessary for preparing an estimate.

- Drawings like plan, elevation and sections of important points.
- Detailed specifications about workmanship & properties of materials etc.
- Standard schedule of rates of the current year.