

ESTIMATING AND COSTING

INTRODUCTION

An important problem that is faced by many industries is fixing the selling prices of its products or services. The selling price have to take care of the various costs that are involved in the manufacture of a product apart from being competitive in the market and at the same time bring profit to the organization.

In such a scenario, costs involved in the manufacture of a product have to be estimated as accurately as possible so as to be a strong basis for fixing the selling price. It is estimating & costing which analyses the expenditure involved in production so as to ascertain the various costs of all products manufactured by the firm and fix the prices so as to earn a profit. It also helps in controlling the costs and providing necessary costing information to management for decision making. In short, costing (or also Cost-Accountancy) can be called as a specialized branch of accounting which deals with classification, recording, allocation and control of costs etc. With the help of Estimating & Costing, a manufacturer finds out the total cost of each article he makes and fixes the selling price of the article in order to make a definite profit. He would know which group of products are most profitable and those which are least profitable. He can detect losses of time and wastage in the use of materials. He knows which process is expensive and can compare the cost of manufacture by one process with that of another, or the cost of the same process at different periods but with different materials, or labour.

Need for Estimating & Costing

1. **For determining the cost of production :** Estimating & Costing provides reliable data regarding expenditure on materials, wages and other things which helps in determining the cost of production precisely.
2. **For Controlling the costs :** Costing provides the cost for each product, process, department, job, contract etc, element by element. Thus the profitable and unprofitable areas are identified in the organization. This information guides the management in taking corrective measures of their unprofitable activities.
3. **For fixing selling price :** Costing provides information for fixing selling price of the product. [The cost of production, volume of production, profit analysis, break-even analysis etc. serves as a basis for determining the selling price of the product.]
4. **For Preparing Quotations and submitting tenders :** Cost Accounting principles help immensely in preparing quotations and submitting tenders. A quotation is the

information regarding the selling price of a product or service offered to a prospective buyer. A tender also is information regarding the selling price given to a prospective buyer, but given in a sealed envelop.

5. For specific Managerial Decisions : Costing provides invaluable information for taking the following managerial decisions :

- i) Make or Buy
- ii) Whether to own fixed assets or hire them.
- iii) Whether to replace the existing plant or machinery before its useful life.
- iv) Whether to replace the existing plant or machinery before its useful life.
- v) Determining the expansion or diversification plSolution.

6. For other Reasons : Costing provides information for wage Incentive plans, cost control measures for materials and supplies, budgeting and budgetary control, standard costing, changes in design of products etc.

Elements of Product Cost

The total cost of a product is the sum of several elementary costs that are involved in its manufacture. The major costs in manufacturing a product consists of :

1. Material cost
 - (a) Direct Material cost
 - (b) Indirect Material cost
2. Labour cost
 - (a) Direct labour cost
 - (b) Indirect labour cost
3. Expenses
 - (a) Direct Expenses
 - (b) Indirect Expenses or Overheads.

1. Material cost : It is the cost of raw materials and additional materials required for the manufacture of the product.

(a) Direct material cost : It is the cost of materials with which the product is made of. In other words it is the cost of materials which are processed through various stages to form a part of the product or the whole product itself.

e.g. Aluminium ingots for casting, Mild Steel rods for making shafts, sheet metal for making almirahs etc.

Direct material costs include the purchase price as well as the incidental (associated) charges like transportation, insurance, loading and unloading charges, import duties etc.

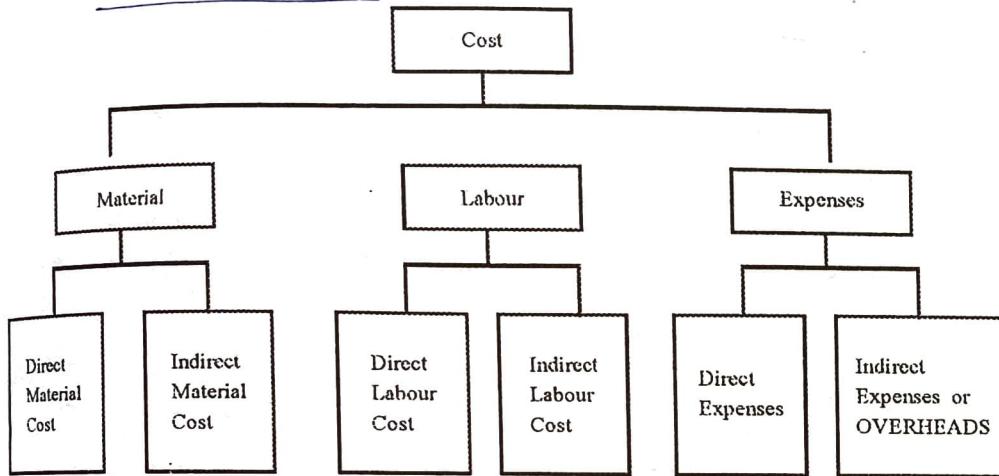


Fig. 5.1 : Elements of Product Cost

(b) **Indirect Material Cost :** It is the cost of materials necessary for the production process but is not directly used in the product itself. In other words, it is the cost of materials which are essentially needed for helping the direct materials to be converted into finished product.

e.g. Grease, lubricating oil, coolants, cotton waste etc.

2. **Labour cost :** It is the cost of remuneration paid to the employees of an organization. It includes wages, incentives, bonus, compensation, commissions etc.

(a) **Direct Labour cost :** It consists of wages paid to the workers directly engaged in the manufacturing of product. It also includes the wages paid to the workers engaged in handling the product inside the department.

e.g. Wages paid to workers like machinist, turner, fitter, moulder, welder, wire binder etc.

(b) **Indirect Labour cost :** It consists of wages paid to the worker who are indirectly helpful for the production. In other words it is the wages paid to the labour who help the direct labour in performing their duties. Indirect labour cost cannot be associated directly to a particular job but are charged on the whole lot of products produced in the plant during a particular period.

e.g. Wages paid to workers like supervisor, inspector, sweeper, watchman, helper, loader etc.

3. **Expenses :** Apart from Material cost and Labour cost, there are several other costs involved in the manufacture of a product. They are known as Expenses. Sometimes the indirect material cost and indirect labour cost are included in the expenses.

(a) Direct Expenses : It is those which can be charged directly to a particular job. In other words direct expenses are done for that specific job only and can be identified and allocated to persons and materials involved in that job.

e.g.

- i) Cost of preparing designs drawings for the manufacture of a particular product.
- ii) Cost of manufacturing jigs and fixtures for a particular product.
- iii) Cost of special type of patterns, moulding boxes, dies etc.
- iv) Cost of hiring special tools or equipment.
- v) Cost of consultancy charges for design and manufacture of a specific product.

(b) Indirect Expenses or Overheads : Indirect expenses are those which cannot be charged directly to a particular product manufactured. All expenses other than the direct material cost, direct labour cost and direct expenses are considered as Indirect Expenses. Indirect Expenses are also called Overheads, On costs, or Burden.

Indirect Expenses can be classified as :

- i) **Production or Factory Overheads :** Eg. Costs of indirect materials such as grease, coolants, cotton waste etc.; wages paid to indirect labour such as inspectors, sweeper, helpers etc.; Labour welfare activities expenses, cost of fuel, power, internal transport, maintenance; Rent of building, depreciation on machinery; are some of the production overheads.
- ii) **Administrative Overheads :** Eg. Salaries of MD, GM, Clerks, typists, Personnel Manager, Medical Officer, Security staff etc.; Expenses incurred on legal charges, audit fees; Expenses on stationery and communication; etc., are some of the administrative overheads.
- iii) **Selling Overheads :** Eg. Salaries of Sales Manager, sales representatives, agents; cost of advertisement and publicity, Expenses incurred for the preparation of tenders and quotation; etc. are some selling overheads.
- iv) **Distribution Overheads :** Eg. Packing expenses; transportation expenses; salaries of stores officers, store-keepers and their assistants; Loading and unloading expenses; are some distribution overheads.
- v) **R & D Overheads :** Salaries of R & D staff; costs of R & D equipment; costs of R & D activities; are some of the R & D overheads.

Determination of Selling Price

1. **Prime cost** : It is the sum of all direct costs. It is the cost resulting from the costs spent within the organization to produce it. It is also known as direct costs.

$$\text{Prime cost} = \text{Direct labour cost} + \text{Direct material cost} + \text{Direct expenses.}$$

2. **Factory cost** : It is the cost of a product spent directly on manufacturing it including the production overheads. It is also known as works cost.

$$\text{Factory cost} = \text{Prime cost} + \text{Production overheads.}$$

3. **Manufacturing cost** : It is the cost of manufacturing an article. It includes the cost of each item incurred in manufacturing the finished product, right from purchasing the raw material to the point when the finished product is ready for sale.

$$\text{Manufacturing cost} = \text{Factory cost} + \text{Administrative overheads}$$

4. **Total cost** : It includes all the costs up to the last rupee spent towards producing, selling the product

$$\text{Total cost} = \text{Manufacturing cost} + \text{Selling overheads} + \text{Distribution overheads}$$

5. **Selling Price** : The customers buy the product by paying the price which is called as selling price.

$$\text{Selling price} = \text{Total cost} + \text{profit}$$

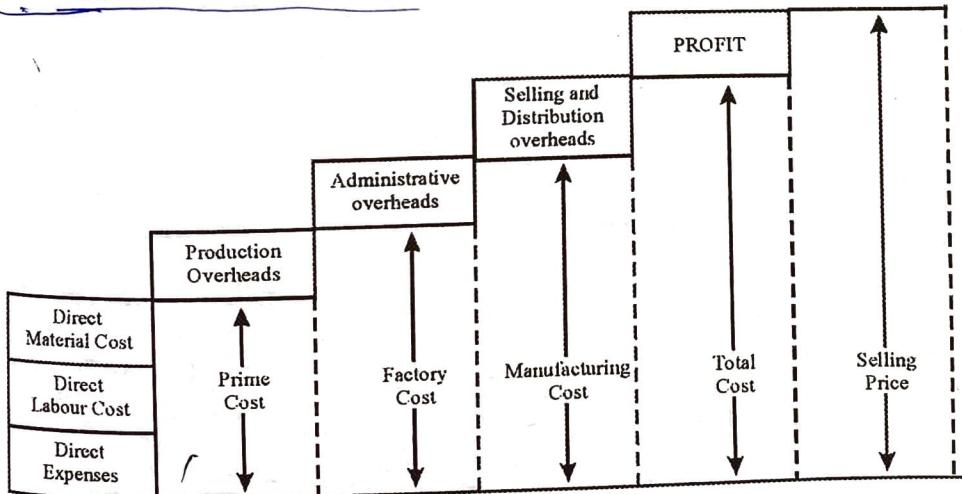


Fig. 5.2: Determination of Selling Price

6. **First cost** : It is the same as Prime cost.

7. **Marginal Cost** : It is nothing but the extra cost incurred for every unit increase in production. In other words, it is the rate of change of cost with output of production. If it is assumed that fixed costs remain unchanged by increasing output by one more unit, the marginal cost of a product will consist of the variable cost only.

OTHER RELATED COSTS

Fixed costs and Variable costs

- 1. Fixed costs :** These costs remain fixed or constant irrespective of the volume of production. They remain the same whether the production is smaller, larger or Nil.
Eg. Costs on land, building, salaries to top management, insurance, depreciation taxes on property, equipment etc.
- 2. Variable costs :** These costs vary with the volume of production. Higher the production, higher will be the variable costs. In other words, variable costs are the function of output. Variable costs become zero when production is stopped. Prime costs are also known as variable cost.
Eg. Cost of raw materials, labour, transportation of finished goods, packing cost etc.

Methods of Costing

The method of Costing adopted differs according to the nature of business and types of products manufactured. Generally the following methods of costing are more commonly used to help the determination of the selling price of a product or service.

1. Job Costing or Order Costing.
2. Process Costing.
3. Operating Cost Method.
4. Departmental Costing.
5. Unit Cost.

1. Job Costing or Order Costing

Job costing is concerned with finding the cost of each individual job or contract and then fixing the selling price based on it. In this method each job has to be planned and its cost determined separately. This method is adopted in job order industries, Special Purpose Machine Units (as in Widia India Ltd., and MICO), Ship building, fabrication, building construction and so on.

2. Process Costing

This method is employed when a standard product is made which involves a sequence of a number of processes. This method is used in industries such as chemical, paper making, oil refining, paint and cement manufacturing etc. By-products and their cost of disposal should be also taken into account while calculating the cost of each process of manufacture and the subsequent selling price.

This method indicates the cost of a product at different stages as it passes through various operation or processes or departments. For example, in the case of manufacture of portland cement, the operation of mixing, grinding the raw material, burning, cooling and grinding the clinker are readily separable and the cost of each of these stages can be quite accurately calculated. The cost calculation of each stage also takes into account the time spent and materials used on each process, as well as services such as power, lighting and heating.

3. Operating Cost

This method is used in firms providing utility services like transport service, water works, electricity boards, railways, airways etc. Here the cost is determined on the basis of operating expenses and charges are made in terms of per km, per litre, per kilowatt-hour etc.

4. Departmental Costing

In big industries like steel industries or automobile industry each department produces independently one or more components. Departmental costing method is used in such industries and the actual expenditures of each department on various products is entered on a separate cost sheet and the costing of each departments is separately undertaken.

5. Unit Cost

Costing here is done on a per unit basis. This method is adopted by single product manufacturers who make products such as bricks or cement or milk or cheese etc., than a variety of products.

Standard Costing

In every industry, there is always a need to estimate the total cost of every product even before it is manufactured. This is because the actual total cost incurred may not be the best or most efficient cost of operations involved in manufacturing the product. Therefore, the right cost or the most efficient cost of the product is calculated before production through a method called 'Standard Costing'.

Thus, standard cost is a predetermined or budgeted cost which is calculated from management's standards of efficient operation and economical expenditures. Standard costs are built upon theoretical desired standards that an industry is capable of attaining under practical and professional operational conditions. The standards are decided by using past experiences and by taking the help of concepts like Time study, Motion study, Therbligs, Process charts etc.

Standard cost represents the best estimate that can be made of what cost should be for material, labour and overheads after eliminating inefficiencies and waste. The actual cost is compared with the standard cost to find the differences which is commonly known as 'Variance'. If the actual cost is more than the standard cost corrective measures are taken

to reduce the cost of production. Standard costing is an important activity to determine the efficiency of cost controlling in an industry.

Procedure for Standard Costing

- Step 1: Standard costs are calculated separately for each cost element like material, labour, overheads etc.
- Step 2: To find out the actual costs incurred.
- Step 3: Comparison of standard costs with actual costs so as to determine the difference called as "Variance".
- Step 4: Analyze these variances to find out the reasons.
- Step 5: Report the analysis to management. Suggest further action.

Advantages of Standard Costing

1. Standard costing provides a check on various expenses and helps in cost control.
2. It detects wastage of time, material, labour etc.
3. It helps in formulating policies and budgeting.
4. It helps in fixing the selling price.
5. It helps in establishing efficiency of each department as well as that of entire organization.

Disadvantages

1. Standard costing depends on a number of assumptions.
2. It depends more on theory than on practicalities.
3. It cannot accurately take into account miscellaneous expenditure.
4. It is not suited to industries that produce non-standardized products.
5. It is difficult to choose appropriate standards for each cost centre.

Estimation for Simple components

Estimation is the assessment of the total cost in manufacturing a product even before it is manufactured. A sound knowledge of material cost, processing costs, labour costs, etc., are necessary in order to do a proper estimation. Estimation of costs is required in case of new products to ascertain their viability, saleability and profitability. Following are the few problems which deal with estimation for simple components.

WORKED PROBLEMS

1. MICO factory produces 500 Spark plugs a day involving direct material costs of Rs. 40,000, direct labour cost of Rs. 35,000 and factory overheads of Rs. 10,000. Assuming a profit of 15% of the selling price and selling overheads to be 30% of the factory cost, calculate the selling price of one spark plug.

Note : Costs given are for the whole batch of 500 Spark plugs.

Solution.

$$\text{Selling Price} = \text{Total cost} + \text{Profit}$$

$$\text{Selling Price} - \text{Price} = \text{Total cost}$$

$$\text{Selling Price} - \text{Profit} = \text{Prime cost} + \text{Factory overheads} + \text{Administrative overheads} + \text{Selling overheads}$$

Here profit is given as 0.15 times selling price, Also here selling overheads is 0.3 times factory cost which is (Prime cost + factory overheads). Since Administrative overheads and direct expenses are not mentioned they are assumed to be zero.

$$\therefore \text{S.P.} - 0.15 \text{ S.P.} = \text{Direct labour cost} + \text{Direct material cost}$$

$$+ \text{Direct expenses} + \text{Production overheads}$$

$$+ \text{Administrative overheads} + \text{Selling overheads}$$

$$0.85 \text{ S.P.} = 35000 + 40000 + 0 + 10000 + 0 + (35000 + 40000 + 10000) 30\%$$

$$0.85 \text{ S.P.} = 110500 \text{ for 500 spark plugs}$$

$$\therefore \text{Selling price} = 130000 \text{ for 500 spark plugs}$$

$$\therefore \text{Selling price of one spark plug} = \frac{130000}{500} = 260$$

$$\therefore \text{Selling Price} = \text{Rs. } 260$$

2. Determine the selling price of a gear wheel from the following data

i) No. of gear wheels produced 200

ii) Labour cost Rs. 2500

iii) Material cost Rs. 3800

iv) Factory overheads 40% of Direct cost

v) Administrative and selling overheads 25% of factory cost

vi) Profit 30% of total cost

(April, 99', Bangalore University)

Solution.

$$\begin{aligned} \text{Selling Price} &= \text{Prime cost} + \text{Production overhead} \\ &\quad + \text{Administration overhead} + \text{Selling overhead} + \text{Profit} \end{aligned}$$

Also

i) Direct costs = Prime cost

ii) Factory cost = Prime cost + Production overhead

iii) Total cost = Factory cost + Administrative overheads + Selling overheads

i) Prime costs = 2500 + 3800

or Direct cost = 6300

$$\text{ii) Factory cost} = \text{Prime cost} + 0.4 \times \text{Prime cost} \\ = 6300 + 0.4 \times 6300 = 8820$$

$$\text{iii) Total cost} = \text{Factory cost} + 0.25 \times \text{Factory cost} \\ = 8820 + 0.25 \times 8820 = 11025$$

Selling price = Total cost + profit

$$\text{Selling price} = 11025 + 0.30 \times 11025$$

$$\text{Selling price for 200 gears} = 14332.50$$

∴ **Selling price of 1 gear = Rs. 71.66**

3. 'Pizza corner' employed 75 workers in a particular month to work in the outlets as well for home delivery. The following are the details of expenditure.

i) Cost of material = Rs. 80,000

ii) Rate of wages for each workers = Rs. 20 per hour of normal duty, Rs. 40 per hour of overtime duty.

iii) Man hours per day of normal duty = 8 hours

iv) No. of holidays per month (without wages) = 5 days

v) Total overhead expenses = Rs. 20,000

vi) Total overtime availed by workers = 200 hours

vii) Profit = 20% of Total cost

Determine

i) Total cost for the month

ii) Profit for the month

iii) Man hour rate of overheads

Solution.

$$\text{i) Total cost} = \text{Direct labour cost} + \text{Direct material cost} + \text{Direct expenses} \\ + \text{Total overhead expenses}$$

$$\begin{aligned}\text{Direct labour cost} &= \text{Cost of Labour during normal working hours} \\ &\quad + \text{cost of labour in overtime} \\ &= 20 \times 8(30 - 5) 75 + 200 \times 40 \\ &= \text{Rs. 3,08,000}\end{aligned}$$

$$\text{Total cost} = 3,08,000 + 20,000 = 328000$$

$$\begin{aligned}\text{ii) Profit} &= 0.20 \times 328000 \\ &= \text{Rs. 65,600/-}\end{aligned}$$

$$\text{iii) Man hour rate overheads} = \frac{\text{Total overhead costs for the month}}{\text{No. of man hours for the month}}$$

$$\text{Man hour Rate} = \frac{2000}{75 \times 8(30 - 5) + 200}$$

$$\therefore \text{Man Hour Rate} = \text{Rs. 6.25}$$

4. Find the factory cost of a forge hammer made from solid cast Iron press of circular cross section of 30 cm dia and 160 cm length. The casting ad machining time taken to make the press in 150 minutes and the labour rate is Rs. 22 per hour. Factory overheads are 40% of direct labour cost. The density of the material is 6.8 gm/cm³ and the cost of the material is Rs. 12/kg.

Solution.

$$\text{Density of CI} = 6.8 \text{ gm / cm}^3 = 0.0068 \text{ kg/cc}$$

$$\text{Weight of Iron press} = \text{volume} \times \text{density}$$

$$= \frac{\pi d^2}{4} \times L \times \rho$$

$$= \frac{\pi \times 30^2}{4} \times 160 \times 0.0068$$

$$\text{Weight of cast Iron} = 51.27 \text{ kg}$$

$$\begin{aligned}\text{Cost of material} &= \text{weight of CI} \times \text{cost of CI per kg} \\ &= 51.27 \times 12 \\ &= \text{Rs. } 615.25\end{aligned}$$

$$\begin{aligned}\text{Labour cost} &= \text{No. of hours worked} \times \text{labour rate per hour} \\ &= 150 \text{ Minutes} \times 60 \text{ per hour} \\ &= 2.5 \times 60 \\ &= \text{Rs. } 150\end{aligned}$$

$$\begin{aligned}\text{Factory overheads} &= 0.4 \times 150 \\ &= \text{Rs. } 60\end{aligned}$$

$$\begin{aligned}\text{Factory cost} &= \text{Material cost} + \text{Labour cost} + \text{Factory overheads} \\ &= 615.25 + 150 + 60\end{aligned}$$

$$\text{Factory cost of CI press} = \text{Rs. } 825.25$$

5. A factory manufactures steel bolts and nuts whose cost estimates are made on the basis of lots of 2000 nuts and bolts as shown below.

i) Direct material cost	Rs. 1000
ii) Direct labour cost	

(a) Forging shop	
Cutting to length	Rs. 40
Setting up	Rs. 150
(b) Machine shop	
Milling heads	Rs. 150
Threading	Rs. 90
Drilling	Rs. 75
Chamfering	Rs. 55
iii) Direct Expenses	
Cost of Tools	Rs. 110
Jigs & Fixtures	Rs. 150
iv) On costs	
(a) Forging shop	120% of labour cost
(b) Machine shop	100% of labour cost
(c) Office establishment	20% of factory cost
(d) Packing and transporting	Rs. 120

If the selling price of each nut and bolt is Rs. 2.50 determine whether the factory is making a profit or loss. If so by what amount per piece.

Solution.

$$\text{Prime cost} = \text{Direct material cost} + \text{Direct labour cost} \\ + \text{Direct expenses}$$

$$\therefore \text{Prime cost} = 1000 + [40 + 150 + 150 + 90 + 75 + 55] \\ + [110 \text{ (for 2000 nuts & bolts)} + 150] = 1000 + 560 + 260$$

$$\text{Prime cost} = 1820$$

$$\text{Factory costs} = \text{Prime cost} + \text{Factory overheads} \\ = 1820 + \text{Forging shop overheads} + \text{Machine shop overheads} \\ = 1820 + [1.2 \times 560 + 1 \times 560] \\ = 3500$$

$$\text{Manufacturing cost} = \text{Factory cost} + \text{Administrative overheads} \\ = 3500 + 0.2 \times 3500 \\ = 4200$$

$$\begin{aligned}\text{Total cost} &= \text{Manufacturing cost} + \text{Selling overheads} \\ &= 4200 + 120\end{aligned}$$

$$\begin{aligned}\text{Total cost} &= 4320 \\ &\quad (\text{for 2000 nuts & bolts})\end{aligned}$$

$$\begin{aligned}\text{Selling price of 2000 Nuts & bolts} &= 2.5 \times 2000 \\ &= 5000\end{aligned}$$

$$\begin{aligned}\text{Profit} &= \text{Selling price} - \text{Factory cost} \\ &= 5000 - 4320\end{aligned}$$

Profit = Rs. 680/-

Therefore profit is made by the factory on each lot of 2000 nuts and bolts and is
Rs. 680/-

6. The catalogue price of a washing machine is Rs. 7500 and the commission allowed to the proprietor of the showroom is 20%. The administrative and the selling expenses are 60% of the factory cost and the material cost, labour cost and factory over heads are in the ratio of 2 : 3 : 1 If the cost of the labour on the manufacture of machine is Rs. 1650, determine the profit on each washing machine.

Solution.

Catalogue price of each washing machine = Rs. 9000.

If commission earned by distributor is 20%, the selling price of the machine to the distributor = $9000 - 0.2 \times 9000 = 7200/-$

Direct Material cost : Direct Labour cost : Factory overheads

2 : 3 : 1

If Direct labour cost Rs. 1650

$$\text{Direct Material cost} = \frac{1650}{3} \times 2 = 1100$$

$$\text{Factory overhead} = \frac{1650}{3} \times 1 = 550$$

$$\begin{aligned}\text{Factory cost} &= \text{Prime cost} + \text{Factory overheads} \\ &= 1650 + 1100 + 550 \\ &= 3300\end{aligned}$$

$$\begin{aligned}
 \text{Total cost of each machine} &= \text{Factory cost} + \text{Administrative and selling overheads} \\
 &= 3300 + 0.6 \times 3300 \\
 &= 5280
 \end{aligned}$$

Therefore profit on each washing machine

$$\begin{aligned}
 &= \text{Selling price} - \text{Total cost} \\
 &= 7500 - 5280
 \end{aligned}$$

Profit = Rs. 2200/-

7. A company produces 30,000 units per annum. The various cost components are as follows :

Direct materials Rs. 6/- per unit

Direct labor Rs. 5/- per unit

Fixed overheads Rs. 60,000

Variable overheads Rs. 2.50 per unit

Prepare the fixed budget for the above.

(VTU Jan'06)

Solution.

Given : No. of units = 30,000

Direct materials = Rs. 6/unit

Direct labor = Rs. 5/unit

Fixed overheads = Rs. 60,000

Variable overheads = Rs. 2.50/unit

Total Costs = ?

Note : To prepare fixed budget is to find the total expenses to be incurred in producing all the units required.

Total costs = Direct material cost + Direct labor cost + Fixed overheads + Total variable overheads

$$= 6 \times 30000 + 5 \times 30000 + 60000 + 2.50 \times 30000$$

$$\therefore \text{Total costs} = 465000$$

$$\text{Total cost / unit} = \frac{465000}{30000} = \text{Rs.}15.50/\text{unit}$$



SUMMARY

1. Costing

With the practice of Cost Accounting, a manufacturer finds out the total cost of each product he makes and fixes the selling price of the product in order to make a definite product.

Costing is needed for determining the cost of production, for controlling the costs, for fixing the selling price, for preparing quotation and tenders, for helping management to take specific decisions.

2. Elements of Product Cost

Material Cost : It is the cost of raw materials and additional materials required for the manufacture of the product. Material costs can be direct or indirect costs.

Labour Cost : It is the cost of remuneration paid to the employees. They can be direct or indirect labour costs.

Expenses : All costs other than material costs and labour costs are known as expenses. Expenses can also be direct or indirect.

3. Indirect Expenses or Overheads

Indirect expenses are those which cannot be charged directly to a particular product manufactured. All expenses other than the direct material cost, direct labour cost and direct expenses are considered as indirect expenses. They can be classified as production or factory overheads, Administrative overheads, Selling overheads, Distribution overheads, R & D overheads.

4. Determination of Selling Price in terms of Elements of Product Cost

Prime Cost = Direct Material Cost + Direct Labour Cost + Direct Expenses

Factory Cost = Prime Cost + Production or Factory Overheads

Manufacturing Cost = Factory Cost + Administrative Overheads

Total Cost = Manufacturing Cost + Selling & Distribution Overheads

Selling Price = Total Cost + Profit

First Cost = Same as Prime Cost

Marginal Cost = Increase in costs for unit increase in Production.

Different methods of overhead allocation are :

5. Standard Costing

Standard costing is the method of calculating the right cost or the most efficient cost of a product even before its manufacture. Standard costs are calculated based on past

experiences of most economical expenditures as well as using concepts like Time study, Motion study, therbligs, Process charts etc. After the actual production, the actual cost is then compared to the standard cost, to find the 'Variance'. This helps in taking corrective actions and cost controlling measures.

EXERCISE PROBLEMS

1. A factory produces 150 electric bulbs per day. It involves direct material of Rs. 250/- direct labour of Rs. 225/-. Assuming a profit of 20% of the selling price and the selling and distribution overheads as 30% of the total cost, the factory and administrative overheads being Rs. 275/-, calculate the selling price of an electric bulb.
(Aug' 96' Bangalore University.)
2. Calculate the selling price of a PEN from the following information.
 - i) No. of pens produced Rs. 150
 - ii) Labour wages Rs. 200
 - iii) Material cost Rs. 160
 - iv) Factory overheads 35% of direct costs
 - v) Administrative & selling overheads 20% of Factory cost
 - vi) Profit 25% of Total cost
3. A certain product is manufactured in batches of 100. The direct material cost is Rs. 600/-, direct labour cost is Rs. 750 and the factory overheads are 50% of the prime cost. If the selling expenses are 30% of the factory cost, what would be the selling price of each product so that the profit is 15% of the total cost.
4. Sharp company manufactures pocket calculators. The details of it's monthly expenditure are as follows :

Direct material Rs. 10000

Direct labour 200 hours at the rate of Rs. 5/- per hour

Factory overheads 10% of prime cost

Other overheads 10% of works cost

Profit 20% of total cost

Number of units manufactured per month = 100

Estimate the selling price of each pocket calculator.