



## **1.1 Approximate Estimate**

Approximate Estimate is made to find out an approximate cost in a short time and thus enable the administrative authorities to evaluate the financial aspects of various schemes and subsequently allows them to sanction them.

### **1.7.1. Importance**

Approximate estimate is prepared with preliminary investigation and survey. It does not require detailed surveying design, drawing etc. It is basically done to evaluate feasibility of a project. If it is observed from approximate estimate that the cost of the project is very high then the project may be abandoned without preparing a detailed estimate. Thus the cost required for detailed surveying design or drawing required for preparation of detailed estimate is saved.

### **1.7.2. Purpose of approximate estimate**

- Approximate estimate provides an idea about the cost of the project, which enables the authority to check the feasibility of the projects considering the funds available for the project.
- Approximate estimate does not require any detail investigation, design or drawing and hence saves both time and money.
- If several alternatives are available for the original works, a comparison is done from approximate estimate and the decision is made to select the project according to this comparison.
- Approximate estimate is required for getting the administrative approval for conducting detailed investigation, design and estimation.
- Approximate estimate for a property or project is required for insurances and tax scheduling.

## **1.2 Methods of Approximate Estimate**

There are seven methods used for approximate estimate of the building.

- Plinth area or square meter method
- Cubic rate or cubic-meter method
- Approximate quantities with bill
- Service unit or Unit rate method
- Bay Method
- Cost comparison method
- Cost from materials and labor

### **1.8.1. Plinth area or square meter method:**

This is prepared on the basis of plinth area of the building. The rate for unit plinth area is deducted from the cost of a building having similar specifications and dimensions in the locality. The plinth area is calculated for the covered area by taking external dimensions of the building at the floor level. Plinth area does not include the courtyard or any other open spaces.

### **1.8.2. Cubic rate or cubic-meter method:**

In this method the cost is estimated by multiplying the cubical contents of the building (length  $\times$  breadth  $\times$  height) with the rate calculated in cubic meter which is deducted from a building having similar specifications and dimensions in the locality.

### **1.8.3. Approximate quantities with bill:**

In this method the total length of walls is calculated from the plant. Length of different sections of the wall like foundation including plinth and super structure and area of wood work, flooring and roofing is calculated separately. These items are then multiplied by their cost per running meter length or area in sq. to obtain the total cost.

### **1.8.4. Service unit or Unit rate method:**

In this method all costs of a unit quantity such as per km. (highway), per meter (bridge), per classroom (may be school or colleges), per bed (hospitals), per cubic meter (water tank) is calculated and multiplied with the cost per unit deducted from similar structures in the locality.

### **1.8.5. Bay Method:**

The rate for one additional bay is calculated. Then the approximate estimated cost for the building is worked out by multiplying the number of bays in the proposed building with the cost of one such bay.

### **1.8.6. Cost comparison method:**

When a number of dwellings of similar specification and dimensions are constructed as a part of a larger project for example staff quarters, the approximate estimates for all such dwellings can be estimated by multiplying the quantities of various items for a prototype structure with present market rates.

### **1.8.7. Cost from materials and labor:**

Here approximate quantities of materials and labor per sq. of plinth area are calculated with some empirical equations or from past experience. This is then multiplied by total plinth area of the building to calculate the total quantity of materials and labor required

for the building. The total cost is calculated by multiplying these quantities with prevailing unit rate.

**Practice question:**

**Q.1:** Prepare approximate estimate of a building having Plinth Area of 1700 sqm using following data: Plinth Area Rate @ Rs. 7500/- per sqm; Contingencies @ 5%; Work Charged Estb @ 2%; Water Supply & Sanitary Arrangement @ 15% on cost of building; Electrification @ 8% on building cost; Architectural Fee @ 1.5% on cost of building.