



*GOVERNMENT POLYTECHNIC FOR GIRLS ,
AHMEDABAD*

Civil Engineering Department

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Subject:- Estimating, Costing and Valuation

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TECHNICAL TERMS:

The various technical terms are used in preparing the detailed estimate for project work. These are

1. Spot Item
2. Prime cost
3. Provisional sum
4. Provisional quantity
5. Contingencies
6. Work charge establishment
7. Job over head charge
8. Day work and Task work
9. Lump sum
10. Administrative approval
11. Technical sanction

1. Spot Items:

➤ There are certain items for which it is not possible for estimator to fix the an amount without seeing and studying them in details. Such items are known as Spot items or site items and its estimation can be prepared only after inspection and details measurements at site.

➤ Some of such item are

1. Constructing opening in existing the wall
2. Demolition of structure
3. Connecting an old building with a new building
4. Connecting old roof to a new roof
5. Clearing the site

Two important point with Spot items

1. Detailed description –detailed and precise description of spot items are required
2. Ownership: for broken material and place of stacking of old materials

2.Prime Cost:

- ▶ Prime cost is the actual cost of articles at shop and refer to the supply of articles only and not to the carrying out of work. It is always not possible to specify the types of articles required at the time of estimation.
- ▶ i.e. water supply fitting, Sanitary fittings , Door and windows fittings
- ▶ For the execution of such items reasonable amount is kept in the estimate as “ Prime Cost” and same is provided in bill of quantities of contract.
- ▶ The actual price of article is paid to the contractor and no profit is allowed to contractor except carriage charge if specified.

3.Provisional Sum:

- Provisional sum is the amount provided in the estimate and bill of quantities for some specialized work to be done by a specialist firm whose details are not known at the time of estimating.

The works are

- Installation of refrigerating machine, Lift, air conditioning duct etc.
- For which full information and details may not be known at the time of preparing an estimate , a reasonable amount is provided in the estimate and bill of quantities of contract as “ Provisional sum”

4. Provisional Quantities:

- When the quantities of a particular item are not certain, provisional quantities are provided separately for such items.
- For this, the quantities are calculated from measurements of the drawing with certain assumptions of the probable increase and are kept separately and marked as Provisional. It is shown separately in tender and contractor have to quote the rates for such quantities.
- The nature of soil is uncertain and an extra depth of foundation will be required then additional quantities of earth work, concrete and brick work due to this is worked out separately and it is marked as **Provisional Quantities**.

5. Contingencies :

The term 'Contingencies' indicates the incidental expenses of a miscellaneous character which cannot be reasonably predicted during preparation of the estimate. To meet up such unforeseen expenses an additional amount of 3% to 5% of the estimated cost (for c.p.w.d. 3% and p.w.d. 5%) is provided to allow for contingencies.


Such expenses of such item is made on lumpsum basis or percentage of estimated cost once in estimation.

Contingencies charges are for

1. Unforeseen expenses
2. Petty expenditure
3. Minor changes in design and specification
4. Fluctuation in market rate

6. Work Charged Establishment:

- ▶ During the construction of a project considerable number of skilled or technical supervisors, work assistance, watch men etc., are employed on temporary basis.
- ▶ The salaries of these persons are drawn from the L.S. amount allotted towards the work charged establishment. That is, establishment which is charged directly to work. L.S .amount of 1½ to 2% of the estimated cost is provided towards the work charged establishment

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- Which is charged to works directly ,during the construction a certain number of work supervisors are required to be employed and their salaries are paid from the amount of work charged establishment ,it is percentage of 1% to 2% (as per PWD practice)of estimated cost .
 - Work-charged employees are temporary staff whose services are terminated at the expiry of sanctioned period but usually one month notice is given.

7. Over head Charges:

➤ It may be divided in two categories:

1. General overhead charges 2. Job overhead

➤ **General overhead charges:**

A contractor firm used to maintain office throughout years irrespective of work in hand or some works under execution. For this general expenses to maintain the office has to be done are considered as general overhead such as

- Salaries of office staff and Office rent
- Purchase of stationary articles, printing, repairs, postages etc.
- Telephone and electric bills
- Travelling etc.

Job Overheads:

This are the nature of expenses directly involved to construction work or project such as:

1. Salaries of all personnel(Technical and non technical) engaged for the work
2. Temporary shed or houses and godown rents
3. Small tools, planks, ladders, ropes, and hand tools as provided to workmen by contractor
4. Repairs and depreciation for tools and plants
5. Lighting at site
6. Mobilization of establishment tools and plants



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7. Labor welfare and safety measures

8. Public relation

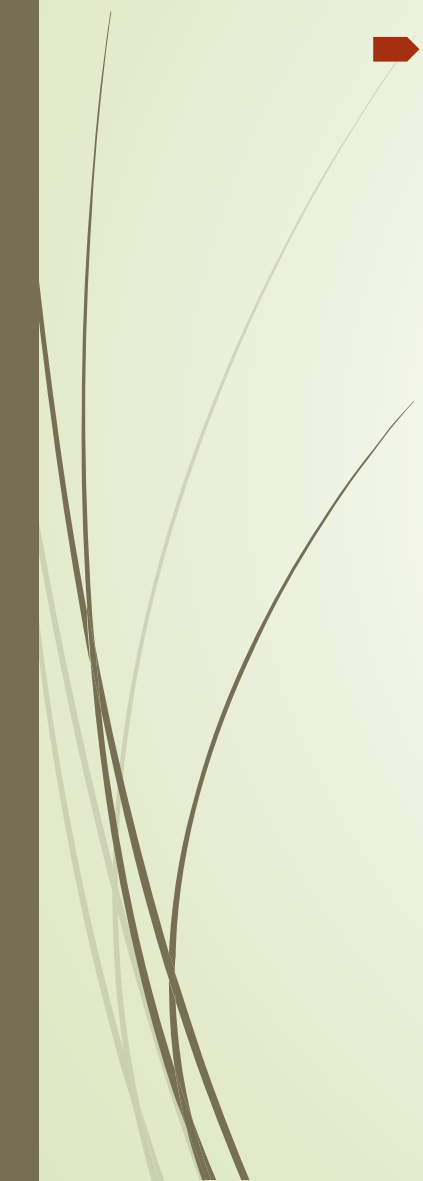
9. Workmen compensation ,insurance etc

10. Interest on investment.

- All such expenses are required till the work is completed and handed over to the owner.
- No separate payment is given to contractor against the work
- It is not a known expenses depends on the volume of work.



Water charges:

- ▶ For construction of work and drinking purpose for worker ,arrangement of water is made by tube well or temporary connection from water line of authority. In order to meet such expenses an amount of 1 to 1.5 % of total cost of materials and labor is considered in the analysis of rate.
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8. Day work and Task work :

- The term day work is used to denote a procedure of costing or valuing an item of work on the basis of actual labors and materials ,equipment employed in completion of work.
- Certain item of work which can not be measured are carried out as “ day work”. Such as
 1. An ornamental door
 2. A design in plaster work
 3. Front architectural finish of a building
 4. Work under water

For this , day worksheet is maintained by the contractor and details of hour of each type of labor and quantities of various material used are recorded. The sheet is periodically checked and verified by the owner.

➤ Conti.....

- If considerable amount of day work is anticipated ,a schedule of materials and labor is included in tender form. And contractor quotes his rate for each unit of materials and each hour of labor.
- It require prior permission of engineer so a close watch/ supervision can be maintained on daywork.
- It is usually confined to small items of work and may be hourly basis so that payment may be made for the actual period for which the labors are engaged.

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- ▶ It should be clearly mentioned in specification that the day work prices quoted by the contractor include the following.
 1. Cost of transport of materials to site of work.
 2. Contractor's supervision
 3. Use of contractor's ordinary equipment
 4. Contractor's overhead charges
 5. Contractor's profit.

Task work

- The capacity of doing work by an artisan or skilled labor in the form of quantity of work in a working day of eight hour is known as the task work.
- The task work is not same at all place but varies from place to place and person to person.
- It depends on various factors
 1. Type of labor- male/female
 2. Nature of work- ordinary/special
 3. Climatic condition- Hot ,cold, Rainy
 4. Situation of work- soil condition/time limit
 5. Skill of labor- skilled/unskilled
 6. Site organization- poor/good
 7. Size of work- quantity of work
 8. Location of work –congested/ isolated area

9. LUMPSUM

- ▶ While preparing an estimate, it is not possible to work out in detail in case of petty items. Items other than civil engineering such items are called lump sum items or simply L.S. Items.
- ▶ Sometimes while preparing estimate for the certain small items like front architecture or decoration work of a building it is not possible to workout detailed quantities so far such lump sum items a lump sum rate is provided.

The following are some of L.S. Items in the estimate.

1. Water supply and sanitary arrangements.
2. Electrical installations like meter, motor, etc.,
3. Architectural features.
4. Contingencies and unforeseen items.

10. ADMINISTRATIVE APPROVAL

- For any project required by the department an approval so sanction of the competent authority with respect to the cost and work is necessary at the first instance. Thus, administrative approval denotes the formal acceptance by the administrative department concerned of the proposals for incurring expenditure.

11. TECHNICAL SANCTION

- It means the sanction and order by the competent authority of the department for the detailed estimate design calculations quantities of work rates and cost of work after the technical sanction of the estimate is received the work is then taken up for construction.

14. ORDINARY MEASUREMENT BOOK

- ▶ It is measured book in which entries regarding the work done or supplies made and services performed are recorded for the purpose of making payments to the contractors or the labor. Entries in the M.B are generally recorded by the sectional officers or by any other officers deputed for the purpose

Tools and Plants –

Normally contractor has to arrange tools and plants.

(1% to 1.5% of estimated cost is provided)



THANKS.....