Topic 1

Introduction to Cost and management Accounting

a. Cost: Monetary sacrifices done to achieve some objective. Cost is the amount of resource given up in exchange of some goods or services.

b. Costing: The technique and process of ascertaining cos

c. Cost Accounting: Cost Accounting is defined as "the process of accounting for cost which begins with the recording of income and expenditure and ends with the preparation of periodical statements and reports for ascertaining and controlling costs."

d. Objectives Of Cost Accounting:

- Ascertainment of Cost of each unit, job, operation, process, department or service
- Determination of Selling Price of product or service.
- Ascertainment of Profitability of product or service.
- Cost Control
  - a. Set standard
  - b. Measure actual performance
  - c. Compare standard with actual
  - d. Analyse difference between standard and actual and take appropriate actions.
- Cost Reduction: it is real and permanent reduction in cost without affecting quality and utility of goods.
- Assist management in decision making

e. Element of Cost:

- Material Cot
  - Direct Material Cost
  - Indirect Material Cost
- Employee Cost
  - Direct Labour Cost
  - Indirect Labour cost
- Other Expenses
  - Direct Expenses
  - Indirect Expenses

Overheads
- Production Overheads
- Administration Overheads
- Selling & Distribution Overheads

Direct Material Cost:

- Material which is directly used for production. It varies directly with the output.
- Material which is present in final product
- Input output relationship can be identified
- Examples: cloth used in Garments, Timber used in furniture, milk and cream used in ice cream, paper used in books, gold silver used in jewelry, Brick and cement used in building construction.
- Direct Material form part of Prime Cost

Indirect Material Cost:

- Material which is not directly used for production.
- It cannot be seen in final product
- Examples: material used by power house, boiler house, canteen or other service departments, oil and lubricants used for maintenance of machine.
- Indirect Material form part of Overheads

Direct Labour Cost:

- Labour which is directly involved in conversion of raw material into final product
- Direct Labour work can be seen into final product
- Examples: Carpenter in furniture factory, Tailor in shirt manufacturing
- Direct Labour form part of Prime Cost.

Indirect Labour Cost:

- Labour which is not directly involved in conversion of raw material into final product
- Direct Labour work cannot be seen into final product
- Examples: Labour in personnel department, time keeping department, pay roll department, accounting department, repairs and maintenance department, stores department, power house department, security department, cleaning department.
- Indirect Labour form part of Overheads.

Direct Expenses Cost:

- All Direct Cost other than direct material and direct labour are termed as direct expenses.
- It varies directly with the volume of production
- Example: Royalty based on production, Job charges, Hire charges for machine
- Direct Expenses form part of Prime Cost

Indirect Expenses Cost:

- Expenses other than direct expenses are treated as indirect expenses.
- Example: factory rent rates taxes of building, insurance of plant and machinery, lighting and heating, repairing, telephone, depreciation etc.
- Indirect Expenses form part of Overheads.

Overheads: Total of indirect material costs, indirect labour costs and indirect expenses is termed as Overheads.

a. Production/Manufacturing/Factory Overheads:

- All indirect material costs, indirect labour costs and indirect expenses incurred in factory are treated as production overheads

Indirect Material used in Factory	Indirect Labour cost in Factory	Indirect Expenses incurred in factory
Oil, consumables, cleaning material, printing and stationary used in factory	Salary of supervisor, wages and salary of cleaning staff, security staff salary	Rent, rates and taxes, repairs, insurance and depreciation of machine, factory lighting expenses, cleaning expenses, factory telephone expenses

b. Administration Overheads:

- All indirect material costs, indirect labour costs and indirect expenses incurred in relation to management and administration of business are treated as administration overheads

Indirect Material used in Administration Department	Indirect Labour cost in Administration Department	Indirect Expenses incurred in Administration Department
Printing and stationary used in office, cleaning material used in office	Salary of managing director, Accounts manager, secretary, legal manager other working staff in office, wages and salary of cleaning staff etc.	Rent, rates and taxes of office building, repairs, insurance and depreciation of office equipment, lighting expenses, cleaning expenses, office telephone expenses

c. Selling Overheads:

- All indirect material costs, indirect labour costs and indirect expenses incurred for Marketing of commodity covered under selling overheads.

Indirect Material used in Sales Department	Indirect Labour cost in Sales Department	Indirect Expenses incurred in Sales Department
Printing and stationary used in sales department, cleaning material used in sales department, cost of catalogues, list price etc.	Salary of sales director, Sales manager, sales officer, salesmen and other staff working in sales department, wages and salary of cleaning staff etc.	Rent, rates and taxes of sales building, repairs, insurance and depreciation of sales building, equipment and furniture, lighting expenses, cleaning expenses, sales office telephone expenses

d. Distribution Overheads:

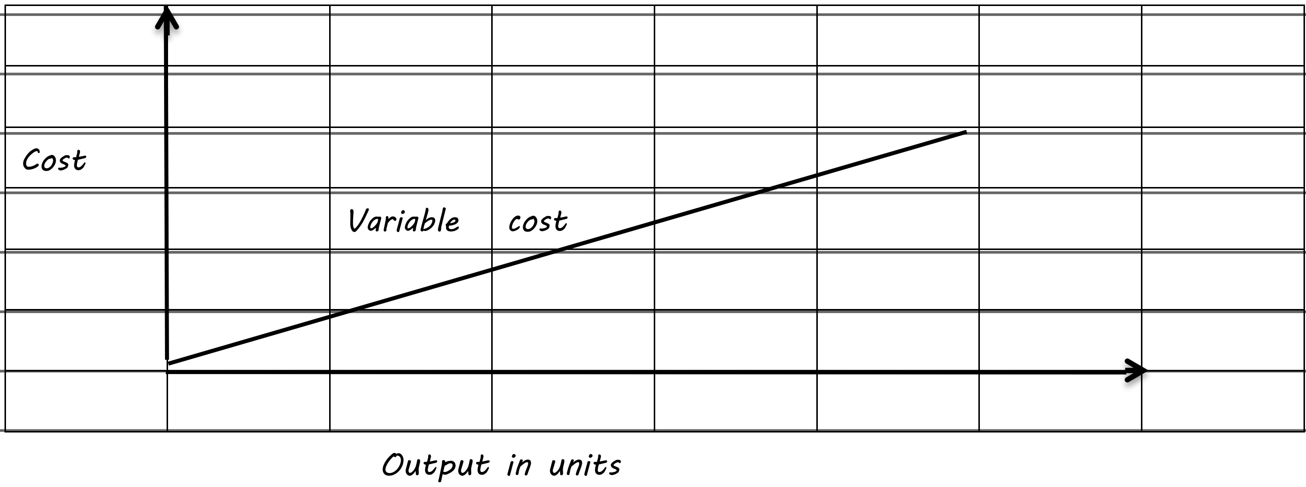
- All indirect material costs, indirect labour costs and indirect expenses incurred for dispatch and distribution of final product covered under Distribution overheads.

Indirect Material used in distribution	Indirect Labour cost in Distribution	Indirect Expenses incurred in Distribution
Printing and stationary used in distribution department, cleaning material used, petrol diesel used in transport vehicle,	Salary of distribution manager, packers, dispatch staff other staff, wages and salary of driver, cleaning staff etc.	Rent, rates and taxes of godown/warehouse building, repairs, insurance and depreciation of building, vehicle, lighting expenses, cleaning expenses, telephone expenses, freight and carriage outward, insurance of finished stock in godown.

f. Classification of cost on the basis of Behavior or Variability:

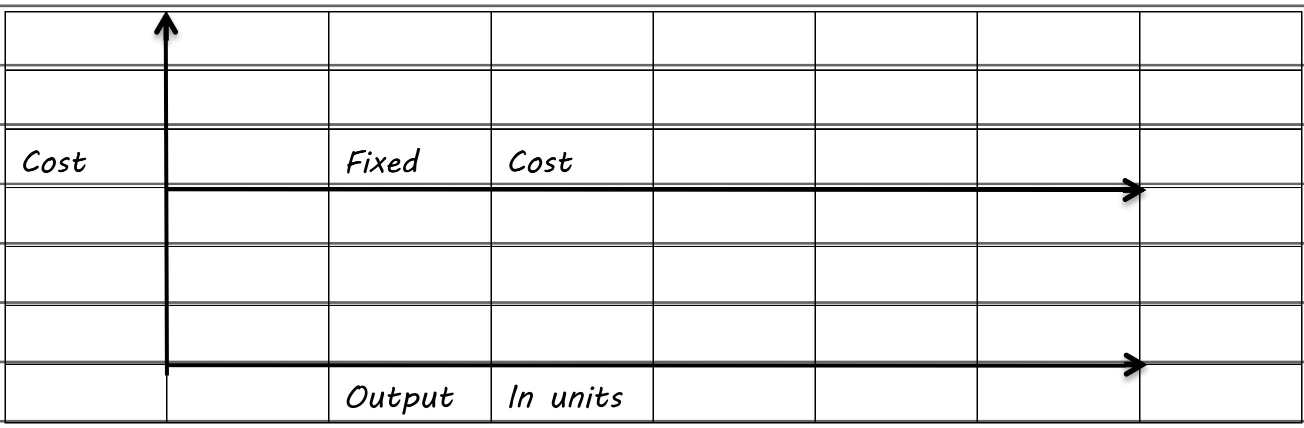
a. Variable Cost:

- This cost will vary with production
- There is direct relationship of variable cost and production. If production volume increases variable cost will also increase.
- Variable cost per unit should be same
- Direct material, Direct Labour, Direct Expenses cost are variable cost



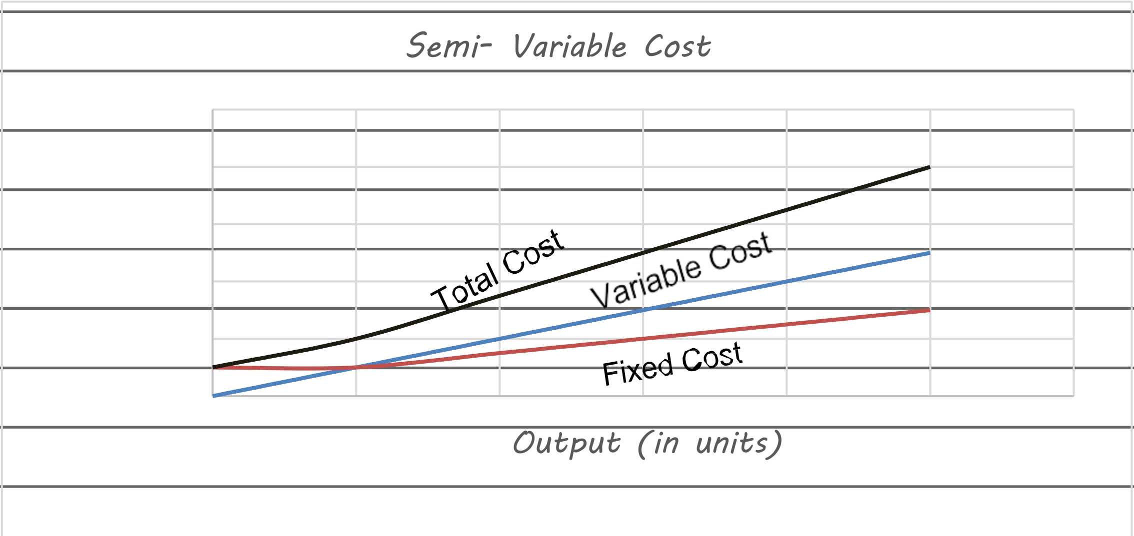
b. Fixed Cost:

- Fixed cost will not vary according to production
- This is also called as period cost.
- Up to certain level of activity this cost will be unaffected
- Fixed cost in total should be same
- Example: Rent, Managers Salary, Insurance etc.



c. Semi variable cost:

- In semi variable cost one part remains fixed up to a given range and other part varies with change in volume of production but not in same proportion.
- Semi variable cost have behavior of fixed as well as variable cost
- Semi variable cost is not perfectly fixed not perfectly variable
- Example: Telephone Expenses - Hire part is fixed and fee for call is variable.



Segregation of semi-variable costs into fixed and variable costs

1. Graphical Method:

a. On X axis consider output

b. On Y axis consider total cost

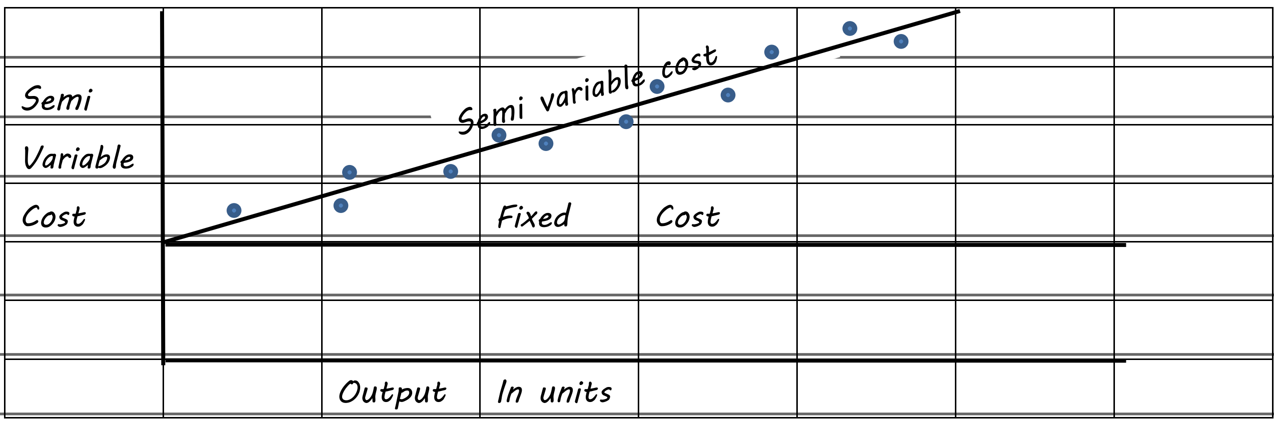
c. Total costs at different levels of output are plotted on a graph.

d. Draw line covering maximum points

e. Where above line intersect to Y axis that point will be fixed cost

f. Draw parallel line from that intersection point to X axis, it will be fixed cost line.

g. Then difference between Total Cost and Fixed Cost will be Variable cost. Divide total variable cost by quantity to get variable cost per unit.



Example 1: From the following data of semi variable cost find variable cost per unit and total fixed cost. Use Graphical method

Output	Total Semi Variable Cost
10,000	2,00,000
20,000	3,00,000
40,000	5,00,000
60,000	7,00,000

2. Comparison by period or level of activity method:

$$\text{Variable cost per unit} = \frac{\text{Difference in cost}}{\text{Difference in output}}$$

Fixed cost = Total Cost – Total Variable Cost

Or Fixed Cost = Total Cost – (Variable Cost per unit X Output)

Example 2: from the following data calculate variable cost per unit and total fixed cost. Also prepare total cost statement for 200 units of output.

Month	Output	Total Semi variable cost
January	100	260
February	140	300

3. High Low Point Method : Under this method, difference between the total cost at highest and lowest volume is divided by the difference between the sales value at the highest and lowest volume

$$\text{Variable cost per unit} = \frac{\text{Difference in cost}}{\text{Difference in output}}$$

Fixed cost = Total Cost – Total Variable Cost

Or Fixed Cost = Total Cost – (Variable Cost per unit X Output)

Example 3: Solve Example 1 with high low point method.

4. Least Square Method:

The method uses the linear equation y = mx + c,

'm' represents the variable element of cost per unit,

'c' represents the total fixed cost,

'y' represents the total cost,

'x' represents the volume of output.

The total cost is thus split into its fixed and variable elements by solving this equation.

Example 4: Find variable cost per unit and total fixed cost by using least square method

Volume/Output	150	200
Semi variable expenses	1,200	1,275

5. Analytical Method: Under this method an experienced cost accountant tries to judge what proportion of the semi-variable cost would be variable and what would be fixed.

1. The following are the maintenance costs incurred in a machine shop for six months with corresponding machine hours:

Month	Machine hours	Maintenance costs
January	2000	30000
February	2200	32000
March	1700	27000
April	2400	34000
May	1800	28000
June	1900	29000
Total	12000	180000

Analyse the maintenance cost, which is semi-variable into fixed and variable element by high and low points method (May 1985)

2. From the following information, calculate the amount of variable OH per unit and amount of total fixed OH for the whole year. (Nov 09)

Particulars	1st April to 30th June	1st Jul to 31st March
Output (	10,000	35,000
Total	40,000	1,35,000

3. Following information is available for the first and second quarter of the year 2013-14 of ABC Limited:

Particulars	Production (in units)	Semi-variable cost
Quarter I	36,000	2,80,000
Quarter II	42,000	3,10,000

You are required to segregate the semi-variable cost and calculate :

(a) Variable cost per unit; and

(b) Total fixed cost.

4. HKC co has recorded the following data in the two most recent periods:

Particulars		
Total production cost `	14,600	19,400
Volume of production	800	1200

What is the best estimate of the firms fixed cost per period? (Nov 95)

Classification of cost by Normality:

- **Normal Cost** - It is the cost which is normally incurred at a given level of output under the conditions in which that level of output is normally attained. Normal Cost is treated as part of cost of production. Normal cost of material, labour etc.
- **Abnormal Cost** - It is the cost which is not normally incurred at a given level of output in the conditions in which that level of output is normally attained. It is charged to Costing Profit and loss Account. Examples: material lost by fire, theft. Labour idle time due to lockout.

g. Classification of cost by controllability:

- **Controllable cost:** Cost that can be controlled by action of manager is called as controllable cost. For example, direct costs comprising direct labour, direct material, direct expenses and some of the overheads are generally controllable by the shop floor supervisor or the factory manager
- **Uncontrollable cost:** Costs which cannot be influenced by the action of a specified manager are known as uncontrollable costs. Material Inventory cost can't be controlled by sales manager.

h. Classification of cost on the basis of function:

- Direct Material Cost
- Direct Employee (labour) Cost
- Direct Expenses
- Production/ Manufacturing Overheads
- Administration Overheads
- Selling Overheads
- Distribution Overheads
- Research and Development costs: Research cost is cost of searching for new or improved products, services, improve production process, new application of material. Development cost starts from implementation of decision to produce new product till start of actual production.

i. **Cost used for managerial decision making:**

i) **Pre-determined Cost** - A cost which is computed in advance before production or operations start, is known as a pre-determined cost.

ii) **Marginal Cost** - It is increase in cost if the volume of output is increased or decreased by one unit. Marginal cost is variable cost.

iii) **Differential Cost** - It represent change in total cost i.e. variable as well as fixed cost due to change in activity level, technology, process, method of production.

iv) **Sunk Costs** - It is a cost which is already incurred. It is also called as Historical costs They play no role in decision making in the current period.

v) **Shut down Costs** - Those costs, which continue to be, incurred even when a plant is temporarily shut-down e.g. rent, rates, depreciation, etc. In other words, all fixed costs, which cannot be avoided during the temporary closure of a plant, will be known as shut down costs.

vi) **Discretionary Costs** - These cost are incurred on the basis of decisions regarding maximum outlay to be incurred. There is no input output relationship here. E.g. advertising, training.

vii) **Capitalized Costs** - These are costs which are initially recorded as assets and subsequently treated as expenses. Example, installation expenses on the erection of a machine are added to the cost of a machine.

viii) **Explicit Costs** - These costs are also known as out-of-pocket costs and refer to costs involving immediate payment of cash. Salaries, wages, postage and telegram, printing and stationery etc. are some examples of explicit costs involving immediate cash payment.

ix) **Implicit Costs** - These costs do not involve any immediate cash payment. They are not recorded in the books of account. They are also known as economic costs.

x) **Product Costs** - Cost incurred to convert raw material into final product is called as product cost. Hence, under marginal costing, variable manufacturing costs and under absorption costing, total manufacturing costs (variable and fixed) constitute product costs.

xi) **Period Costs** - These are the costs, which are not assigned to the products but are charged as expenses against the revenue of the period in which they are incurred. All non-manufacturing costs such as general & administrative expenses, selling and distribution expenses are recognised as period costs.

xii) Opportunity Cost - This cost refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action. For example, a firm financing its expansion plan by withdrawing money from its bank deposits. In such a case the loss of interest on the bank deposit is the opportunity cost for carrying out the expansion plan.

xiii) Imputed Cost - These costs are notional costs which do not involve any cash outlay. Also called as opportunity cost. Example: Rent of owned premises, interest on owned capital which is not actually paid.