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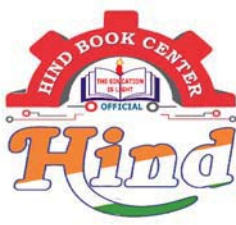
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# ESTIMATION & COSTING

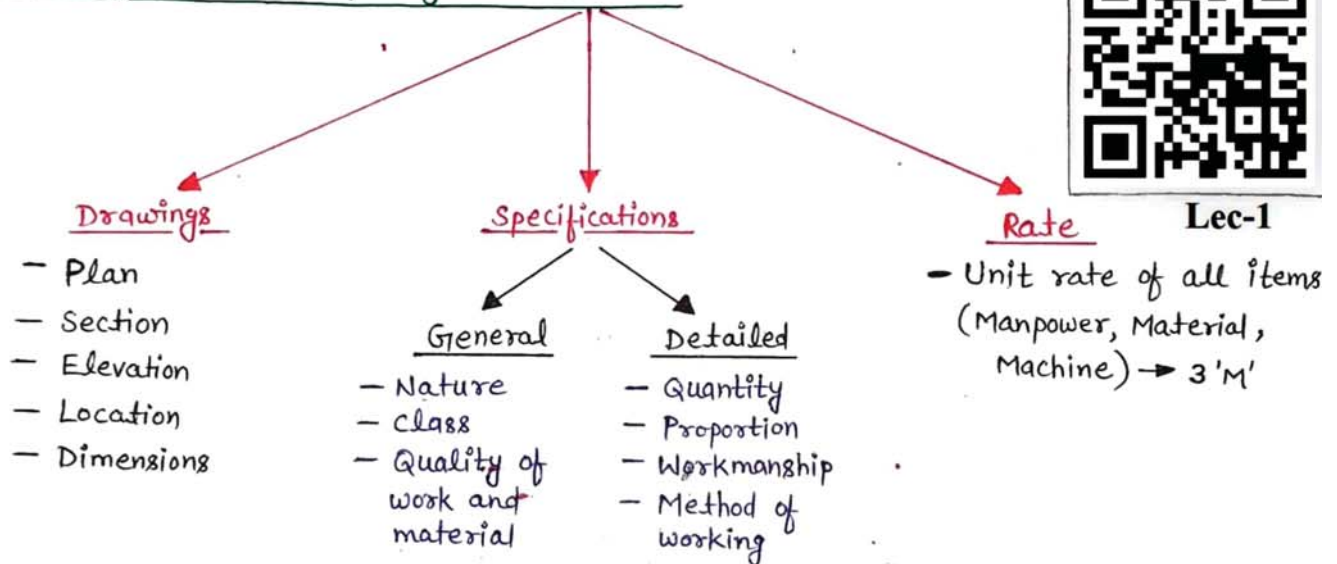
— It is a technique of calculating/computing the various quantities and the expected expenditure to be incurred on a particular work/project.

## Need for Estimation :

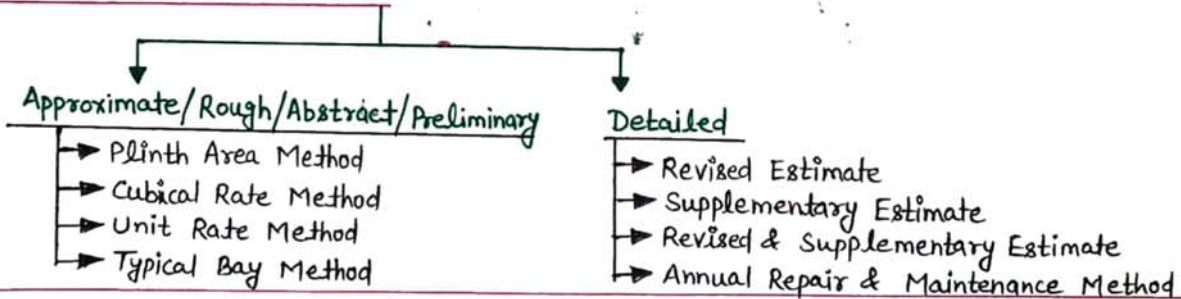
— Estimation is carried out to fulfill the following needs :

- (i) It gives the idea of cost of the work hence helps in deciding the feasibility of project.
- (ii) It gives the idea of time reqd. for completion of project.
- (iii) It gives the idea of material quantity reqd for completion of work.
- (iv) It helps in inviting the tenders for the project.
- (v) It helps in controlling the expenditure on project.
- (vi) It helps to evaluate where there is any benefit to execute the project.

## Data Required for Preparing the Estimates :



## TYPES OF ESTIMATES :



## (1) APPROXIMATE ESTIMATE :

- For calculating approximate estimate of a work, no detailed knowledge is required, and it can be done on the basis of practical knowledge.
- It is done to obtain administrative approval of the project.
- It helps in deciding the financial aspect of the project.

- eg: cost of construction is 1300 ₹/sq. ft

plot area = 3000 sq. ft

No. of stories = 3

Built-up area  $\Rightarrow$  1st floor = 80%.

2nd floor = 85%.

3rd floor = 90%.

$$\begin{aligned} \rightarrow \text{Total Cost} &= (0.8 + 0.85 + 0.9) \times 3000 \times 1300 \\ &= 99.45 \text{ lakhs} \end{aligned}$$

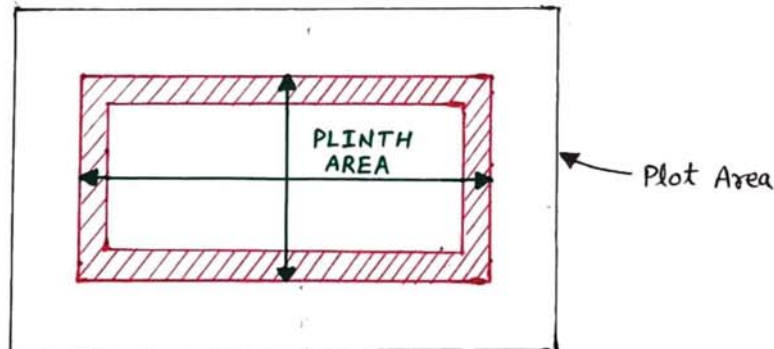
- Approximate estimate can be made by following methods :

(i) Plinth Area Method :

-  $\text{Approximate cost} = \text{Plinth Area} \times \text{Rate of Plinth Area}$

- Plinth Area :

- The built-up covered area of a building measured at floor level of any storey.



Lec-1 (35:00)

As per IS: 3861-2002 :- [1966 old Code]

- For the purpose of plinth area, following shall be 'INCLUDED':

- (a) Area of wall at the floor level excluding plinth offsets, if any.
- (b) Shaft for sanitary, water supply installation, electrical installation, fire fighting, air conditioning & light.
- (c) Stair case
- (d) In case of open verandah with parapets:
  - (i) 100% area for the portion protected by projections above
  - (ii) 50% area for the portion unprotected by projections above
- (e) 100% of area of balcony protected by projection above,  
50% of area of balcony unprotected by projection above
- (f) In case of 'ALCOVE' made by cantilevering slab:
  - (i) 25% of alcove of height 1m
  - (ii) 50% of alcove of height 1-2m
  - (iii) 100% of alcove of height >2m



Lec-1 (54:20)

Explanations:

- (a) Wall का area, floor level पर include करना है, offset means gap, अगर gap दिया हुआ है तो wall का area include नहीं करना है। मतलब, plinth के portion के बाहर अगर wall बनी है तो उसको include नहीं करना है।
- (b) Shaft मतलब opening given for pipes to be carried from one point to another.
- (c) घर के अन्दर बनी stairs case included है पर घर के बाहर बनी stairs case को include नहीं करना है।
- (d) अगर open verandah with parapets ऊपर से covered है तो इसको 100% include करना है, अगर ऊपर से cover नहीं है तो 50% include करना है।
- (e) अगर balcony ऊपर से covered है तो 100% include करना है, अगर ऊपर से covered नहीं है तो 50% include करना है।
- (f) Alcove, generally, India में नहीं मिलते। wall में कोई depression बना रखा है तो इसको alcove बोलते हैं। जैसे- Forts में बने रहते हैं। अगर ये alcove 1m height का है तो 25% include करेंगे, 1-2m height का है तो 50% include करेंगे और >2m height का है तो 100% include करेंगे।



### 'EXCLUDED' in Plinth Area :

- (a) Area of loft
- (b) Area of Architectural band, cornice etc.
- (c) Area of vertical sun breakers
- (d) Open platform
- (e) Terrace
- (f) Open spiral/service stair cases
- (g) Area of mummy, machine rooms, towers, domes above terrace level.

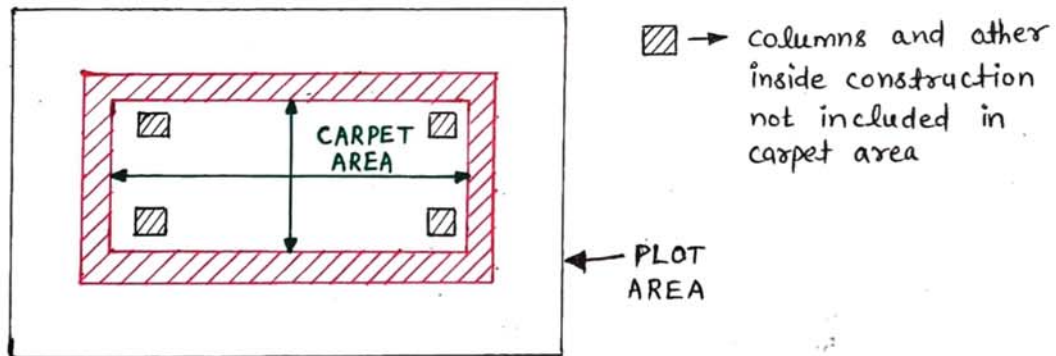
### Explanations :

- (a) Open cantilever (टाँड) is not included in plinth.

### NOTE :

#### Carpet Area :

- The covered area of the usable spaces of rooms at any floor is termed as carpet area.
- It is measured b/w the walls to walls within the building
- It is the sum of actual area which can be carpet



#### — Followings are 'NOT INCLUDED' in carpet area :

- ↳ Wall area, veranda, corridors, passages, entrance hall, porch, staircase, stair cover, lift shaft, bathroom, machine room, kitchen & pantry, store room, canteen, AC duct, shaft for sanitary work.