

SCHOOL OF BUILDING AND ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

UNIT I - INTRODUCTION

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF MANAGEMENT STUDIES

Subject Title: Cost Management

Course: M.Arch

Subject Code: SBAA5341

Year: II- Semester: III

UNIT-I

UNIT 1 Fuundamentals of Costing

Cost Cocept-Cost- Costing-Cost Accounting, Cost Unit, Cost Centre-Elements of Cost, Classification of cost, Methods of Costing-Techniques of Costing-Cost Sheet.

2. Cost Sheet

Cost sheet is a statement, which shows various components of total cost of a product. It classifies and analyses the components of cost of a product. Previous period's data is given in the cost sheet for comparative study. It is a statement which shows per unit cost in addition to Total Cost. Selling price is ascertained with the help of cost sheet. The detail of total cost presented in the form of a statement is termed as Cost sheet. Cost sheet is prepared on the basis of

1. Historical Cost

2. Estimated Cost.

Historical Cost

Historical Cost sheet is prepared on the basis of actual cost incurred. A statement of cost prepared after incurring the actual cost is called Historical Cost Sheet.

Estimated Cost

Estimated cost sheet is prepared on the basis of estimated cost. The statement prepared before the commencement of production is called estimated cost sheet. Such cost sheet is useful in quoting the tender price of a job or a contract.

2.1 Importance of Cost Sheet

The importance of cost sheet is as follows:

Cost ascertainment

The main objective of the cost sheet is to ascertain the cost of a product. Cost sheet helps in ascertainment of cost for the purpose of determining cost after they are incurred. It also helps to ascertain the actual cost or estimated cost of a Job.

Fixation of selling price

To fix the selling price of a product or service, it is essential to prepare the cost sheet. It helps in fixing selling price of a product or service by providing detailed information of the cost.

Help in cost control

For controlling the cost of a product it is necessary for every manufacturing unit to prepare a cost sheet. Estimated cost sheet helps in the control of material cost, labour cost and overheads cost at every point of production.

Facilitates managerial decisions

It helps in taking important decisions by the management such as: whether to produce or buy a component, what prices of goods are to be quoted in the tender, whether to retain or replace an existing machine etc.

2.2 Elements of Cost

The management of an organization needs necessary data to analyze and classify costs for proper control and for taking decisions for future course of action. Hence the total cost is analyzed by elements of costs ie by the nature of expenses. The elements of costs are three and they are



By grouping the above elements of cost, the following divisions of cost are obtained.

- 1. Prime cost = Direct Materials + Direct Labour+ Direct Expenses
- 2. Works or Factory Cost = Prime Cost + Works or Factory Overheads

3. Cost of Production = Works Cost + Administration Overheads

4. Total Cost or Cost of Sales = Cost of Production + Selling and Distribution Overheads The difference between the cost of sales and selling price represents profit or loss.

Working Problem 1. Find the Prime Cost, Works Cost, Cost of production, total Cost and profit from the following:- Direct Materials Rs.20000; Direct Labour Rs. 10000; Factory Expenses Rs. 7000; Administration Expenses Rs. 5000; Selling Expenses Rs. 7000 and Sales Rs.60,000.

Solution:

Prime Cost = Direct Materials + Direct Labour = Rs.20,000 + Rs.10,000 = Rs.30,000. Works Cost = Prime Cost + Factory Expenses = Rs.30,000 + Rs.7,000 = Rs.37,000.

Cost of Production = Works Cost + Administration Expenses=Rs.37000+ Rs.5, 000 = Rs.42, 000.

Total Cost or Cost of sales= Cost of Production + Selling Expenses = Rs.42, 000+ Rs.7, 000 = Rs.49, 000. Profit = Sales - Total Cost = Rs.60,000 - Rs.49,000=Rs.11, 000.

These terms can be explained as follows

1. **Direct Materials** are those materials which can be identified in the product and can be conveniently measured and directly charged to the product. For example, bricks in houses, wood in furniture etc. Hence all raw materials, materials purchased specifically for a job or process like glue for book making, parts or components purchased or produced like batteries for radios and tires for cycles, and primary packing materials are direct materials.

2. **Indirect Materials** are those materials which cannot be classified as direct materials. Examples are consumables like cotton waste, lubricants, brooms, rags, cleaning materials, materials for repairs and maintenance of fixed assets, high speed diesel used in power generators etc.

3. **Direct Labour** is all labour expended in altering the construction, composition, confirmation or condition of the product. Thus direct wages means the wages of labour which can be conveniently identified or attributed wholly to a particular job, product or process or expended in converting raw materials into finished goods. Thus payment made to groups of labourers engaged in actual production, or carrying out of an operation or process, or supervision, maintenance, tools setting, transportation of materials, inspection, analysis etc is direct labour.

4. **Direct Expenses** are expenses directly identified to a particular cost centre. Hence expenses incurred for a particular product, job, department etc are direct expenses. Example royalty, excise duty, hire charges of a specific plant and equipment, cost of any experimental work carried out especially for a particular job, travelling expenses incurred in connection with a particular contract or job etc.

5. **Overheads** may be defined as the aggregate of the cost of indirect materials, indirect labour and such other expenses including services as cannot conveniently be charged direct ot specific cost units. Overheads may be sub-divided into (i) Manufacturing Overheads; (ii) Administration Overheads; (iii) Selling Overheads; (iv) Distribution Overheads; (v) Research and Development Overheads.

2.3 Types of Overheads

According to functions, classification of overhead expenses may be done as follows:

(i) Factory or Works Overhead

Factory or works overhead refers to all indirect expenses of a factory. It includes the following:

- □ Wages of all factory staff excluding those of direct workers
- □ Indirect material
- \Box Rent for factory
- \Box Rates for factory
- \Box Taxes of factory
- \Box Depreciation of factory assets
- \Box Excise duty
- □ Canteen expenses
- \Box Labor welfare expenses

(ii) Administration Overhead

It refers to all the expenses incurred in connection with general administration. In administrative building, following things are included:

- □ Salary of administrative staff
- \Box Rent for office
- \Box Rates for office
- □ Taxes of administrative accommodation
- □ Postage
- \Box Telegram and telephone
- □ Stationery
- □ Lighting of administrative building
- □ Depreciation of office appliances

(iii) Selling Overhead

Selling overhead refers to all expenses incurred in connection with sales. In selling overhead, following things are included:

- \Box Salary of sales staff
- \Box Traveler's commission
- □ Advertisement
- \Box Rent for showroom
- \Box Rates for showroom or sales shop
- \Box Taxes of sales office
- □ Depreciation of sales office appliances
- □ Cost of participation in industrial fares and exhibitions
- \Box Cost of free gifts
- \Box Cost of free after sales service
- □ Normal bad debt

(iv) Distribution Overhead

Distribution overhead refers to all the expenses incurred in connection with the delivery of a product after the sale is affected. In distribution overhead, following things are included:

- \Box Delivery van expenses
- □ Fright and insurance
- □ Packing for delivery loading and unloading
- \Box Salary of the deliverymen
- □ Customs duty

According to behavior, classification of overhead expenses may be done as follows:

a. Variable Overhead

The overhead expenses that vary proportionately with the output are variable overhead.

b. Semi-Variable or Semi-Fixed Overhead

The overhead expenses that vary with the output but not proportionately are semi- variable or semi-fixed overhead.

It should be always kept in mind that in this connection direct materials, direct wages and direct expenses are variable items of direct cost. Therefore, if we classify cost according to behavior, we get the following classification:

a. Fixed Costs

Fixed costs include only those overhead expenses which remain fixed irrespective of the level of output. Some of the items of fixed costs are as follows:

- \Box Rent and rate of building
- □ Salary of work mangers, administrative manager, sales managers
- □ Depreciation of buildings
- □ Insurance

b. Variable costs

Variable costs include prime cost and variable overheads. These costs vary proportionately with the output. Some of the items of variable costs are as follows:

- □ Direct material
- \Box Direct wages
- \Box Direct expenses
- □ Consumable stores
- □ Power
- □ Fuel

c. Semi-Variable Costs

Semi-variable costs include overhead expenses that vary according to output but not proportionately, so these costs are partly fixed and partly variable. Some of the items of semi-variable costs are as follows:

- □ Normal repairs and maintenance of building and plant
- □ Salary of supervisors
- \Box Charge men
- □ Foremen
- □ Service department expenses
- □ Depreciation of plant and machinery

Consider the element repairs. Normal repair is mostly fixed in nature because within a certain degree of capacity, utilization is beyond that degree. More frequent repairs will be necessary involving further cost. But still, such an increase in cost will not be proportionate to an increase in output. This is why the element is semi-fixed or semi- variable.

Preparation of Cost sheet or Statement of Cost: When costing information is set out in the form of a statement, it is called "Cost Sheet". It is usually adopted when there is only one main product and all costs almost are incurred for that product only. The information incorporated in a cost sheet would depend upon the requirement of management for the purpose of control. Raw materials are converted into finished products by a manufacturing concern with the help of labor, plants etc. The elements that constitute the cost of manufacturing are known as

Direct material, direct labor and direct expenses are those which can be traced in relationship with a particular process, job, operation or product. Indirect material, indirect labor and indirect expenses are those which are of general nature and cannot be traced in relationship with a particular process, operation, job or product.

		Total Cost Rs.	Cost per Unit Rs.
Direct Materials		ххх	ххх
Direct Labour		xxx	ххх
	Prime cost	ХХХ	ХХХ
Add: Works Overheads		ххх	ххх
	Works Cost	ХХХ	ХХХ
Add: Administrative Overheads		ххх	ххх
	Cost of Production	ХХХ	ХХХ
Add: Salling and Distribution Over	heads	ххх	ххх
Total Cost or Cost of Sales		xxx	ХХХ

2.4 Specimen of Cost Sheet

Working Problem: 2

A manufacturer has shown an amount of Rs. 16190 in his books as "establishment" which includes the following expenses:

- \Box Agents commission-- Rs. 5750
- \Box Warehouse wages-- Rs. 1800
- □ Warehouse repairs-- Rs. 510
- \Box Lighting of office-- Rs. 70
- \Box Office salaries-- Rs. 1130
- Director's remuneration-- Rs. 1400
- \Box Traveling expenses-- Rs. 760
- □ Rent, rates and insurance of warehouse-- Rs. 310
- □ Rent, rates and insurance of office-- Rs. 230
- □ Lighting of warehouse-- Rs. 270
- □ Printing and stationery-- Rs. 1500
- \Box Trade magazines-- Rs. 70
- \Box Donations-- Rs. 150
- \square Bank charges-- Rs. 100
- □ Discount allowed-- Rs. 1970
- \square Bad debts-- Rs. 170

From the above information, prepare a statement showing the following (in separate totals):

- □ Selling expenses
- □ Distribution expenses
- □ Administration expenses
- \Box Expenses which you will exclude form total cost

Solution:

Statement of Cost			
		Rs.	Rs.
Selling expenses:			
Agents' commission		5,750	
Traveling expenses		760	
Bad debts		170	
			6,680
Distribution expenses:			
Warehouse wages		1.800	
Warehouse repairs		510	
Rent, rates and insurance of warehouse		310	
Lighting of warehouse		270	
			2,890
Administration expenses:			
Lighting of office		70	
Office salaries		1 1 3 0	
Directors' remuneration		1,100	
Rent, rates and insurance of office		230	
Printing and stationery		1 500	
Trade magazines		70	
Bank charges		100	
6		100	4,500
Total expenses to be considered in estimation costs			-14070
Expenses to be excluded form costs:			1,7,070
Donations		150	
Discount allowed		150	2 120
	Total	1,970	$-\frac{2,120}{16,100}$
	1 Otul		1,0,190

Working Problem: 3

ABC Ltd., a manufacturing company, incurred the following expenses during a certain period. You are required to prepare a statement showing the subdivision of total cost.

	Rs.		Rs.
Materials used on jobs	1,20,540	Depreciation of plant	3,800
Wages traceable to jobs	86,650	Depreciation of delivery vans	1,600
Wages paid to men for		Insurance on finished goods	2,500
maintenance work	1.26.00	Lubrication oil	250
Salaries of sales men	15,100	Bad debts	300
Directors' fees	10,000	Commission to salesmen	2,850
Carriage inwards on raw	10,000	Cost of idle time in factory	510
materials	860	Auditors fees	3,800
Carriage outwards	2.800	Dividends paid	6,800
Factory rent and rates	8,300	Lighting of showroom	1,500
Works salaries	20,400	Office salaries and expenses	7,000
Hire of crane for work	1.300	Income tax	8,600
Consumable stores	340		
	510		

Solution:

Statement of Cost

	Rs.	Rs.
Direct materials	120540	
Add: carriage inwards	860	121400
Direct wages		86650
Direct expenses (hire of crane for work)		1300
Prime Cost		209350
Works overhead		
Wages paid to men on maintenance work	12600	
Factory rent and rates	8300	
Works salaries	20400	
Consumable stores	340	
Depreciation of plant	3800	
Lubricating oil	250	
Cost of idle time in factory	510	46200
Works cost		255550
Administration overhead		
Directory fees	10000	
Auditors fees	3800	
Office salaries and expenses	7000	20800
Cost of production		276350
Selling and distribution overhead		
Salaries of salesmen	15100	

Carriage outwards	2800	
Depreciation of delivery vans	1600	
Insurance of finished goods	2500	
Commission to sales men	2850	
Lighting of showroom	1500	
Bad debts	300	26650
Total Cost		303000

2.5 Tender and Quotation

It is usually refers to the process whereby governments and financial institutions invite bids for large projects that must be submitted within a finite deadline. The term also refers to the process whereby shareholders submit their shares or securities to a takeover offer.

Definition:

A **quotation** is a document that offers to sell goods or services at a stated price, under specified conditions. **Quotations** are used to let a potential buyer know how many your goods or services will cost before committing to purchase them.

To invite bids for a project, or to accept a formal offer such as a takeover bid. **Tender** usually refers to the process whereby governments and financial institutions invite bids for large projects that must be submitted within a finite deadline.

In order to prepare the tender the following items to be analyzed

- 1.Raw materials,
- 2.Direct Labour
- 3. Chargable expenses
- 4. Work overheads
- 5.Office overheads
- 6.Selling overheads
- 7.Estimated profit

PREPARTION OF A PRICE LIST

Most businesses will need to draw up a price list at some stage. If you sell a fixed range of products, this may be the only form of pricing you need. This type of standard price list can also be used as the basis for pricing your non-standard orders.

It's a good idea to **date your price lists** - particularly if your customer is likely to keep it for a long time. You should make it clear when any special offers expire. It can also be useful to include a clause at the end of the price list stating that prices are subject to change.

We should make clear whether any **delivery**, **packing** or **postage** costs are included in your prices. Additionally, although you don't have to indicate discounts for bulk purchases on your price list, it might attract more business.

We may be able to use **software** packages such as Sage Simply Accounting to help you draw up complex price lists.

THE DIFFERENCE BETWEEN A QUOTATION AND AN ESTIMATE

It's impossible for some businesses to give standard prices for goods and services. This may be because the skills, time and materials required for each job vary depending on different customers' needs.

This situation is more common in some trades than others - decorators or builders, for example, rarely do exactly the same job twice. When it's not possible to work from a standard price list, you have to give a quotation or an estimate instead.

A **quotation** is a fixed price offer that can't be changed once accepted by the customer. This holds true even if you have to carry out much more work than you expected.

An **estimate** is an educated guess at what a job may cost - but it isn't binding. To take account of possible unforeseen developments, you should provide several estimates based on various circumstances, including the worst-case scenario. This will prevent your customer from being surprised by the costs.

PREPARATION OF A WRITTEN ESTIMATE

When you prepare an estimate it's good practice to give the customer a **written copy**, including a full **breakdown** of costs.

Our estimate should include the:

- Overall price
- Breakdown, listing the components of the price, schedule, detailing when work will be done or products delivered
- Terms and conditions
- Time period the estimate is valid for

• Payment terms or schedule

We must include our full business contact details in our estimates. If we have letterhead, it's a good idea to put our estimates on this.

Include a disclaimer stating clearly that the estimate's price is **subject to change**. Agree in advance how any variations will be costed. These can arise if the client changes their requirements or if a job turns out to be more complicated than expected.

PREPARATION OF A WRITTEN QUOTATION

Quotations commit you to the price you specify, so they are usually used when:

• The work you're quoting for has clear requirements - in terms of time, labour, materials, etc. our costs are stable and our confident in the work won't turn out to be more complicated than expected.

It's good practice to give your customers a written quotation. This should include the:

- Overall price
- Breakdown of the components of the price, indicating what is covered and what is not
- Period the quotation is valid for
- Schedule for when the work will be done or products delivered
- Full contact details of your business
- Payment terms or schedule

It's also advisable to get your customer's **written confirmation** that they're happy with the price you have quoted and the work that this includes. This should be done before you carry out the work, or provide the goods or services.

Computer **software** can be used to help you determine the costs involved in any work for which you're drawing up a quotation. Many accounting and spreadsheet packages can be used for this.

2.6 Process of Inviting or preparing a Tender

Invitations to tender should normally consist of the following sections; it will however depend upon the complexity of the requirement.

Part 1 - Defines the contract, giving details of timescales for commencement and completion

Part 2 - Contains the "Conditions of Contract" wherein the commercial details are explained in simple language; where appropriate the draft contract can be included.

Part 3 - Should be a pricing schedule

Part 4 - Will give details of the scope of the work or services or the quantity and frequency of requirements of goods or services to be supplied.

Part 5 - Depending on the size of the contract, should highlight all procedural requirements, such as third party inspection, variations if any, the communication route and names of people involved in discharging contractual requirements and so on.

Part 6 - The specification; if a "Technical" specification this should give full details of the work, supply or service to be undertaken; current preference is for this to be a "performance" or "functional" specification, which allows freedom of choice to the bidder as to how best to meet the requirement.

Part 7 - Any drawings and/or plans required to allow bidders to ensure their offered goods or service comply, not only to the specification, but also to those drawings originally issued as part of the Technical Specification.

Part 8 - Should contain details of free issue goods, if any, and the arrangement for such free issue.

Part 9 - Gives details of submission of bids, such as time and precise location, that late bids will not be accepted, the date of bid opening and whether it will be open or closed. Open bidding is where all bidders have the option of being present to view and note total prices submitted by all bidders. Often used overseas as a means of avoiding accusations of corrupt practices as only those bids opened, registered, and with their total cost announced, will be considered in the evaluation process. Where appropriate, information should be included on the tender evaluation methods that should be adopted.

Part 10 - Will detail the terms and conditions anticipated in any resultant contract, so that bidders may take any "special" conditions into consideration when compiling their tender. All invitations to tender for a specific product or service must be identical on issue.

2.7 Tender opening

The Tender Board can be a standing group. It might consist of a board member as chairman, the purchasing director, probably a technical expert, and a non-aligned person to act as secretary.

To ensure equality of treatment of all tenders, the Tender Board meets on the nominated day, at the nominated time, in a location suitable to accommodate all interested parties, if a public opening. If not, in a closed office. All bids are date and time stamped and recorded, with total costs noted.

Late tenders or bids should preferably not be opened but should be date and time stamped and returned to the bidder with a letter of explanation. It may be that in some companies ALL tenders

are opened and those which were late, annotated as such, and kept separate from valid bids, submitted within the timescale stipulated.

2.8 Tender evaluation

The bid analysis team, as identified in the introduction to this guide (as the Procurement Project Team), have now to assess all components of all bids. Firstly to ensure the bid is compliant, and that all parts are complete, then to compare and assess all parts, to identify the best value for money bid overall. It is most important to ensure that the necessary skills are included in the team. For example, a financial expert, a technical expert, a purchasing expert and, if necessary, a commercial or legal expert.

The process must follow a defined pattern to which all participants subscribe, to ensure all bids are dealt with in exactly the same way. The methods for comparison have to be fair, thorough and demonstrably so, should inspection take place.

2.9 Components of a tender

The following is a check list of some of the aspects which, depending on the nature of the requirement, might need to be considered for inclusion in an invitation to tender:

- The scope and/or functions of the work or service required
- The output required
- The quality expected
- Estimated maintenance requirements when appropriate
- The number or amount
- Any standards required to be achieved, or applied
- Timescales start date required
- Finish date if "time is of the essence"
- A schedule of deliveries
- Any inspection required and at what stages
- Details of free issue materials
- Accommodation details for installation
- Insurance cover required for contractors
- Costs in use of components or complete product where appropriate
- Response times
- Details of measurement of the work

2.10 Reconciliation of Cost and Financial Accounts

Meaning

In business concern where Non-integrated Accounting System is followed. cost and financial accounts are maintained separately, the difference between the end result of these two are required to be reconciled. Reconciliation of cost and financial accounts mean tallying the profit or loss revealed by both set of accounts. The chief aim is to find out the reasons for the difference between the results shown by Cost Accounts and Financial Accounts.

Reasons for the Difference

The various reasons which create difference between cost and financial profit or loss shown by the two set of books may be listed under the following heads :

- (1) Items shown only in Financial Accounts
- (2) Items shown only in Cost Accounts
- (3) Absorption of Overheads
- (4) Methods of Stock Valuation
- (5) Abnormal Loss and Gains

(1) Items shown only in Financial Accounts: Some items of income and expenses which are included only in financial accounts but are not shown in cost accounts and vice versa. The following items are shown in financial accounts but not in cost accounts:

(A) Income:

- (1) Profit on sale of fixed assets
- (2) Interest received on investment
- (3) Dividend received on investment
- (4) Rent, brokerage and commission received
- (5) Premium on issue of shares
- (6) Transfer fees received.

(B). Expenditure:

- (1) Loss on sale of fixed assets, e.g., Plant, Machinery, Building
- (2) Interest paid
- (3) Discount paid
- (4) Dividend paid
- (5) Losses due to scrapping of plant and machinery

- (6) Penalties and fines
- (7) Expenses of shares' transfer fees
- (8) Preliminary expenses written off
- (9) Damages payable at law.

(2) Items shown only in Cost Accounts: There are some items which are recorded only in Cost Accounts but are not included in financial accounts, national interest on capital, notional rent of premises owned, salary to proprietor etc. are not recorded in financial account because the amount is not actually spent or paid. These expenses reduced the profit in cost account while in financial account it may be the reverse effect.

(3) Absorption of Overheads : In financial accounts actual amount of expenses paid are recorded while in cost accounts overheads are charged at predetermined rates. If overhead charged are not equal to the amount of overhead incurred the under or over absorption of overhead leads to difference in profits of two accounts.

(4) Methods of Stock Valuation: The term stock refers to opening or closing stock of raw materials, work in progress and finished goods. In financial accounts stocks are valued at cost price or market price whichever is lower. In Cost Account; stock of raw materials can be valued on the basis of FIFO, LIFO and Simple Average Method etc., and work in progress may be valued at Prime Cost or Work Cost. Finished stocks are generally valued on the basis of cost of production. Thus, the adoptation of different method of valuation of stock leads to difference in profits of two sets of accounts.

(5) Abnormal Losses and Gains: Different items of abnormal wastages, losses or gains which are included in financial accounts but are not recorded in cost accounts. Thus, the figures of abnormal losses and gains may affect the results in financial accounts alone.

Importance of Reconciliation

Reconciliation of cost and financial account is necessary for the following reasons:

- (1)To ensure arithmetical accuracy of both set of accounts for effective cost ascertainment and cost control.
- (2) To identify the reasons for different results.
- (3) To evaluate the reasons for variations
- (4)To enable the smooth co-operation and co-ordination between the activities of cost and financial accounting departments.
- (5)To ensure the standardization of policies relating to stock valuation, depreciation and absorp- tion of overheads.

Format of Reconciliation Statement

Particulars	Amt.Rs.	Amt.
Profit/Loss as per Cost Sheet (A)		хххх
ADD: (I) Financial Income which are ignored in Cost Account		
Interest received	xxxx	
Dividend received	XXXX	
Share transfer fee	xxxx	
Rent received	XXXX	
Profit of asset sold	XXXX	
(II) Over valuation of Overhead Expenses in Cost Account		
Factory overheads	xxxx	
Administrative overheads	XXXX	
Selling & Distribution overheads	XXXX	
(III) Over valuation of closing stock in Cost Account(B)	XXXX	хххх
Grand Total (A+B)=C		хххх
LESS : (I) Financial expenditure which are ignored in Cost Acc.		
Income Tax	xxxx	
Penalty	XXXX	
Donation	xxxx	
Goodwill written off	xxxx	
Preliminary expenses written off	xxxx	
Debenture discount written off	XXXX	
Bad debt reserve	xxxx	
Loss of Assets sold	XXXX	
(II) Under valuation of overhead expenses in Cost Account		
Factory overheads	xxxx	
Administrative overheads	хххх	
Selling & Distribution overheads	хххх	
(III) Under valuation of closing stock in Cost Account (D)	хххх	хххх
Profit/Loss as per Financial Account(C-D)		хххх

Working problem: 4

From the following particulars, prepare a Cost Sheet showing (1) Cost of Materials Consumed (2) Prime Cost (3) Factory Cost (4) Cost of Production and (5) Profit

Opening stock of raw materials	20,000
Opening stock of work in progress	10,000
Opening stock of finished goods	50,000
Raw materials purchased	5,00,000
Direct wages	3,80,000
Sales for the year	12,00,000
Closing stock of raw materials	75,000
Closing stock of work in progress	15,000
Factory overhead	80,000
Direct expenses	50,000
Office and Administrative overhead	60,000
Selling and Distribution expenses	30,000

Solution:

Opening Stock of Raw Materials	20,000	
Purchases	5,00,000	
	5,20,000	
Less : Closing Stock of Raw Materials	75,000	
Cost of Raw Materials Consumed (1)		4,45,000
Add : Direct Wages	3,80,000	
Direct Expenses	50,000	4,30,000
Prime Cost (2)		8,75,000
Add : Factory overheads	80,000	
Add: Opening stock of work in progress	10,000	
	90,000	
Less: Closing stock of Work in Progress	15,000	75,000
Works Cost (or) Factory Cost (3)		9,50,000
Add: Office & Administrative Overhead		60,000
Cost of Production (4)		10,10,000
Add: Opening Stock of Finished Goods		50,000
		10,60,000
Less: Closing Stock of Finished Goods		50,000
Cost of Goods Sold (5)		10,10,000
Add : Selling and Distribution Overhead		30,000
Cost of Sales (6)		10,40,000
Profit (7)		1,60,000
Sales for the year		12,00,000

Methods of Reconciliation

For reconciling the profit or loss as disclosed by the financial accounting with that shown by the cost accounting. a Reconciliation Statement or Memorandum of Reconciliation Account is prepared.

The following steps have to be taken for preparation of Reconciliation Statement :

- (I) Ascertain the extent of difference between the profit or loss disclosed by two set of book of accounts.
- (2) Take the base profit or loss as per any set of books (either cost or financial) of accounts as the starting point.
- (3) Prepare a statement by making suitable adjustment of items either added or subtracted included in one set of accounts but not in the other set.
- (4) In other words, balances as per cost account has been taken as the starting point, then balance as per financial account is to be adjusted according to the transaction recorded in the financial accounts and vice versa.

Question Bank

Unit –II

Part-A

- 1. What are the elements of cost?
- 2. What is overhead and classify it?
- 3. List the need for reconciliation
- 4. Draw the specimen of cost sheet
- 5. What do you mean by tender?
- 6. What do you mean by quotations?
- 7. Differentiate between direct material and indirect material
- 8. What is prime cost?
- 9. Differentiate between direct expenses and indirect expenses
- 10. Differentiate between direct labor and indirect labor.

Unit-II

Part-B

- 1. Define cost sheet .Explain the purpose of cost sheet and give the proforma of cost sheet.
- 2. Explain the various elements of cost.
- 3. What is reconciliation statement and why it is prepared?

4. Your are require to compile a statement showing cost and profit from the information given, showing clearly: (a) Material consumed, (b) Prime cost ,(c) Work cost,(d) Cost of production , (e)Cost of sales, (f) Profit and (g)sales.

Material Consumed	Rs.200000
Wages	Rs.100000
Direct Expenses	Rs.20000
Opening stock of materials	Rs.40000
Closing stock of materials	Rs.60000

Factory overheads are absorbed at 20% on wages, Administration overheads is 25% on the work cost. Selling and distribution overheads are 20% on the cost of production. Profit is 20% on sales.

5. During the year 2008, X Ltd., produced 50000 units of product. The following were the expenses:

Particulars	Amount in Rs
Stock of raw materials on 1-1-2008	10000
Stock of raw materials on 31-12-2008	20000
Purchases	160000
Direct wages	75000
Direct expenses	25000
Factory expenses	37500
Office expenses	62500
Selling expenses	25000

You are required to prepare a cost sheet showing cost per unit and total cost at each stage.

6. The following details have been obtained from the cost records of TCS ltd

Particulars	Amount in Rs
Stock of raw materials on 1-1-2009	75000
Stock of raw materials on 31-12-2009	91500
Direct wages	52500
Indirect wages	2750
Sales	211000
Work in progress on 1-1-2009	28000
Work in progress on 31-12-2009	35000
Purchases of raw materials	66000
Factory rent, rates and power	15000
Depreciation of plant and machinery	3500
Expenses on purchases	1500
Carriage outwards	2500
Advertising	3500
Office rent and taxes	2500
Traveller's wages and commission	6500
Stock of finished goods 1-1-2009	54000
Stock of finished goods 31-12-2009	31000

Prepare a cost sheet giving the maximum possible break up of costs and profit.

7. Mr.X Company Ltd, are the manufactures of mobile batteries. The following data relate to manufacture of batteries during the month of March 2005.

Raw material consumed	Rs.20000
Direct wages	Rs.12000
Machine Hours worked	9500 Hours
Machine Hour rate	Rs.2
Office Overheads	20% of work cost
Selling overheads	50 paise per unit
Units produced	20000 units
Units Sold	18000@Rs.5 per Unit

Prepare cost sheet showing the cost and the profit per unit and the total profit earned.

8. The following particulars have been extracted from the books of a manufacturing company

Particulars	Amount in Rs
Stock on materials on 1 st Jan 2014	47000
Stock on Material on 31 st Dec 2014	50000
Materials purchased	208000
Office salaries (factory)	9600
Counting house salaries	14000
Carriage In wards	8200
Carriage Outwards	5100
Cash discount allowed	3400
Bad dets written off	4700
Repairs to plant and machinery	10600
Rent –factory	3000
Rent-office	1600
Travelling expenses	3100
Travelling commission	8400
Production wages	140000
Depreciation – machinery	7100
Depreciation – office	600
Directors fees	6000
Water-factory	1500
Water –office	300
General charges	5000
Managers salary	12000

Out of 48 hours in a week, the time devoted by the managers to the factory and to the office was on average 40 hours and 8 hours respectively, throughout the accounting year .prepare a statement giving the following information (a) prime cost,(b) Factory on cost as a percentages

of production wages,(c) Factory cost ,(d) General on cost as a percentage of factory cost and (e)Total cost.

Particulars	Amount in Rs
Opening stock – Raw materials	25000
Opening stock – Finished goods	17300
Closing stock - Raw materials	26200
Closing stock - Finished goods	15700
Purchase of raw materials	21900
Carriage on purchases	1100
Working in progress on 1-1-2012	8200
Working in progress- 31-12-2012	910 0
Sale of finished goods	72300
Direct wages	17200
Non productive wages	800
Direct expenses	1200
Factory overheads	8300
Administrative overheads	3200
Selling and distribution overheads	4200

9. From the following information prepare a cost sheet for the month of Dec 2012

10. The cost accounts department of a company has supplied the following data for the supply of 2000 units of product.

Particulars	Amount in Rs
Direct materials	4000 tons at Rs.5 per ton
Direct wages	8000 labour hours at Rs50 per hour
Overheads : Variable	Factory Rs.10 per labour hour
	Selling Rs.20 per unit
Overheads : Fixed	Factory Rs.100000
	Office Rs.200000

Prepare a statement showing the price to e fixed which will fetch a profit of 25% on cost.

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENT OF MANAGEMENT STUDIES

Subject Title: Cost Management Course: M.Arch

Subject Code: SBAA5341 Year: II- Semester: III

UNIT 11 Cost Estimates:

Methods of estimating cost of Construction for Various work- Cost Indices- Rate of Laboure and Material, analysis of rates, Preparation of abstract of estimated cost, use of CPED schedule of rate, Deriving construction cost as per Bill of quantities, construction Economics- elasticity of demand, theory of production, cost analysis, contractors cost, perfect competition, monopoly, monopolistic.

Construction cost estimating:

Let's look at one of the challenges of the cost engineer: estimating construction costs. Generally, direct project costs include construction work, material supply and equipment. Often, construction costs prove to be the most difficult part of the estimate.

Construction costs vary according to a complex series of relationships. Direct labor wages can vary from location to location, sometimes as much as fifty percent. Once wages are considered, labor productivity drives the cost of construction work. High productivity results in lower construction cost, while low productivity increases cost. However, it is not uncommon for productivity to be very low when direct labor rates are also very low, resulting in a relatively high cost per unit despite low wages. Conditions of the construction work, particularly with renovation, affect productivity as well, such as accessibility, lay-down/staging areas, dust, dirt, and general job clean-up requirements, as well as the working space available. Scheduling requirements may force multiple work activities to be carried out at the same place or at the same time. How efficiently sharing of equipment and services are managed will also affect productivity.

We can identify 3 estimating techniques to work with these problems:

1. Estimating with unit rates

A unit-rate contains the average amount of resources you need to install one unit (piece, meter, kg, etc.) you can find on an MTO. By multiplying all unit-rates by the quantities from all MTOs, a very detailed estimate of the project resources is obtained. This amount of granularity allows you to adjust productivity per work activity. Assigning each activity to a section of the work breakdown structure used for scheduling, a resource distribution is obtained that allows the business to actively trace and control on productivity.

2. Resource-based estimating

When an MTO is available it makes sense to use unit-rates for your estimates. If a schedule is available then resource-based estimating is also an option. With this technique, you are not looking at the average number of hours you use for the installation of materials and equipment. Instead, you plan the resource you need using calendars and schedules. All hour related items in your estimate are created using their respective calendar to determine the amount of time a resource will be used throughout the duration of the work activity. By adjusting the number of productive hours in a calendar, productivity is taken into account over the duration of the activity.

3. Factor estimating

Factor estimating is used when no MTO or schedule is available yet. Typically, this is the case in early phases of the project. By using material costs as a basis, construction costs can be factored in. This works because there is often a strong relation between the cost of your materials and the effort it requires to install them. While this is useful upfront, the downside is that it provides considerable fewer options to adjust the estimate for productivity.

A cost engineer should have the capability to carry out one or more of these techniques. Depending on the level of project definition and type of project you determine which technique suits you best.

Cost Indices:

Definition Construction Cost Index is an indicator of the average cost movement over time of a fixed basket of representative goods and services related to Construction Industry.

To use cost indices, most people look up a couple of values in the tables, perform some rudimentary math and the resultant factor can be used for the desired adjustment. The adjustment desired is typically cost change over time at a location or cost differences between locations, often including some time adjustment.

However, construction cost indices are an extremely powerful tool whose use is broader than these typical applications. For example, the U.S. Government produces indices, such as price indices for houses for a few building types, including houses. The government uses them to prepare price deflators for Gross Domestic Product (GDP). They recognized many years ago inherent problems unique to construction indices.

An important aspect of using a cost index is to ensure you are asking the right questions about its source. Do you understand what the index really measures? Do you know how the information was compiled? A basic understanding about the methodology used to create an index can aid in the interpretation of the results it provides.

A few basic index distinctions will help provide some clarity. The first question to ask about an index is: 'What does it really measure?'. Most construction indices are built using the cost of the inputs – a representative selection of labor, material and equipment. Notice the distinction, cost of the inputs, not price of the output.

It is essential to remember that a cost index measures the price movement for some objects over time and/or location using a series of values. A basic understanding of the theoretical construct aids in interpreting the results from applying the index. Different index creation methodologies may yield very different search results.

Most U.S. cost indices use cost inputs. It's difficult to prepare an output index for the construction industry. This is unfortunate since market forces are not well measured by input indices. Output indices measure changes in prices of what is produced by entities engaged in construction activity. An output index includes the items built into the price paid by purchasers of the output element materials, labor, plant and equipment, overheads, profits, margins. An example is the home seller index which measures the selling price of a house.

Market conditions may be the factor that skews input-based index comparison results the most. This is why some organizations seek to introduce some aspects of output measures, creating a pseudo-output index.

A comparison of four construction indices begins to demonstrate the point. The Turner Cost Index is presumably an output index. The PPI Nonresidential Construction Index by the Bureau of Labor Statistics attempts to measure subcontractor pricing for items, introducing aspects of an output index. RS Means and ENR produce traditional input indices. While other factors contribute to the variations shown, it illustrates very clearly how measures of the market (reflecting output prices) influence an index. Input cost indices do not show the extremes of economic cycles like output indices.

Most users of cost indices are focused on smaller issues than adjusting the value of construction GDP. Anyone with a database of historical construction costs relies on construction cost indices to prepare cost estimate benchmarks. When establishing a benchmark, using previous project costs to establish a budget, adequately ascertaining cost change for time and location is essential.

However they are used, indices provide a simple way to relate the cost of an item at a specific time to a corresponding cost at a different time, or a different location and time. The focus is modifying historical costs. Unfortunately the use of an index as an accurate predictor of future costs is not yet a reality.

When comparing different locations, local codes and climate can skew cost comparisons. Adjustments for these considerations are never straightforward. Thoughtful consideration may assist if the results after applying an index do not seem quite right. Differences in seismic and wind loading design requirements can impact cost comparisons between locations. For example, any index comparison of costs between Los Angeles and Minneapolis should include consideration of a seismic cost adjustment. But, countering the higher Los Angeles cost due to seismic requirements would be some higher costs in Minneapolis due to the climate. Similarly, a coastal Florida building will have unique costs for wind loading. Then, there is Charleston, South Carolina with both seismic and wind design requirements to consider.

Rate of Labour:

The material, labor and expenses is the common way of classifying costs of any manufacturing business based on the nature of cost. All the costs incurred can be classified into these three categories. Material means all kinds of material used for the production of a product or service, labor means all types of human labor and expenses means all the remaining costs not falling under material and labor.

Labour Cost:

What is labor? The labor here means all the human efforts whether physical or mental put to use for creation of a product or service. The labor does not only mean the direct labor working in the factory but it includes all the employees of the company in all departments. It includes all the permanent employees, temporary and contractual workers etc or any other source of physical or mental labor for which the company pays for.

Now, what is labor cost? Labor cost means all the payment made by the company towards acquiring services of the labor as defined above. It means the salary and wages paid to the employee or wage earners along with all the fringe benefits such as provident fund contribution, gratuity, incentive, bonus etc. provided to the employees.

Material Cost

What is 'Material'? The material here means all kinds of materials which are used to produce a product or service. The material may be the basic raw material and all other materials such as components, fuel, lubricants, packing material, other consumables etc. Normally, the direct material is confused with materials but material includes both direct and indirect materials.

Now what is the material cost? Material cost means the cost of acquiring the material. It clarifies one thing that material cost does not only mean the cost of purchasing the material from the supplier. On the contrary, material cost includes all expenses which are directly attributed to the acquisition of any material.

RATE ANALYSIS AND COSTING

DATA

The process of working out the cost or rate per unit of each item is called as Data. In preparation of Data, the rates of materials and labor are obtained from current standard scheduled of rates and while the quantities of materials and labor required for one unit of item are taken from Standard Data Book

SCHEDULE OF RATES

Definition: In order to determine the rate of a particular item, the factors affecting the rate of that item are studied carefully and then finally a rate is decided for that item.

This process of determining the rates of an item is termed as analysis of rates or rate analysis.

The rate of particular item of work depends on the following.

1. Specifications of works and material about their quality, proportion and constructional Operation method.

- 2. Quantity of materials and their costs.
- 3. Cost of labours and their wages.
- 4. Location of site of work and the distances from source and conveyance charges.
- 5. Overhead and establishment charges
- 6. Profit

PROCEDURE OF RATE ANALYSIS

Cost of materials at source and at site of construction. The costs of materials are taken as

delivered at site inclusive of the transport local taxes and other charges.

Purpose of Analysis of rates:

- 1. To work out the actual cost of per unit of the items
- 2. To work out the economical use of materials and processes in completing the particulars item.

3. To work out the cost of extra items which are not provided in the contract bond, but are to be done as per the directions of the department.

4. To revise the schedule of rates due to increase in the cost of material and labour or due to change in technique.

REQUIREMENT OF LABOUR AND MATERIALS

Cost of labour -types of labour, standard schedule of rates The labour can be classified in to 1) Skilled 1st class 2) Skilled IInd Class 3) un skilled The labour charges can be obtained from the standard schedule of rates 30% of the skilled labour provided in the data may be taken as Ist class, remaining 70% as II class. The rates of materials for Government works are fixed by the superintendent Engineer for his circle every year and approved by the Board of Chief Engineers. These rates are incorporated in the standard schedule of rates. Lead statement: The distance between the source of availability of material and construction site is known as "Lead " and is expected in Km. The cost of convenayce of material depends on lead. This statement will give the total cost of materials per unit item. It includes first cost, convenayce loading, unloading stacking, charges etc. The rate shown in the lead statement are for mettalled road and include loading and staking charges. The environment lead on the metalled roads are arrived by multiplying by a factor a) for metal tracks - lead x 1.0 b) For cartze tracks - Lead x 1.1 c) For Sandy tracks - lead x 1.4 Note: For 1m3 wet concrete = 1.52m3 dry concrete approximately SP.Wt of concrete= 1440 kg/m3 (or) 1.44 t/m3 1 bag of cement = 50 Kg

ABSTRACT ESTIMATE

This is the third and final stage in a detailed estimate. The quantities and rates of each item of work, arrived in the first two stages, are now entered in an abstract form. The total cost of each item of work is now calculated by multiplying the quantities and respective rates. Abstract of estimate form.

CASH FLOW

A cash flow statement provides information about the historical changes in cash and cash equivalents of an enterprise by classifying cash flows into operating, investing and financing activities. It requires that an enterprise should prepare a cash flow statement and should present it for each accounting period for which financial statements are presented. This chapter discusses this technique and explains the method of preparing a cash flow statement for an accounting period.

OBJECTIVES OF CASH FLOW

Cash flow statement shows inflow and outflow of cash and cash equivalents from various activities of a company during a specific period. The primary objective of cash flow statement is

to provide useful information about cash flows (inflows and outflows) of an enterprise during a particular period under various heads, i.e., operating activities, investing activities and financing activities. This information is useful in providing users of financial statements with a basis to assess the ability of the enterprise to generate cash and cash equivalents and the needs of the enterprise to utilize those cash flows. The economic decisions that are taken by users require an evaluation of the ability of an enterprise to generate cash and cash equivalents and the timing and certainty of their generation.

BENEFITS OF CASH FLOW STATEMENT

Cash flow statement provides the following benefits :

□ cash flow statement when used along with other financial statements provides information that enables users to evaluate changes in net assets of an enterprise, its financial structure (including its liquidity and solvency) and its ability to affect the amounts and timings of cash flows in order to adapt to changing circumstances and opportunities.

□ Cash flow information is useful in assessing the ability of the enterprise to generate cash and cash equivalents and enables users to develop models to assess and compare the present value of the future cash flows of different enterprises. I It also enhances the comparability of the reporting of operating performance by different enterprises because it eliminates the effects of using different accounting treatments for the same transactions and events.

□ It also helps in balancing its cash inflow and cash outflow, keeping in response to changing condition. It is also helpful in checking the accuracy of past assessments of future cash flows and in examining the relationship between profitability and net cash flow and impact of changing prices.

CASH FROM OPERATING ACTIVITIES

Operating activities are the activities that constitute the primary or main activities of an enterprise. For example, for a company manufacturing garments, operating activities are procurement of raw material, incurrence of manufacturing expenses, sale of garments, etc. These are the principal revenue generating activities (or the main activities) of the enterprise and these activities are not investing or financing activities. The amount of cash from operations' indicates

the internal solvency level of the company, and is regarded as the key indicator of the extent to which the operations of the enterprise have generated sufficient cash flows to maintain the operating capability of the enterprise, paying dividends, making of new investments and repaying of loans without recourse to external source of financing.

Cash flows from operating activities are primarily derived from the main activities of the enterprise. They generally result from the transactions and other events that enter into the determination of net profit or loss. Examples of cash flows from operating activities are:

Cash Inflows from operating activities

 \Box cash receipts from sale of goods and the rendering of services.

 \Box cash receipts from royalties, fees, commissions and other revenues.

Cash Outflows from operating activities

 \Box Cash payments to suppliers for goods and services.

 \Box Cash payments to and on behalf of the employees.

 \Box Cash payments to an insurance enterprise for premiums and claims, annuities, and other

policy benefits.

□ Cash payments of income taxes unless they can be specifically identified with financing and investing activities.

Break even point (BEP)

In units, BEP = Fixed costs Contribution per unit Contribution per unit/ Total contribution

Break even charts

The type of graph which might be used to show the effects of changes in costs and revenues (or perhaps more appropriately changes in unit costs and selling prices) is a break even chart (though a PV graph would have the same effect).

The limitations of breakeven analysis

The use of simple break even analysis assumes that all costs can be split into fixed and variable components and furthermore that one activity base(units produced, units sold, hours worked) will be suitable for describing all variable costs and revenues. Linear relationships are assumed. This means that fixed costs are assumed to be fixed at all levels of activity, and that variable cost per unit and sales price per unit are constants and independent of the level of activity. In practice, fixed costs will only be constant over the relevant range. Over a larger range most fixed costs are

stepped. If necessary, this can be adjusted for on the break even chart. It is more difficult to show how variable costs will behave at various activity levels, but the cost accountants linear model is bound to be incorrect over a wide range. For example, as activity increases variable cost may fall because it is possible to buy raw materials cheaper in bulk, or because of increases in worker efficiency. On the other hand, scarcity of resources at high level of activity may lead to higher variable costs. The linear relationship used for revenue totally ignores the sales price/demand relationship for a product. The market may not be perfect, and in order to increase sales of the product it may be necessary to reduce its price. Simple break even analysis also assumes that there is a constant sales mix, or that sales of only one product are being considered. Furthermore, it assumes that there are no changes in stock levels and that units produced equals units sold. This last point will not matter if stock is valued at variable cost, but if an absorption costing system is in use it becomes more difficult to predict profits at different levels of activity if stock levels are changing. Simple break even analysis is therefore most useful when predictions are made within the range of the company normal activity and when there no significant building up or running down of stocks

Cost Control

Cost control is therefore concerned with:

□ influencing the factors that create changes to the cost plan and ensuring that changes are agreed upon;

 \Box determining that the cost plan has changed;

 \Box managing the actual cost changes as and when they occur;

□ monitoring cost performance to detect and understand variances from the cost plan;

□ ensuring that all appropriate changes are recorded accurately in the cost plan;

□ preventing incorrect, inappropriate or any unauthorized changes from being included in the cost plan;

 \Box taking actions to bring expected costs within acceptable limits.

CPWD Rates:

The CPWD schedule of rates contains the basic rates of materials, labour, carriage etc. ... The rates of the finished item are worked out by the analysis of rates with the standard requirements of materials, labour and necessary sundries like water charges, contractor's profit etc.

The Schedule of Rates provides **a basic frame work to evaluate cost estimate of the projects**. Over the period of last few years, the prices of labour and materials have increased appreciably necessitating revision of the existing Schedule of Rates.

With the help of rate analysis actual cost of items can be determined on the location. **It helps to cross check the rates offered by contractor**. To find out the exact quantity of materials and labours required for specific work. To finalise the labour contract rates.

Detailed Specifications.

General Specifications. General Specifications are also known as Brief Specifications. ...

Detailed Specifications. Detailed Specifications shows, in the detailed description, characteristics, quantity, ratio and formation method of the material used in construction work.

Using a BOQ - Bill of Quantities

Tendering is an important step in construction projects, since it allows the comparison of several offers under equal terms. Hiring the first contractor who submits an offer may be tempting when a project has a tight deadline. However, consulting engineers do not recommend this, since other options may offer a better quality or a lower price. During the tendering process, project owners issue a Bill of Quantities (BOQ) to the bidding contractors. The BOQ is a document that breaks down the project scope by work items and quantities, ensuring that all contractors quote the same amounts of work.

The BOQ continues to be useful when all contractors have submitted their offers and a winner has been chosen. The BOQ is useful as a tracking tool during the construction process, and it can be combined with the project schedule for cost planning:

When creating a progress report, the completed work can be input as partial quantities in the BOQ spreadsheet.
Since there is already a unit price for each item, the spreadsheet will automatically calculate the monetary value of the completed work.

By comparing each report with the previous one, the contractor can calculate interim payments.

If the contract terms include an advance payment and a quality retainage, they are normally deducted as percentages from each interim payment. For example, if the advance payment was 10% and the retainage is 5%, there is a 15% deduction from every interim payment.

At the end of the project, the BOQ can be filled with the actual work quantities to check discrepancies with the original quantities. This results in additional payment for the contractor if the actual work is more than planned, but the contractor may also owe money to the owner for items where the actual work was less. Consider that some contract types do not allow this; in fixed-price contracts or construction management at risk, for example, the construction firm assumes any additional expenses while keeping the savings achieved.

Who Prepares The BOQ In A Construction Project?

The Bill of Quantities is normally prepared by a cost consultant or quantity surveyor, a role that is often assumed by the engineering firm in charge of design. This way, the scope and quantity of work are determined by a neutral party, and bidding contractors compete under equal conditions. Large companies with an internal engineering staff often create their own BOQs.

The design firm and the cost consultant can be different companies, but delegating both tasks to the same engineering firm is more efficient. When two separate companies are involved, the cost consultant must first get familiarized with the project documents, requiring more coordination and communication.

What Does a BOQ Include?

The document format of a BOQ can change from project to project, but it will generally include an itemized list of the work required: architectural, structural, mechanical, electrical, communications, plumbing, fire protection, etc. The BOQ also includes the following information:

The quantity of work for each list item and the measurement unit. For example, a painting task may be specified for an area of 200 square feet. When measurement units are impractical, work

quantities are described as global tasks (e.g. general cleaning) or based on the number of items installed (e.g. 100 LED lamps).

The unit price of each item, which is calculated by each of the bidding contractors. The unit price must consider all costs involved: materials, labor, equipment, overhead and the contractor's profit.

The total price of each list item, which is calculated by multiplying the amount of work and the unit price.

As previously mentioned, the list items in a BOQ are classified by areas like HVAC installations and fire protection systems. All items in each category are added into subtotal prices, and these are added to get the total price of the project. The main advantage of the BOQ is itemizing materials and labor, making these costs easier to manage. Quoting a project without work items is confusing, especially when large amounts of materials are involved.

The BOQ should use a clear language when describing each work item, since the document is also read by professionals from non-technical fields. If additional information is needed for one of the line items in the BOQ, the construction drawings and technical specifications are available for reference. In other words, there is no need to include all the technical information about each line item in the BOQ.

Construction Economics:

Construction economics is a branch of general economics. It consists of the application of the techniques and expertise of economics to the study of the construction firm, the construction process and the construction industry. To understand the scope of the subject it is necessary firstly to know what economics is about, and secondly to ascertain why the construction industry deserves a special branch of the subject to itself.

Elasticity of demand is an important variation on the concept of demand. Demand can be classified as elastic, inelastic or unitary. An elastic demand is one in which the change in quantity demanded due to a change in price is large. An inelastic demand is one in which the change in quantity demanded due to a change in price is small. The formula used here for computing elasticity of demand is: (Q1 - Q2) / (Q1 + Q2) (P1 - P2) / (P1 + P2) If the formula creates an absolute value greater than 1, the demand is elastic. In other words, quantity changes faster than price. If the value is less than 1, demand is inelastic. In other words, quantity changes

slower than price. If the number is equal to 1, elasticity of demand is unitary. In other words, quantity changes at the same rate as price. Elastic Demand Elasticity of demand is illustrated in Figure 1. Note that a change in price results in a large change in quantity demanded. An example of products with an elastic demand is consumer durables. These are items that are purchased infrequently, like a washing machine or an automobile, and can be postponed if price rises. For example, automobile

Inelastic Demand: Inelastic demand is shown in Figure 2. Note that a change in price results in only a small change in quantity demanded. In other words, the quantity demanded is not very responsive to changes in price. Examples of this are necessities like food and fuel. Consumers will not reduce their food purchases if food prices rise, although there may be shifts in the types of food they purchase. Also, consumers will not greatly change their driving behavior if gasoline prices rise.

Unitary Elasticity If the elasticity coefficient is equal to one, demand is unitarily elastic as shown in Figure 3. For example, a 10% quantity change divided by a 10% price change is one. This means that a 1% change in quantity occurs for every 1% change in price.

Perfect Competition:

Pure or perfect competition is a theoretical market structure in which the following criteria are met:

All firms sell an identical product (the product is a "commodity" or "homogeneous").

All firms are price takers (they cannot influence the market price of their product).

Market share has no influence on prices.

Buyers have complete or "perfect" information—in the past, present, and future—about the product being sold and the prices charged by each firm.

Capital resources and labor are perfectly mobile.

Firms can enter or exit the market without cost.

Monopoly:

Definition: A market structure characterized by a single seller, selling a unique product in the market. In a monopoly market, the seller faces no competition, as he is the sole seller of goods with no close substitute. He enjoys the power of setting the price for his goods. ...

A monopoly is a firm who is the sole seller of its product, and where there are no close substitutes. An unregulated monopoly has market power and can influence prices. Examples: **Microsoft and Windows, DeBeers and diamonds**, your local natural gas company.

mpetition is a type of market structure where many companies are present in an industry, and they produce similar but differentiated products. None of the companies enjoy a monopoly, and each company operates independently without regard to the actions of other companies. The market structure is a form of imperfect competition.

The characteristics of monopolistic competition include the following:

The presence of many companies Each company produces similar but differentiated products Companies are not price takers Free entry and exit in the industry Companies compete based on product quality, price, and how the product is marketed Companies in a monopolistic competition make economic profits in the short run, but in the long run, they make zero economic profit. The latter is also a result of the freedom of entry and exit in the industry. Economic profits that exist in the short run attract new entries, which eventually lead to increased competition, lower prices, and high output.

Such a scenario inevitably eliminates economic profit and gradually leads to economic losses in the short run. The freedom to exit due to continued economic losses leads to an increase in prices and profits, which eliminates economic losses.

In addition, companies in a monopolistic market structure are productively and allocatively inefficient as they operate with existing excess capacity. Because of the large number of companies, each player keeps a small market share and is unable to influence the product price. Therefore, collusion between companies is impossible.

In addition, monopolistic competition thrives on innovation and variety. Companies must continuously invest in product development and advertising and increase the variety of their products to appeal to their target markets. Competition with other companies is thus based on quality, price, and marketing.

Quality entails product design and service. Companies able to increase the quality of their products are, therefore, able to charge a higher price and vice versa. Marketing refers to different types of advertising and packaging that can be used on the product to increase awareness and appeal.

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENTOFMANAGEMENTSTUDIES

SubjectTitle:CostManagement Course:M.Arch SubjectCode:SBAA5341 Year:II-Semester:III

UNIT-11IPREREQUSITES OF CONTRACT COSTING

Definition, Essential Requirements, Trade usage, Forms of contract, Termination of contract, Labour contract Negotiated contracts, Schedule of prices contract, package deal contract, Demolition contracts, Responsibilities of the Engineer, Contractor and owner, Earnest money and security Deposits, Mobilization fund, Tender, opening of Tenders, Scrutiny of Tenders, Acceptance of Tender, Revocation of Tender, Tender form, Unbalanced Tender, Liquidated damages, Advertisement, Contract document, Qualification of contract, Direct and Indirect cost, Basic price contracts, Conditions of contract, Object and importance, peculiarities, General provision, Typical clauses of the conditions of contract, Conditions of contract in outlines. Rate analysis: Purposes of Rate Analysis, Factors affecting, importance, schedule of Rates, Task work per day, Rate analysis of typical items.

Definition of Contract: in the simplest definition, a promise enforceable by law. The promise may be to do something or to refrain from doing something. The making of a contract requires the mutual assent of two or more persons, one of them ordinarily making an offer and another accepting. If one of the parties fails to keep the promise, the other is entitled to legal redress. The law of contracts considers such questions as whether a contract exists, what the meaning of it is, whether a contract has been broken, and what compensation is due the injured party.

A contract is a promise or a set of promises for the breach of which the law gives a remedy, or the performance of which the law in some way recognizes as a duty.

Contract means the total legal obligation which results from the parties' agreement as affected by this Act and any other applicable rules of law.

Essential Requirement of Contract Costing:

At the heart of most professional relationships is a contract. If you're striking a bargain, coming to an agreement, or closing a deal, a contract is what cements the obligations, rights, and duties of all parties involved.

And even though contracts are infinitely varied in length, terms, and complexity, all contracts must contain these six essential elements.

Offer

Acceptance

Awareness

Consideration

Capacity

Legality

When these six elements are present, a contract evolves from a simple agreement to a binding legal document. But if you lack just one of them, a contract may not be enforceable at all. Let's take a look at each element.

Contractual Offer

All contracts start with desire and responsibility. Someone wants (desires) something, and someone can fulfill (take responsibility for) that want. Known as "the offer," this first essential element encompasses the duties and responsibilities of each party, but must also demonstrate an exchange of value. That value can be money, or it can relate to a desired action or outcome.

Technically, an offer does not exist until it is received by the requesting party (the offeree). After the offer has been received, it can still be revoked, altered, or terminated at any time before acceptance.

The offeree is also free to extend a counter-offer. When a counter-offer is made, the original offer is terminated, and the parties are now in the process of bargaining for a new desired outcome.

Contract Acceptance:

Once the offer is presented, the offeree can decide whether to accept or reject the proposal. The offeree can communicate acceptance either verbally or in writing (including mail or email)

Acceptance can take many forms, including:

Conditional Acceptance

Acceptance by Action

Option Agreement

In general, a counter-offer is considered a termination of the original offer, but some circumstances allow for conditional acceptance. For example, the Universal Commercial Code

(UCC) acknowledges the validity of new conditions to an offer, as long as those conditions are made known to both parties and do not cause surprise or hardship.

Inaction is not considered acceptance for the purposes of a contract. This goes back to a legal tenant established in 19th Century Britain. In that contract case, a man offering to buy a horse declared that he would consider the horse purchased unless he heard otherwise from the seller. The court determined that assumption cannot create a contract. Acceptance must be explicit; merely taking action on one side (for example, shipping unsolicited materials) is not enough. Both sides must act, but if the actions are explicit and declarative, they will rise to the level of acceptance for the purposes of the contract.

In most states, an offer is considered accepted once it has been placed in a mailbox. The "mailbox rule" applies even if the acceptance is never received by the offeror. The main rule of validity for an acceptance is that it must be a clear and direct statement that all terms and responsibilities in the contract are accepted.

Signatory Awareness

For a contract to be binding, both parties must first be aware that they are entering into an agreement. Often called "a meeting of the minds," both parties to a contract must be active participants. They must recognize the contract exists and are freely agreeing to be bound by that document's obligations.

In fact, contracts can be voided if awareness is not adequately established. For example, if one of the parties signed an agreement under duress or can prove undue influence, fraud, or misrepresentation, the contract will be invalidated. As a result, it is crucial for all parties entering into a contract to clearly and decisively establish that the agreement is genuine, mutual, and all parties consent to its contents.

In short, it's crucial that both parties know what they're getting into.

Contractual Consideration:

Ultimately the purpose of the contract relates to what it provides: the consideration. For contractual purposes, consideration includes the value that has been agreed upon, whether that be

an action or an item. Property, services, even protection from harm, are all examples of contractual consideration.

It's important to note that there does not need to be a financial component for consideration to be valid. An agreement of an exchange of services, for example, is enough to meet the legal burden of consideration. The key is that the consideration has an agreed-upon value between the signatories to the contract.

Contractual Capacity:

In simplest terms, an individual cannot sign away their rights. Of course, the reality is a bit more complicated, which is why contract law requires that all signatories demonstrate that they clearly understand the obligations, terms, and consequences of the contract before they sign.

The court defines that understanding as "legal capacity," and each party signing a contract must demonstrate this legal capacity for the contract to be valid.

Generally speaking, people who fall into one or more of these categories may not have legal *capacity to validate a contract:*

Minors

Someone with a brain disorder (e.g., dementia)

Someone under the influence of drugs or alcohol

Someone without sufficient understanding of the language used in the contract

There are, of course, ways to overcome these capacity hurdles. A minor may have a courtappointed representative, for example. In the case of a foreign language, a translated copy of the contract could suffice. The final determination on capacity ultimately rests on understanding: does each party fully comprehend the contract's words and meaning?

Contract Legality

Finally, all contracts are subject to the laws of the jurisdiction in which they operate, including any applicable federal, state, and local laws and ordinances. Obviously, a contract for an illegal action or product cannot be enforced. Even if the parties initially had no knowledge, if their agreement runs afoul of local laws, that lack of awareness is insufficient to overcome the legality burden. It also goes without saying that a contract that involves criminal activity is not valid.

As always, there are nuances. In general, the contract must adhere to the law in the jurisdiction where it's signed. Sometimes state and federal laws are not in alignment, and in those cases, the

Contract Clause (Article I, Section 10, Clause 1 of the United States Constitution) will be the guiding authority.

In addition, there are certain instances where a contract is no longer legal, including:

Undue Influence, Duress, Misrepresentation: When any party to the contract signs as a result of coercion, threats, false statements, or improper persuasion

Unconscionability: When the result of a contract triggers oppressive obligations or produces results that "shock the conscience of the court."

Public Policy and Illegality: When a contract violates public policy or jeopardizes public welfare Mistake: When an error in the contract has a "material effect" upon the obligations and responsibilities initially agreed to

Force Majeure: When circumstances beyond the control of the parties make it impossible to satisfy the obligations of the contract

Trade Usages:

Any system, custom, or practice of doing business used so commonly in a vocation, field, or place that an expectation arises that it will be observed in a particular transaction. The concept of trade usage recognizes that words and practices take on specialized meanings in different areas of business.

Different forms of contract: (On the basis of Enforcement)

A. Valid Contract:

An agreement enforceable by the law is a contract (Section 2(h)). To be enforceable it has to satisfy the requirements under Section 10 of the Indian Contract, 1872. They are:

There is some consideration for it.

The parties are competent to contract

Their consent is free.

Their object is lawful

B. Voidable Contract:

Section 2(i) of the Act defines a voidable contract. An agreement which is enforceable by law at the option of one or more of the parties thereto, but not at the option of the other, is a voidable contract.

C. Void Contract:

A void agreement is not enforceable at the option of either party. Section 2(g) of the Act explains the meaning of a void agreement.

D. Unenforceable Contract

It is one which is good in substance, but because of some technical defect, one or both parties cannot be sued on it. These defect may be the absence of writing, registration, time-barred by the law of limitation, etc.

E. Illegal/unlawful Contract

Section 23 of the Act describes some condition's when an agreement may be unlawful or illegal. A distinction has to be made between void contracts and illegal contacts. Agreements whose object or consideration is forbidden by law are called illegal contracts. In the case of void agreements, the law may merely say that if it is made, the courts will not enforce it.

On the basis of Mode of Creation:

A.Express Contracts:

The first part of Section 9 of the Indian Contract deals with promises which are expressly made. Contracts arising from expressly made promises are called express contracts.

According to Section 9 "insofar as the proposal or acceptance of any promise is made in words, the promise is said to be express". Thus contracts entered into between the parties by words, spoken or written, are known as express contracts.

B.Implied Contracts:

The second part of Section 9 of the Act deals with implied contracts. It says "insofar as such proposal or acceptance is made otherwise than in words, the promise is said to be implied." Thus contracts entered into between parties by virtue of their conduct are called implied contracts.

The terms of the agreement are not expressed in written or oral form but are inferred from their conduct.

C.Quasi-Contract:

A contract which does not arise by virtue of any agreement between the parties, but due to certain special circumstances, the law recognizes it as a contract. Such contracts come into existence because of interference from courts in the interest of justice.

On the basis of the extent of execution

A.Executed Contracts:

When both the parties have completely performed their respective obligations under the contract, it is said to be executed contract. It means that whatever was the object of the contract has been carried out. In most executed contracts the promises are made and then immediately completed. The buying of goods and/or services usually falls under this category. There is no confusion about the date of execution of the contract since in most cases it is instantaneous.

B.Executory Contract:

An executor contract is one which is one in which one or both parties are still to perform their obligations. Such controls are future contracts. In such contracts, the consideration is the promise of performance or obligation. In executor contracts, the consideration for the promise made is carried out sometime in the future.

For example – Delivery and payment are to be made after 15 days. The contract is executor. Another good example of an executor contract is that of a lease.

C. Unilateral Contract:

They are one-sided contracts. A unilateral promise is a promise from one side only and intended to induce some action by the other party. The promise is not bound to act, for he gives no promise from his side. But if he carries out the act desired by the promisor, he can hold the promisor to his promise.

D. Bilateral Contracts:

A bilateral contract is a legally binding contract formed by the exchange of reciprocal promises. Here both parties are outstanding at the time of formation of the contract. In such a case, each party is a promisor and promise. They are also known as reciprocal contracts because mutuality of obligation is essential for their enforceability.

Termination of Contract:

Termination of contract is considered to be lawful when a legitimate reason exists to end the contract before performance has been completed. Termination of a contract is a basic means to end the contract. Under the Indian Contract Act, 1872 (hereinafter to be referred as "the Contract Act"), on one hand, a contract can be validly terminated by giving legitimate reasons. For

example, by frustration, breach or prior agreement. Whereas, on the other hand, a termination can in itself become a breach of contract if it can be classified as wrongful termination.

Repudiators breach is one of the underlining principles to terminate a contract validly. It simply means a contravention of a stipulated situation which goes so much into the root of the contract that it makes further commercial performance of a contract impossible"28. A Repudiatory Breach can occur if the party does not intend to perform its part of under the contract any further or does acts which are inconsistent with the terms of the contract. Such an act ultimately affects the rights of the other party. Consequently, in case of such breach the option available to the other party is either to terminate the contract or to continue the contract by repairing the breach. If the party chooses the former one, then it generally, must be done in fair and reasonable manner as the termination is also subjected to principles of natural justice29. However, in some exceptional circumstances, a termination following repudiatory breach of contract can be justified even if principles of natural justice or the procedure given in the agreement is not followed.

Labour contract:

Contract labour, the labour of workers whose freedom is restricted by the terms of a contractual relation and by laws that make such arrangements permissible and enforceable. The essence of the contract labourer's obligation is his surrender for a specified period of the freedom to quit his work and his employer.

Negotiated Contract:

Negotiated ContractA negotiated contract is one where a specific firm is targeted, for a variety of reasons, to perform the contract, even though there is more than one firm that can perform the contract. Under usual circumstances, a competitive tender or proposal would be issued. Note, this differs from a sole source situation, which occurs when: only one firm is available and capable of performing the contract, or the urgency of the situation dictates that the competitive process cannot be used.

Schedule of prices Contract:

'Schedule of rates term contract', 'term contract' or 'measured term contract' may be used when the nature of work required is known but it cannot be quantified, or if continuity of programme cannot be determined. In the absence of an estimate, tenderers quote unit rates against a document that is intended to cover all likely activities that might form part of the works.

As the extent of the work is unknown, the unit rates include overheads and profit. General preliminaries such as scaffolding, temporary power, supervision and temporary accommodation will also have rates. On projects longer than around 18 months there might be escalation provisions based on annual percentage increases.

Package Deal Contract:

A package deal is an order or transaction that contains a number of smaller exchange or transaction items that must be completed simultaneously, or not at all. Package deals allow traders to ensure specific prices or times to maturity for multiple assets.

A package deal may also refer to the hiring of multiple employees at the same time, or none at all. This can happen if somebody is moving to a new job with a spouse or partner in the same company; or it can occur when a startup or venture is bought out by a larger incumbent. In such a case, all employees must be hired or else the deal is off.

Package Deal Examples:

A package deal contract can also be used to attract potential investors in large-scale construction projects that would benefit a local economy. For instance, the Investment Development Authority of Lebanon (IDAL) offers a package deal contract with investor incentives. They offer investment incentives based on an investment project's potential capital investment, the number of jobs created, and the project's sector type.

In IDAL's package deal contract, an investor is promised incentives including:

Full exemption from corporate income tax for a period that can run up to 10 years, project dividends taxes for a period that can run up to 10 years, and land registration fees; Up to 50% reduction on work, residence and construction permit fees; Securing work permits with no delay Demolition contractors are responsible for the process of removing buildings, structures and homes from their sites. They are responsible for the removal of buildings, structures and homes from their sites and have completed jobs with several different companies. A demolition contractor is also the one who is responsible for removing all debris and building materials from the site after a demolition project has been completed.

Demolition contractors:

Demolition contractors have many different types of jobs to perform, but some of them include: demolition of concrete structures, demolition of asphalt surfaces, demolition of wood, demolition of old railroad ties, demolition of underground piping and drainage systems and demolition of concrete and structural constructions. These jobs can be performed by individuals, companies or agencies.

If you have a property that needs to be demolished there are two options; you could hire a demolition contractor to do the job or you could do it yourself. If you want to employ the services of a demolition contractor, then you need to look for one that has experience in this type of work and you should always ask for references before making a commitment.

You can either contact a demolition contractor or you could perform the demolition yourself, but if you are not experienced with demolition, it might not be a good idea to attempt to perform the demolition by yourself. You would need to have the appropriate equipment and know how to use it. The first thing you will need to do is to search on the internet and see what other contractors are charging, so that you will have an idea of how much it will cost to demolish your structure.

You will also need to consider the kind of demolition contractor, you are going to employ. Demolition contractors can range from inexperienced individuals to highly experienced contractors, and they come in all shapes and sizes. There are some contractors that do not hire subcontractors and you may have to pay more money to get them to do the work, however they have the skill and expertise necessary to complete the demolition job successfully.

Responsibility of the Engineer:

Design. Engineers develop new technological solutions. During the engineering design process, the responsibilities of the engineer may include **defining problems, conducting and narrowing research, analyzing criteria, finding and analyzing solutions, and making decisions**.

Earnest Money vs Security Deposit:

Earnest Money and Security Deposit are two terms that should be understood with difference. Earnest money is something which is close to pledging but is slightly different from it. Earnest money is paid on faith. Hence it is not as strong as pledge. In other words it can be said that earnest money is based on assurance whereas pledge is based on security.

Earnest money necessitates perfect understanding between the giver and the borrower. Security deposits are required mostly by lessors of apartments and commercial shops. This is in a bid to protect their apartments or commercial places against possible trickery on the part of the lessees. Many disputes and cases of litigation are seen in the case of the security deposits required by residential landlords.

Municipalities had thus come to the rescue of the landlords by allowing them to withhold the security deposits executed by tenants even after they have vacated the premises. In case of litigation the municipalities have allowed the tenants too to enjoy some interest on the security deposit from the landlords.

Earnest money is given on faith and there is no intention of business in it whereas security deposits are collected with business motives. This is one of the main differences between earnest money and security deposit. There is a ground of reliance in the case of security deposits whereas there is no ground of reliance in the case of earnest money. The lender will only exhibit faith on the receiver in the case of earnest money.

The party making advance payment in the case of security deposit has no right to insist upon the return of the money since he is bound by a contract. There is no such contract between parties in the case of earnest money which is grounded on assurance.

MOBILIZATION FUND:

Mobilization Fund is the capital you need to mobilize or get started on a project after you've won the contract. It is the fuel you need to launch your project.

Money For ContractsYou've won a contract, now you need the money to get the project started. How will you fund it? Where do you go to find the capital for your contract?

We see this situation all the time. That is why we started MobilizationFund.com to help companies like yours.

We help you get the funding you need to succeed on your projects.

Meaning of Tender :

A tender is **an invitation to bid for a project or accept a formal offer** such as a takeover bid. .. The term also refers to the process whereby shareholders submit their shares or securities in response to a takeover offer.

Opening of Tender:

Open tendering is the process aimed at acquiring goods or/and services at the lowest price. The belief is to stimulate competition and minimize discrimination. This is a transparent procurement process which allows fair play for competing contractors, suppliers, or vendors. There are 2 types of biddings- open bidding (seals are open in full view) and closed bidding (seals are open in view of selective audience). It is also known as open competitive bidding, open competition or open solicitation.

The fundamental requirements of open tendering are that they should:

Be open to all qualified and interested bidders

Be advertised locally (and internationally, when required)

Have objective qualifications criteria

Have neutral and clear technical specifications

Have clear and objective evaluation criteria

It is presumed that this procurement method fosters effective competition and adds value for money; however, there are arguments to the contrary given that the open tendering method is strictly procedures-based and was primarily designed for the procurement of simple goods. As a result, it is not suitable for complex procurements where the focus is more on the output and outcome of the contracting process rather than on strict adherence to standards.

Scrutiny of tender:

Scrutiny of tender/ contract documents means **the analysis of the promises which are going to be made by the parties to each other**, so that the documents becomes a balanced one which

protects the rights and obligations of the parties to shape an individual law for an individual project.

Acceptance of Tender:

Acceptance of Tender means the letter or memorandum communicating to the supplier the acceptance of his offer (Tender) and shall include advance acceptance of his offer i.e. Letter of Intent or Rate Contract.

Revocation of Tender:

Revocation means act of annulment. Section 5 of the Indian Contract Act, 1872 lays down the rules of Revocation of Proposal. Section 5 says that a Contract can be revoked any time before the communication of acceptance is made to the proposer and not afterwards. Once the communication of acceptance is made then the contract cannot be revoked.

Section 6 of the Indian Contract Act, 1872 lays down the methods by which a revocation of proposal is made. This article deals with the methodologies that are prescribed by the Indian Contract Act, 1872 by which revocation can be put to practice. The following methodologies are mentioned below.

Notice of Revocation:

First method is revocation of a proposal by communication of notice. A proposal/offer may be revoked by the proposer/offeror by giving notice to the offeree before it is accepted. Notice of revocation will take effect when it is in the knowledge of the offeree before the communication of acceptance.

For Example: Amit offers Balraj his car for INR 2,00,000 and communicates the same through letter. Before Balraj accepts the proposal and communicates its acceptance to Amit, Amit withdraws his offer by informing Balraj. There will be no contract as the proposal has been revoked by Amit before the acceptance of the proposal.

Lapse of Time:

Second method is revocation of proposal by lapse of time period. If there is a time period prescribed for acceptance, then the proposal gets revoked if the acceptance is not communicated before expiry of the prescribed time period.

For Example: Amish applied for shares on 1st September, 2019 but the shares were allotted to Amish on 1st of September, 2020. Amish therefore refused to take the shares allotted to him. The court held that Amish has the right to refuse to take the shares as the offer has lapsed the time period for acceptance.

Condition Precedent to Acceptance:

A proposal can be revoked if the condition precedent to acceptance is not fulfilled. Sometimes, a proposer may ask the offeree to fulfil certain conditions before acceptance of the proposal, if the offeree fails to comply with those conditions prescribed in the communication of proposal, the proposal can revoke the offer. Thus, if these condition precedent to acceptance is not fulfilled, the proposal/offer lapses.

For Example: Jitesh offers to sell his Rolex watch to Kamlesh for INR 50,000. Jitesh put a condition to pay half of the amount with the acceptance letter. Kamlesh communicates the acceptance but fails to pay the amount. Jitesh has the right to revoke the proposal as the condition precedent is not satisfied by Kamlesh.

Death or Insanity of Proposer:

Another method by which a proposal can be revoked is by the death or insanity of the proposer. A proposal can be revoked by the death or insanity of the proposer, if the fact of his death or insanity comes into the knowledge of the offeree before the communication of acceptance.

Under English Law, a proposal can be revoked even after acceptance by the offeree if the acceptance is made in ignorance of fact about the proposer's death or insanity.

For Example: Zainul offers to rent his house for a period of 5 years to Gauri. Gauri came to know about the insanity of Zainul and revoked the proposal before acceptance.

Other Methods for Revocation of Proposal:

Rejection of Proposal:

Rejection of proposal is another method for revocation of proposal. A proposal can be rejected if it is not accepted by the offeree. Once the proposal is rejected it can be revived again by the offered.

For Example: Ali by letter offers his car to Haider for INR 3,00,000. Haider rejects the offer of Ali, now Haider cannot revive it again as once the offer is rejected it cannot be revived again.

Death of Offeree:

Death of an offeree is also a way by which a proposal can be revoked. A proposal which is communicated for acceptance can be revoked if the offeree who has to communicate the acceptance is dead before the communication of acceptance of proposal.

For Example: Ajay by letter offers to sell his house to Vijay. Before the communication of acceptance Vijay dies, the proposal is revoked as there is no acceptance on the part of the offeree.

Counter Offer:

A proposal is revoked if a counter offer is made to it. Offeree accepts the proposal after modifications and variations in the original offer, then the proposal made by the offeree is called a counter offer. The acceptance of counter offer amounts to rejection of original offer.

For Example: Sonu offers his watch to Monu for INR 2,000. Monu said that he will buy this watch for INR 1,500. Sonu's proposal is revoked as there is a counter offer for the same and therefore the original offer lapse.

Acceptance not being made in the mode prescribed:

If the proposer prescribed a certain mode for the communication of acceptance then the communication of acceptance by the offeree should be done strictly in the mode prescribed by the proposal. In case, the proposal is not accepted in the prescribed mode, then the proposer can revoke the proposal.

For Example: Company selected a software engineer and sent him an offer letter by email and asked him to reply within 7 days through an email only. The software engineer communicates the acceptance by posting the letter through speed-post. The offer letter clearly mentioned that acceptance should be communicated through email only. Therefore, the offer is revoked.

Subsequent illegality of the subject matter of a proposal:

A proposal can be revoked if it becomes illegal before its acceptance by the offeree.

For Example: Manufacturer offers to wholesaler tobacco worth INR 50,000. Before the communication of acceptance, there was a State Government order declaring sale of Tobacco is illegal. Thus, the offer lapse as there is illegality of the subject matter of the proposal.

Subsequent destruction of subject matter of a proposal

A proposal can be revoked if the subject matter of the proposal is destroyed before the acceptance by the offeree.

For Example: Seller offers to sell firecrackers to the wholesaler and asks the wholesaler to communicate the acceptance within 5 days. On the 3rd day, the fire broke and all the firecrackers were burnt. As the subject matter of the proposal is destroyed, therefore the proposal lapse.

Unbalanced tender:

Unbalanced tender: If **the rates quoted by contractors are varying much** with the rates quoted in DSR then such tender is called unbalanced tender. ... By doing so the contractor can earn more amount of money at initial stages and that earned money can be utilized for carrying out further items of work.

Liquidated damages:

"Liquidated damages" we mean **damages whose amount the parties to a contract quantify and designate during the negotiation of a contract for the non-breaching party to receive as compensation upon a specific breach** (e.g., non-performance, late performance or inadequate performance. **Contract Document** is the written documents that defines the basis of contract including both parties' roles, responsibilities, and detailed description of the work or service such as drawings, specifications, procedures, any other conditions, etc. The Contract Document should include sufficient information to be able to complete the work or service.

Contract Documents—Those items so designated in the Agreement, and which together comprise the Contract.

Bidding Documents—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

Bidding Requirements—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

Drawings—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

Specifications—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

Note in the following definition from EJCDC[®] C-700 that "Shop Drawings" are specifically not part of the Contract Documents:

Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

Qualification of Contractors:

- Contractor should have experience in providing services for a minimum of 3 years in respective field.
- Details of company information with organization structure, list of manpower with the CVs of key personnel, plant and machinery list mentioning year of manufacturing, support agencies, other facilities and resources.
- Details of completion of similar type of projects within last three years indicating their brief scope of work, value of work, contractual duration, actual completion of project, client's name, contact details of that client, safety appreciation or compliance certification or inspection of plant and machineries, HSE statistics, LTI graph etc.

- Details of typical project planning and execution methodology.
- Details of past track record of similar works executed with list of work orders, P.O copies or LOI copies and client completion certificates.
- Details of current commitments List of all the jobs under execution with the value of the job and percentage completion with particular emphasis on project of similar magnitude carried out.
- Details of experience of working in similar kind of project.
- Details of HSE policy, safety manual, safety plan and implementation procedures in-line with internationally accepted practices along with the statistics for last four years.
- Details of quality assurance and quality control practices currently in place for the execution of similar work.
- Details of contractor's financial performance documents (audited balance sheets with profit and loss statements) and audit reports for last 3 preceding years.
- Details of company's registration, PAN card, service tax and GST.
- Details of documents in support of Health, Safety, Environment and Quality [HSEQ] performance.
- Details of insurance of employee policy, medical evaluation including drug testing policy.
- Details of managing and monitoring sub-contractor performance.
- Details of safety and security evaluation policy.
- Copies of ISO 9001, 14001, OHSAS 18001 or any other accreditation and certification as applicable.

Direct Cost vs Indirect cost:

A direct cost is a price that can be directly tied to the production of specific goods or services. A direct cost can be traced to the cost object, which can be a service, product, or department. Direct and indirect costs are the two major types of expenses or costs that companies can incur. Direct costs are often variable costs, meaning they fluctuate with production levels such as inventory. However, some costs, such as indirect costs are more difficult to assign to a specific product. Examples of indirect costs include depreciation and administrative expenses.

Basic price contract:

In a unit rate contract the contractor offers a price for each material during the tender. Listing the unit rates per item can facilitate the calculation of possible modifications or variation orders and avoid risks. However, in reality, this may equate to a lump sum price.

Objective and importance of contract:

A contract is a formal document, accepted by both parties, employer and employee, and is the base for any flourishing business. Contracts provide better visibility to meet the duties and, achieve the objectives as agreed per the agreement. It serves as a great support for building a good rapport with the customer or the desired party.

Concerning this, Contract management is a strategy adapted to manage contracts legally signed with customers, partners, or employees. Contract management includes adjusting the terms and conditions in contracts and, ensuring adherence to the rules as per contract. Contracts guarantee a standard business procedure, by giving clarity of your requirements. It helps to achieve the desired goals easily and, serves as proof in case the expectations of one party is not fulfilled. It is viewed as breaching of the contract and, the person has to bear the loss for the service.

It is important to get your contract drafted and approved by a lawyer legally. A contract becomes inevitable due to the following reasons.

Proof of Details:

The prime purpose of creating a contract is related to the recording of details, which both parties have agreed with mutual consent. It provides a precise knowledge of the services provided by the third party or monetary expectations to be met by the person. These details will serve as legitimate proof and is very important in a contract.

Avoids Misunderstanding:

Misunderstanding is a common problem confronted in any business due to several reasons. To avoid such cases, drafting a contract is a mandate and, it is required for both parties to read the consented rules and abide by them. It has a large impact on the business as breaching the contract rules can lead to conflicts between the parties and thereby affect the business overall.

Provides Security:

A contract document plays a pivotal role in making the parties secure as it clearly specifies the tenure of the contract and set of responsibilities. Here, an employer is lawfully responsible to pay the committed salary on time and, the employee is responsible to perform his duties as esignated. Any deviation is considered contract breaching and, either of them has the sole rights to take appropriate action.

The determination of rate of particular item of work per unit from the cost of quantities of materials, cost of labours and other miscellaneous petty expenses required for the completion of the work is known as 'Rate Analysis'. A reasonable profit nearly 10 to 15 % for contractor is included in rate analysis.

If the materials are carried from the distant place more than 8 kilometers then the cost of transport is also added. Since rates of materials and labours varies from place to place. The rates of different items of work also vary from place to place.

Objective of Rate Analysis :

With the help of rate analysis actual cost of items can be determined on the location.

It helps to cross check the rates offered by contractor.

To find out the exact quantity of materials and labours required for specific work.

To finalise the labour contract rates.

Factors Affecting Rate Analysis :

1. Materials required for Rate Analysis :

Almost in every type of construction materials are the major part. About 50 % of the total cost of any work is due to the materials itself. Hence it is very much important that the cost of the materials should be exactly found out. Market surveys should be conducted to analyse the exact cost of each and every material required for the construction.

The quantity of the materials either more or less, both effects the rate analysis. Hence one should maintain proper quantity of the materials on the site.

2. Labour :

The number of the labours required for the execution of the work should be properly calculated. Selection of the labours should be done according to their categories like skilled, semi-skilled and unskilled and the payment of the labours should also be decided according to their class. About 30 % of the total cost of the work is due to the cost of labours.

3. Item Specification :

The specification of the items indicates the proportion of materials, the process and the method of the work. If superior and high quality material is issued then definitely the cost of the materials will be higher.

4. Tools and Plants :

In every type of construction work different types of tools and plants are required. It is the duty of the estimator to decide whether buying or hiring of tools and plants will be more economical. It is decided on various factors such as duration of work, number of labours, budget of work, type of work etc. If special type of instruments are used in the execution of work then the cost of the construction will be increased.

5. Overhead Charges :

Overhead charges mainly includes expenses of office, labour welfare, material testing, water supply, electrification, depreciation amount etc. This is usually considered as 2-5 % of the total cost of the work.

6. Contractor's Profit :

Normally 10 % of the overall cost of the work is considered to be contractor's profit.

7. location of the Work :

If the location of the site is in the remote areas then it will be very difficult to execute the work. Transportation charges increases as labours have to be transported to the location and the cost of labours also varies as the location is far away from their residence.

8. Miscellaneous :

Adverse climatic conditions, Completion period of work are also considered to effect the rate analysis. As the effects caused by this directly reflects into rate analysis.

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENTOFMANAGEMENTSTUDIES

SubjectTitle:CostManagement Course:M.Arch SubjectCode:SBAA5341 Year:II-Semester:III

UNIT 1V Contract costing –procedure for recording cost, methods of calculating profit on an incomplete contract. Cost plus contract- Escalation clause-retention money- Percentage completion method- completed contract method.

Introduction:

Contract costing, also known as terminal costing, is a variant of jobcosting. Contract means a big job in which work is done at site and notin factory premises. The cost of each contract is ascertained. Thus in thismethod of costing, each contract is a cost unit and an account is opened for each contract in the books of contractor to ascertain profit/loss thereon.

Features of Contract Costing:

Contract costing usually shows the following features: .

1. Contracts are generally of large size and, therefore, a contractor usually carries out a small number of contracts at a particular point of time.

2. A contract generally takes more than one year to complete,

- 3. Work on contracts is carried out at the site of contracts and not in factory premises.
- 4. Each contract undertaken is treated as a cost unit.

5. A separate contract account is prepared for each contract in the books of contractor to ascertain profit or loss on each contract.

6. Most of the materials are specially purchased for each contract. These will, therefore, be charged direct from the supplier's invoices. Any materials drawn from the store are charged to contract on the basis of material requisition notes.

7. Nearly all labour cost will be direct.

8. Most expenses (e.g., electricity, telephone, insurance, etc.) are also direct.

9. Specialist subcontractors may be employed for say, electrical fittings, welding work, glass work, etc.

10. Plant and equipment may be purchased for the contract or may be hired for the duration of the contract.

11. Payments by the customer (contractee) are made at various stages of completion of the contract based on architect's certificate for the completed stage. An amount, known as retention money, is withheld by the contractee as per agreed terms.

12. Penalties may be incurred by the contractor for failing to complete the work within the agreed period.

Contract Costing and Job Costing — Distinction

Main points of distinction between contract costing and job costing are as follows:

1. Contract is generally big while job is small. It is well said, "a job is a small contract and a contract is a big job."

2. The number of jobs undertaken at a time are usually large as compared to number of contracts because contracts are generally much bigger in size.

3. In contract costing most of the costs are chargeable direct to contract accounts. Under job costing, direct allocation to such an extent is not possible.

4. Allocation and apportionment of overhead costs is simpler in contract costing as compared to job costing.

5. Jobs are usually carried out in factory premises while contract work is done at site. Contract Costing Procedure

The basic procedure for costing of contracts is as follows:

1. Contract account. Each contract is allotted a distinct number and a separate account is opened for each contract.

2. Direct costs. Most of the costs of a contract can be allocated direct to the contract. All such direct costs are debited to the contract account. Direct costs for contracts include:

- (i) Materials,
- (ii) Labour and supervision,
- (iii) Direct expenses,
- (iv) Depreciation of plant andmachinery,
- (v) Subcontract costs, etc.

3. Indirect costs. Contract account is also debited with overheads which tend to be small in relation to direct costs. Such costs are often absorbed on some arbitrary basis as a percentage on prime cost, or materials, or wages, etc. Overheads are normally restricted to head office and storage costs.

4. Transfer of materials or plant. When materials, plant or other items are transferred from the contract, the contract account is credited by that amount.

5. Contract price. The contract account is also credited with the contract price. However, when a contract is not complete at the end of the financial year, the contract account is credited with the value of work-in-progress as on that date.

6. Profit or loss on contract. The balance of contract account represents profit or loss which is transferred to Profit and Loss Account. However, when contract is not completed

CONTRACT COSTING :

within the financial year, only a part of the profit arrived is taken into account and the remaining profit is kept as reserve to meet any contingent loss on the incomplete portion of the contract. This is discussed in detail later in this chapter.

SPECIAL POINTS IN CONTRACT COSTING

Some of the important points in contract costing are now discussed:

Cost of Materials:

Materials include (i) materials specifically purchased for the contract; (ii) materials issued from store against material requisition notes. The cost of both these types of materials is debited to the contract account.

Materials returned to store:

Whenever materials are issued in excess of requirements, asfor instance, cement, sand, pipes, bricks, etc., these are later returned to the store accompaniedby a Material Return Note which gives the details of the material returned. Such returnedmaterials are credited to contract account. *Materials at site:*

At the end of each accounting period, value of materials lying unused t site is credited to contract account and is carried forward for charging against the next period.

Cost of Labour:

All wages of workers engaged on a particular contract are charged direct to the contract rrespective of the type of work they perform. When several contracts are running at different locations, payroll is normally sectionalised so as to have separate payroll for each contract. Difficulties in costing may be encountered when some workers may have to move from one site to another when a number of small contracts are undertaken. In such situation, it becomes necessary to provide time sheets from which allocations can be made. In order to control labour utilisation and prevent fraud in the payment of wages, surprise visits by head office personnel will be necessary.

Plant Depreciation

There are two different methods of dealing with depreciation of plant in contract account:

(a) Contract account is debited with the cost of the plant installed. At the end of the year or when the plant is no longer required, the plant is revalued and contract account is credited with this revalued or depreciated figure. In case plant is sold on the completion of the contract, the contract account is credited with its sale proceeds. The net effect of the above debit and credit will be that the contract account will stand debited with the amount of depreciation which is the difference between the value of plant debited and value of plant credited. The method is generally used on long contracts which extend over more than one year because depreciated value of the plant is credited to the contract account and brought down as an opening balance in the next period.

(b) Alternatively, contract account is simply debited with the amount of depreciation. It is usual to use this method when plant is sent to contract only for a short period. For example, mobile crane or bulldozer used in a contract may be charged on this basis.

However, when a plant is hired for a contract, a charge for the hire of the plant is debited to the contract as a direct expense.

Subcontract Costs:

Work of specialised character, for which facilities are not internally available, is offered to a subcontractor. For example, steel work, glass work, painting, etc., is usually carried out by the subcontractors who are accountable to the main contractor. The cost of such work is charged to the contract account.

Payment based on Architect's Certificate:

In case the contract is small, full payment is usually made on the completion of the contract. But in case of large contracts, it may take more than one year to complete. In such acase, if no payment is received until the completion of the contract, the financial resources of the contractor could surely become strained. Therefore, a system of progress payments is agreedby parties. In this system, part payments of the contract amount are paid from time to time on the basis of certificate issued by the architects (acting for the contractee), certifying the valueof the work satisfactorily completed. Such payments received by the contractor are usuallycredited to the personal account of the contractee. It should be noted that such payments are notentered in the Contract Account.

Work-in-progress — Work Certified and Uncertified

When the contract is not completed till the end of the accounting year, the architect is required to value the work-in-progress. Such work-in-progress is classified into work certified and work uncertified.

Work Certified. This is that part of the work-in-progress which has been approved by the contractor's architect or engineer for payment. Work certified is valued at contract price (i.e., selling price), and includes an element of profit.

Work Uncertified. This is that part of the work-in-progress which is not approved by the architect or engineer. This is valued at cost and thus does not include an element of profit. Both work certified and uncertified appear on the credit side of the contract account and also on the assets side of the balance sheet.

Retention Money and Cash Ratio

It is usual practice not to pay the full amount of work certified. The contractee may pay a fixed percentage, say 80% or 90% of the work certified, depending upon the terms of the contract. This is known as Cash Ratio. The balance amount not paid is known as Retention Money. For example, if cash ratio is 75%, the retention money will be remaining 25%. This retention money is a type of security for any defective work which may be found in the contract later on. This also works as a deterrent for the contractor to leave the contract incomplete, if he finds the contract unprofitable. The retention money may also be adjusted against penalties that become due if the contract is not completed within the stipulated time as per the terms of the agreement.

Extra Work

Sometimes the contractor is required to do some extra work like additions or alterations in the work originally done as per agreement. The contractor will charge extra money for such extra work. The cost of such extra work is debited to the contract account and extra price realised is credited to the contract account.

PROFIT ON INCOMPLETE CONTRACTS

Contracts which are started and finished during the same financial year create no accounting Problems. But in case of those contracts which take more than one year to complete, a problem Arises whether profit on such contracts should be worked out only on the completion of the Contract or at the end of each financial year on the partly completed work. If profit is computed Only on the completion of the contract, profit will be high in the year of completion of the Contract, whereas in other years of working on contract, profit will be nil. This would result not only in distorted profit pattern but also higher tax liability because income tax at higher rates may have to be paid. Therefore, when contracts extend beyond a year, it becomes necessary to take into account the profit earned (or loss incurred) on the work performed during each year. This helps in avoiding distortion of the year-to-year profit trend of the business. There are two Aspects of profit computation:

(a) Computation of notional profit or estimated profit.

(b) Computation of the portion of such profit to be transferred to Profit and Loss Account.

Notional Profit:

Notional profit is the difference between the value of work-in-progress certified and the cost of such work-in-progress certified. It is computed as follows (Figures are assumed):

`Value of work certified	20,00,000
Add: Cost of work not yet certified	1,50,000
	21,50,000
Less: Cost of work to date	<u>19,00,000</u>
Notional Profit	2,50,000

If in any year, cost of work done exceeds the value of work certified and uncertified, theresult will be a notional loss.

Estimated Profit:

Estimated profit represents the excess of the contract price over the estimated total cost of the contract. It is computed as follows (Figures are assumed):

Contract Price	30,00,000
Less: Total cost already incurred	21,00,000
	9,00,000
Less: Estimated additional costs to complete the contract	<u>3,50,000</u>
Estimated Profit	<u>5,50,000</u>

Portion of Notional Profit or Estimated profit to be Transferred to Profit and LossAccount The portion of the notional or estimated profit to be transferred to P&L Account depends upon the stage of completion of the contract i.e., ratio of work-in-progress certified to total contract work. For this purpose work-in-progress uncertified is not considered. Prudence requires that the total notional profit should not be transferred to P&L Account but a portion of it should be withheld as a reserve to meet any unforeseen future expenses or contingencies.

ESCALATION CLAUSE

Contracts generally take long time to complete and in this period there may be changes in prices. Escalation clause is often provided in contracts to cover any likely changes in the price rutilisation of materials and labour. Thus, a contractor is entitled to suitably enhance the Contract price if the cost rises beyond a given percentage. The object of this clause is to safeguard the interest of the contractor against unfavourable changes in cost. The escalation Clause is of particular importance where prices of material and labour are anticipated to increase or where quantity of material and/or labour time cannot be accurately estimated.

Just as an escalation clause safeguards the interest of the contractor by upward revision of the contract price, a de-escalation clause may be inserted to look after the interest of the contractee by providing to downward revision of the contract price in the event of cost going down beyond an agreed level.

COST-PLUS CONTRACTS

Cost-plus contract is a contract in which the contract price is ascertained by adding aspecified amount or percentage of profit to the costs allowed in the contract. This type of contract terms are agreed upon in those cases where it is not possible to compute the cost inadvance with a reasonable degree of accuracy due to unstable conditions of market prices, labour rates, etc. The contractee undertakes to reimburse the actual cost of contract plus astipulated profit. The profit to be added to cost may be either a fixed amount or a specified percentage of cost. The items of cost to be included for the purpose of determining contractprice are broadly agreed upon in advance. The accounts of the contractor are usually subject to audit by the contracted.

Cost-plus contracts are usually entered into for executing special type of work, like construction of dam, powerhouse, newly-designed ship, etc., where cost estimation is difficult. Government often prefers to give contracts on 'cost-plus' terms.

Cost-plus contracts offer the following advantages:

To the Contractor:

1. There is no risk of loss on such contracts.

- 2. It protects him from the risk of fluctuations in market prices of material, labour, etc.
- 3. It simplifies the work of preparing tenders and quotations.

To the Contractee:

The contractee can ensure a fair price of the contract by being entitled to audit the accounts of the contractor.

The disadvantages of cost-plus contracts are:

To the Contractor:

1. The contractor is deprived of the advantages which would have accrued due to favourable market prices.

2. The contractor has to suffer for his own efficiency. This is because profit is usually based as a percentage of cost and efficient working resulting in lower cost also leads to lower profits.

Retention money:

Retention money is an amount held back from a payment made under a construction contract. It is usually a percentage of the amount payable of each instalment. It is generally held to ensure that a contractor performs all of its obligations under the contract, and is then released either on practical completion or after the end of a defects notification period. At the moment, retentions are not required to be held on trust.

Retentions can be held at different levels, as between principal and head contractor, and between head contractor and subcontractors, for example. Each retention has to be separately held by the responsible payer at each level, even if they all ultimately relate to one construction contract.

Does the retention scheme apply to all construction contracts:

As the CCA currently stands, after 31 March 2017 the retention scheme will apply to all commercial construction contracts. Care must be taken in checking whether or not a construction contract is commercial in nature, as the definition of a residential (non-commercial) contract is narrow.

The CCA includes a provision which would allow regulations to prescribe a minimum contract amount for the scheme, so that smaller contracts would not need to comply. It was anticipated that regulations would be in place to provide the sort of guidance common in overseas jurisdictions. However, no regulations are currently proposed, so the retention scheme will apply to all commercial construction contracts which provide for retentions, regardless of value. If no retentions are held, then compliance is not a factor.

In a move which will relieve the pressure of immediate compliance, the Regulatory Systems (Commercial Matters) Amendment Bill (Amendment Bill), which is currently before Parliament, will amend the CCA so that the retention scheme will only apply to contracts entered into or

renewed after 31 March 2017, rather than all contracts in existence on that date. It will apply to subcontracts entered into after that date, even if the head contract was entered into prior.

When can retention money be used:

Retention money can only be used by party A in limited circumstances:

to pay party B the balance owing, once the retention money is payable under the construction contract; to resolve any issues with non-compliance with party B's obligations under the construction contract; orin other circumstances set out in the construction contract.

The CCA provides that the penalty interest rate for non-payment of retentions could be prescribed by regulation, but this has not been done. It therefore falls to the parties to ensure that their contractual arrangements provide for this.

Implications of the retention scheme

The aim of the retention scheme is admirable, but there are many implications for various industries.

Implications for owners and head contractors

Unless they rely on financial instruments, owners and head contractors will be required to hold sufficient liquid funds to pay all retentions which have been withheld. For large construction companies, with multiple projects, this could easily result in many millions being held on deposit.

Unfortunately, bonds will probably only be available to the largest contractors, and the insurance policies covering retentions, which are readily available overseas, are at the moment uncommon in the New Zealand market.

Percentage of Completion Method:

The percentage of completion method is an accounting method in which the revenues and expenses of long-term contracts are recognized as a percentage of the work completed during the period. This is in contrast to the completed contract method, which defers the reporting of income and expenses until a project is completed. The percentage-of-completion method of accounting is common for the construction industry, but companies in other sectors also use the method.
Examples of the Percentage of Completion Method:

The percentage of completion accounting method is commonly used by construction firms that are contractors for buildings, energy facilities, public sector infrastructure, and other long-term physical projects. It has also been used by defense contractors (think nuclear submarines or aircraft carriers) and software developers whose projects represent a multi-year commitment of resources. For software developers, the product must be a significant custom-designed project for a client.

Completed Contract Method (CCM):-

The completed contract method (CCM) is an accounting technique that allows companies to postpone the reporting of income and expenses until after a contract is completed. Using CCM accounting, revenue and expenses are not recognized on a company's income statement even if cash payments were issued or received during the contract period.

The completed contract accounting method is frequently used in the construction industry or other sectors that involve project-based contracts.

Requirements for the Completed Contract Method:

Typically, the completed contract method is reserved for certain situations since the revenue recognition is often delayed and unpredictable. As a result, there are a few instances when CCM accounting might be helpful:

If a contract has a short-term end date and most of the revenue is likely to be recognized when the project is completed.

When a project may be subject to potential hazards that might delay its completion.

When there's uncertainty in forecasting the completion date of a project.

Completed Contract vs. Percentage of Completion Method

For longer-term projects in which revenue and expenses might be earned and paid out at various intervals throughout the project's lifetime, companies can use the percentage of completion accounting method.

A company can establish milestones throughout the project's lifetime and assign percentages of completion for each milestone. The percentage of completion method allows the revenue and expenses to be attributed to each stage of completion. However, both parties involved must be reasonably certain that they can complete their obligation of the contract.

The percentage of completion accounting method helps to protect companies from fluctuations in their revenue stream by recording revenue at regular intervals. The percentage of completion method also helps companies with their cash flow needs since it avoids the company having to pay for all of the expenses throughout the project's lifetime before receiving any revenue, as in the case with the completed contract method.

Advantages and Disadvantages of the Completed Contract Method:

The completed contract method has both advantages and disadvantages. Using CCM accounting can help avoid having to estimate the cost of a project, which can prevent inaccurate forecasts. Also, since revenue recognition is postponed, tax liabilities might be postponed as well. However, expense recognition, which can reduce taxes, is likewise delayed. From the client's perspective, the CCM allows for delayed cash outflows and ensures the work is fully performed and received before any payment is made.

On the downside, if a cluster of contracts finishes all at once, this may create a sudden surge of revenues or expenses, and account payable and account receivable, which can cause radical fluctuations in the income statement and balance sheet, respectively. From an optics perspective, this can make a company's revenue and profitability appear inconsistent to outside investors. For example, if a company needs to apply for credit from a bank, it may be challenging to prove how much revenue the company generates using the completed contract method.

By deferring the recognition of revenue and expenses until the end of the project, the company might put itself at risk of higher tax liabilities. For example, let's say a project is estimated to take three years to complete and tax laws change, leading to an increase in the business tax rate. The tax liability would be higher under the completed contract method versus using the percentage of completion approach since some of the revenue would have already been recognized.

Companies should consult a tax professional before deciding which accounting method is best from a tax standpoint.

SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY DEPARTMENTOFMANAGEMENTSTUDIES

SubjectTitle:CostManagement Course:M.Arch SubjectCode:SBAA5341 Year:II-Semester:III

UNIT V Constructive Learning: Assignment on Risk Associated with National and International Contract.

Realize the maximum value of contracts with compliance tracking and integration across enterprise systems. Identify and manage risk throughout the lifecycle with proactive insights on risk and compliance.

Contract Risk Management

Identify and manage risk throughout the contract lifecycle. A configurable risk model helps track risks across different categories, such as financial, contractual, performance and third party. For procurement, use their contracts to examine their sourcing strategy to ensure they are not overly dependent on a single supplier.

On the sell-side, enforce "know your buyer" best practices to stay in compliance with international law. Look up and leverage internal data as well as external data, from sources such as D&B and Thomson Reuters, to determine risk scores, ensure proactive risk monitoring and increase visibility for stakeholders.

Cross-Agreement Relationships Management

Create rule-based relationships between contracts (e.g. MSA-SOWs) to better enable compliance-related activities, such as the enforcement of terms and roll-ups of SLAs and financials. Smart Links provide contextual access to related documents, helping users quickly understand the context around every project and agreement. This holistic view helps to:

Reveal complex dependencies between contracts to anticipate and address potential bottlenecks Track potential liabilities by showing how the performance of one contract will impact other areas of the value chain Link buy and sell contracts to better address back-to-back contracting challenges Increase visibility across the value chain and drive alignment of terms Commercial Contract Compliance Achieve the full potential of negotiated contracts through better enforcement of commercial terms. The Icertis platform captures the terms of products and services, prices, discounts, rebates and incentives in a structured form. Integrate that data with enterprise systems and help enforce terms for better contract performance.

For sourcing, automatically check purchase orders against agreed upon contract language to detect incorrect billings issues. On the sell-side, automatically flow negotiated rebate and incentive information into financial systems for better visibility. Workflows ensure a review process to assess compliance before posting to financial systems for settlement.

Obligation and Commitment Management:

Achieve better compliance for contract commitments by identifying, capturing, assigning and tracking the completion of tasks assigned to business owners—even with commitments involving third-party paper and complex commitments. Contract workflows that require input and/or approval from users across regions or business units can instantaneously be executed.

Using seamless Microsoft integration, create obligations from Word in addition to using the web interface. Leverage ICI's intelligence to model even the most complex business rules, which automatically assign obligations to owners based on the characteristics of the commitment.

This article constitutes a critique from the inside of constructivist pedagogy. It begins with a short history of constructivist pedagogy and its relationship to constructivist learning theory. It then addresses four issues in the ways in which constructivist pedagogy are being approached in research and practice. The first issue recommends more of a research focus on student learning in classrooms that engage in constructivist pedagogy. The second leads to the suggestion of theory development that provides an understanding and descriptions of more and less effective constructivist teaching. The third centers on the necessarily deep subject matter knowledge required of teachers who adopt constructivist pedagogy; and the difficulty this requirement

imposes on elementary teachers who must deal with many subject matter areas. And the fourth issue raises the possibility that the vision of constructivist pedagogy, as presently recommended, if not mandated, locally and nationally, is strongly ideological and may impose, inappropriately, a dominant view of pedagogy on those who wish to operate differently.

CONSTRUCTIVIST THEORY

The general sense of constructivism is that it is a theory of learning ormeaning making, that individuals create their own new understandings on the basis of an interaction between what they already know and believe and ideas and knowledge with which they come into contact (Resnick,1989). Thompson (2000), however, suggests that constructivism is not a theory of learning but a model of knowing, and constructivism may be used to build a theory of learning. Nonetheless, the view of constructivism as learning theory has guided most of the development of constructivistpedagogy. More race.

Social constructionism or social constructivism. A theory that bodies of knowledge or disciplines that have been built up are "human constructs, and that the form that knowledge has taken in these fields has been determined by such things as politics, ideologies, values, the exertion of power and the preservation of status, religious beliefs, and economics elf-interest" (Phillips, 2000, p. 6). This approach centers on the ways in which power, the economy, political and social factors affect the ways in which groups of people form understandings and formal knowledge about their world. These bodies of knowledge are not considered to be objective representations of the external world.

Psychological constructivism. This approach relates to a developmental or learning theory that suggests that individual learners actively cons-tract the meaning around phenomena, and that these constructions are idiosyncratic, depending in part on the learner's background knowledge. The development of meaning may take place within a social group that affords its individual members the opportunity to share and provide warrant for these meanings. If the individuals within the group come to an agreement about the nature and warrant of a description of a phenomenon or its relationship to others, these meanings become formal knowledge.