UNIT COSTING

5.1 INTRODUCTION

A manufacturing company can make thousands of units of product in a given time periods. Some make millions of units per year. Ultimately those products have to be sold, and they are sold one at a time. So it is important for companies to know the unit cost of the products. This unit cost should include all costs when setting a selling price.

Now a days, also analyze production efficiency by looking at how unit costs change from month to month. All companies can break unit costs down into component parts as well, such as labor, material and overhead. This gives managers even more control over the manufacturing process. In short, by comparing standard and actual costs per unit we can reduce waste, increase productivity, and manager resources more carefully.

Unit costing is a method of ascertaining cost per unit of product which can be used by those industries where there is one or uniform or identical product.

Following are some characteristics of industries, in which unit costing method is used:

- ➔ Production process is continuous, uniform and simple.
- ➔ Product is generally single or may be few variance of the same product having changes in size, shape etc.

For example, cement, steel, sugar, coal and dairies industries.

Unit costing method is also known as single costing or output costing, because the purpose of this method is to determine the cost per unit of output.

5.2 MEANING AND DEFINITION

Unit costing refers to the costing procedure, which is ideally used in case of concerns producing a single article on large scale by continuous manufacture. The cost units are identical with identical costs. Concern using single or output costing produces basically one product or two or more grades of one product. It is not necessary to maintain separate cost account under this system. On dividing the total expenditure incurred by the number of units produced, the cost per unit is ascertained. In method of unit costing, total production cost is divided by total produced units to arrive cost per unit.

"Unit costing method is adopted in those undertakings, which produce only one type of product or a few grades of same product. Units of output are homogeneous or they can be measured by common unit. Under this method cost is ascertained by preparing cost sheet." ***By - Dasgupta***

5.3 ELEMETNS OF COSTS

Those expenses, which are included in the total cost of the product manufacture, are called Elements of cost. There are three such elements: - (1) Direct Material (2) Direct Labour (3) Overhead

According to the definition given by the institute of cost and management accountants :

"Elements of cost means primary classification of costs according to the factors upon which expenditure is incurred viz. materials cost, wages (labour cost) and expenses."

Each of these elements may be direct and indirect. This is shown below;

Direct costs	**Indirect costs**
Direct material	Indirect material
Direct labour	indirect labour
Direct exp.	Indirect exp.

- **<u>MATERIAL COST:-</u>**

  According to CIMA London, material cost is "the cost of commodities supplied to an undertaking." Materials may be direct or indirect.

  [A] DIRECT MATERIAL

  "Direct material is all material that becomes a part of the product, the cost of which are directly charged as part of prime cost. In other word, it is material which can be measured and charged directly to the cost of product." Direct material cost is that which can be conveniently identified with and allocated to become a part of the finished product.

  Example : The timber used in making woolen furniture, the leather used in making shoes, cotton used in manufacturing clothes.

  [B] INDIRECT MATERIALS

  These are the material which does not form part of the product but it is used for the purpose ancillary to production. It has minor important such as (1) small and relatively inexpensive items which may become a part of the finished product.(2) those items, which do not physically become a part of the finished products.

  Examples : Coal, oil grees, stationary in factory office, cotton waste, brush, sweeping broom, etc.

- **LABOUR COST**

  "This is the cost of remuneration of the employees of an undertaking"

  [A] DIRECT LABOUR

  Direct labour cost consists of wages paid to workers directly in converting raw materials into finished products. These wages can be conveniently identified with a particulars products, job or process. In other words, direct labour is all labour charged in altering the composition or condition of the product.

  Examples : Wages paid to carpenter preparing furniture, wages paid to shoe-maker for making shoes or wages paid to weaver for weaving cloth.

[B] INDIRECT LABOUR

Wages and salary paid to various persons who are not directly engaged in production. In other words. Indirect labour is not directly engaged in the production operations but only to assist or help in production operations.

Examples : Works managers salary, salary of factory staff, salary of inspector and supervisors, wages of factory sweeper, wages of factory watchman etc.

- **EXPENSES**

All costs other than material and labour are termed as expenses.

[A] DIRECT EXPENSES

According to CIMA London, "direct expenses are those expenses which can be identified with and allocated to cost centers or units." Direct expenses other than direct material, direct labour incurred in specific cost unit. Direct expenses are also known as chargeable expenses.

Examples : Hire a special tools or equipment for particular order or product, cost of special design

[B] INDIRECT EXPENSES

All indirect cost, other than indirect material and indirect labour costs, are termed as indirect expenses. These cannot be directly identified with a particular job, process or work order and are common to cost units or cost centers.

Examples : Factory rent, depreciation of plant, repair and maintenance of plant, insurance of factory building, factory lighting and power, internal transport expenses.

- **OVERHEAD**

Overheads is the term generally applied to those charges which cannot be charged directly to a particular unit of output. This is the aggregate of indirect material cost, indirect labour cost and indirect expenses. Thus, indirect material + indirect labour +indirect expenses = overhead. Overheads are divided into three groups as follows.

5.4 CLASSIFICATION OF OVERHEAD

[A] PRODUCT/FACTORY/WORKS OVERHEADS

Also known as factory overhead, works overhead or manufacturing overhead, these are overheads, which are concerned with the production function. It includes all indirect expenses incurred within four walls of factory and which are connected with the manufacture of a product. It includes indirect materials, indirect wages and indirect expenses in producing goods or services.

Following are the items of factory overheads:

[B] OFFICE AND ADMINISTRATION OVERHEADS

This is the indirect expenditure incurred in outside of factory in general administration and management of undertaking. i.e. in formulating policies, planning and controlling the functions, directing and motivating the personnel of an organization in the attainment of its objectives. In other words, these expenses take place in administrative office and are incurred for smooth functioning of whole unit and are not related to production process directly.

Following expenses are the examples of office and administration expenses:

[C] SELLING AND DISTRIBUTION OVERHEADS

A. Selling Overheads

Selling and distribution overhead is the cost of promoting sales and retaining customers. It is defined as "the cost of seeking to create and stimulates demand and of securing orders." It includes various expenses for creating, maintaining and increasing demand for the goods.

B. Distribution Overheads

Distribution overheads are those indirect expenses which are incurred in process of finished product available for dispatch and ends with making delivery of that finished goods to customer's place. In other words, distribution expenses comprise of all expenditure from the time of completion of product to its final destination. Examples of these types of expenses are:

5.5 UNIT COST

While cost centre's assist in ascertaining costs by location, person, equipment, operation or process, *cost unit* is a unit of product, service or a combination of them in relation to which costs are ascertained or expressed. The selection of suitable cost unit depends upon several factors, such as, nature of business, process of information, requirements of costing system, etc. but usually relates to the natural unit of the product or service. For example, in steel and cement industry, the cost unit is 'tonne', while in transportation services, the unit may be passenger-kilometer or tonne-km, etc. It may be noted that while the former is a single cost unit, the latter is a composite unit, i.e. a combination of two units. A few examples of cost units are given below:–

Industry or product	Cost unit
Automobile	Number
Biscuit	Kilogram
Bread	Thousand loaves
Breweries	Barrel
Bricks	Thousand bricks
Cigarettes	Thousand cigarettes
Chemical	Liter, gallon, kilogram
Coal, cement	Tonne
Cotton textile	K.G. of yarn or metre of cloth
Gas	Cubic foot or cubic metre
Hospital	Patient day
Hotel	Guest-day, guest room, etc.
Power and electricity	Kilowatt-hour
Steel	Tonne
Transport	Passenger kilometer, Tonne-kilometer

5.6 COST SHEET

Cost sheet is such a sheet that considers one cost center and displays unit cost of product or service. Basic elements of cost are displayed in detail in cost sheet. It is an independent sheet, which is not part of any accounting system.

Cost sheet may be prepared weekly, monthly or at some other convenient intervals. It is desirable that besides the total expenditure incurred, cost per unit of output of each element of cost be ascertained and also the percentage contribution of each item of expenditure to the total cost of production be indicated. In cost sheet, current year's figures are shown. But, for comparative analysis point of view, some time figures of last year and current year are also displayed. Estimated cost sheet can be prepared considering future trend, future time and result of past. Also, there is preparation of tender sheet for the purpose of filling tender.

5.7 FORMATE OF COST SHEET

Particulars	Amount In ₹	Total Amount in ₹	Cost per Unit In ₹
Material consumed :			
Opening Stock of Raw Material	***		
Add: Purchase of Raw materials	***		
Add: Purchase Expenses	***		
Freight			
Octroi / custom duty			
Carriage in inward			
Less: Closing stock of Raw Materials	***		
Less: Returns of Raw Material	***		
Less: Sale of scrap of Raw Material	***		
Raw Materials Consumed /Cost of material used	***	***	***
Direct Wages (Labour)	***	***	
Direct Expenses (Charges)	***	***	
Add: Opening stock of Work in progress		***	
Less: Closing stock of Work in progress		***	
Prime cost	***	***	***
Add :- Factory or Work Over Heads:			
• Factory Rent and Taxes	***		
• Factory Building Repair and Maint.	***		
• Factory Power	***		
• Cotton waste / Oil and Greece etc.	***		
• Indirect Material	***		
• Indirect Labour	***		
• Supervisor's / Inspector's Salary	***		
• Salary of Factory Manager	***		
• Contri. of employer in ESI Scheme	***		
• Canteen charges	***		
• Worker's welfare expenses	***		
• Contribution of employer in PF	***		
• Holiday Pay	***		
• Raw M/t - Purchase and Storing exp.	***		
• Drawing Office expenses	***		
• Factory Insurance	***		
• Time Office expenses	***		
• Salary of foreman	***		
• Subscription of magazine etc.	***		
• Technical Director's Salary, allowance	***		
• Plant and Machinery Depreciation, Repair and Maintenance.	***		
Less: Sale of factory scrap	***		
		***	
Works cost Incurred	***	***	***
Add: Opening Stock of WIP in factory		***	
Less: Closing Stock of WIP in factory		***	
Factory Cost	***	***	***

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Add:- Administration Over Heads:			
• Office Rent	***		
• Depreciation of office assets	***		
• Depreciation of Office building	***		
• Insurance of office building	***		
• Repair expenses of office	***		
• Stationery and printing	***		
• Telephone and postal charges	***		
• Auditor's Fees	***		
• Director's fees	***		
• Legal expenses	***		
• Repair expenses of office machine	***		
• Subscription of magazine and journals	***		
• Salary of counting house	***		
• Office lighting	***		
• Misc. expenses	***		
• Bank Charges	***		
• Salary of office staff	***		
	***	***	
Cost of Production	***	***	***
Add: Opening stock of Finished Goods		***	
Less: Closing stock of Finished Goods		***	
Cost of Goods Sold	***	***	***
Add:- Selling and Distribution OH:-			
• Salesmen's Salary/Remuneration	***		
• Sales manager's Salary	***		
• Salesmen's Commission / Allow.	***		
• Publicity and advertisement	***		
• Show Room expenses	***		
• Goods distributed as samples	***		
• Sales office - Rent, Taxes, Insurance	***		
• Sales office - Repair and Maint.	***		
• Sales Office - Lighting etc.	***		
• Catalogue / Price List Printing Exp.	***		
• Packing charges	***		
• Debt collection expenses	***		
• Bad Debts / Cash Discount	***		
• Legal expenses regarding sales	***		
• Storing expenses	***		
• Delivery Van/Vehicle's depreciation	***		
• Delivery Van/Vehicle's repairs & maint.	***		
• Delivery Van/Vehicle's driver's Salary	***		
• Delivery Van/Vehicle's diesel/oil etc.	***		
• Delivery Boy's salary	***		
• Departmental rent/Taxes Departmental lighting	***		
	***		
• Departmental furniture: depreciation and repairs	***		
	***		
• Staff's Salary			
• Stationary and Packing material charges	***		
	***	***	
Cost of Sales	***	***	***

Profit / loss		***	***
SALES		***	***

Ex.1 The **SAIWOOD** Table Manufacturing Co. Ltd. manufactures table of a standard specification. The following figures relate to the business for the Year ending 31st March. 2011 during which period 30,000 tables were manufactured:

Particulars	**₹**
Opening stock of finished tables	-
Opening stock of Raw Materials	50,000
Direct wages	6, 25,000
Rent, rates and taxes of factory	25,000
Lighting and heating of factory	57,500
Indirect factory wages	95,800
Raw materials purchased during the year	3, 25,000
Sales proceeds of 25,000 tables sold during the year	11, 25,000
Other factory overheads	21,000
Stock of Raw materials on 31st March, 2011	35,000
Office overheads	50,700

The closing stock of table is to be valued at cost of production.

You are required prepare a cost sheet showing Prime Cost, Factory Cost and Total cost of the tables manufactured.

Your are also required to calculate the price the company should quote for the supply of 1,000 tables on 30th June, 2011 at the same margin of profit as was realized during the year ended 31st March 2011. You are told that the cost of the direct wages and lighting and heating will go up by 10 percent after 31st March, 2011.

Ans.

(B) COST SHEET
for the year ended 31st March, 2011

Particulars	**₹**	**Total ₹**	**Per 1,000 Tables ₹**
Materials consumed :			
Opening stock	50,000		
Add : Purchases	3,25,000		
	3,75,000		
Less : Closing stock	35,000	3,40,000	11,333.33
Direct wages		6,25,000	20,833.33
PRIME COST		9,65,000	32,166.66
Factory overheads :			
Factory rent, rates & taxes	25,000		
Lighting and heating	57,500		
Indirect wages	95,800		
Other expenses	21,000	1,99,300	6,643.34
WORKS COST		11,64,300	38,810.00
Office overheads		50,700	1,690.00
COST PRODUCTION		12,15,000	40,500.00
Add : Opening stock of finished goods		-	
Less : Closing stock of finished goods			

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(5,000 tables at ₹ 40.50 each)		2,02,500	
COST OF SALES		10,12,500	
Sale of finished goods		11,25,000	
NET PROFIT		1,12,500	

(B) Statement showing Tender price for 1,000 tables.

	₹	₹
Raw materials		11,333.33
Direct Wages	20,833.33	
Add : 10% increase	2,083.34	22,916.67
PRIME COST		34,250.00
Factory overhead charges	6,643.34	
Add : 10% increase in lighting	191.66	6,835.00
WORKS COST		41,085.00
Office overheads		1,690.00
COST OF PRODUCTION OR TOTAL COST		42,775.00
Profit – 11.1/9% on cost price		4,753.00
AMOUNT TENDER		47,528.00

Notes :

(1) For the year ended on 31-3-2011, the cost of sales is ₹ 10, 12,500. Whereas profit is ₹ 1,12,500 i.e. percentage of profit on cost price is 11.1/9%

$$\text{Percentage of profit on cost price} = \frac{1,12,500}{10,12,500} \times 100 = 11.1/9\%$$

(2) In statement of cost for the year ended 31-3-2011, the closing stock of finished goods had not been mentioned but the difference between number of tables' manufactured (30,000 tables) and number of tables sold. (25,000 tables) will be the closing stock. The closing stock of tables is 5,000.The closing stock has been valued at its cost.

$$\text{Value of Closing Stock } \frac{12,15,000}{30,000} \times 5,000 = \text{Rs.}2,02,500.$$

Ex.2 A firm manufactured and sold 1,000 type writers in the year 2010. Its summarized Trading and Profit & Loss Account for the year 2010 is set out below :

Particulars	Rs.	particulars	Rs.
To cost of materials	1,60,000	By sales	8,00,000
" Direct wages	2,40,000		
" Manufacturing charges	1,00,000		
" Gross Profit c/d	3,00,000		
	8,00,000		8,00,000
To mgt & Staff Salaries	1,20,000	By Gross profit	3,00,000
" Rent, Rates & Insurance	20,000		
" General Expenses	40,000		
" Selling Expenses	60,000		
" Net profit	60,000		
	3,00,000		3,00,000

For the year 2011, it is estimated that :

(a) The output and sales will be of 1,200 typewriters.
(b) Price of materials will rise by 20 percent on previous levels.
(c) Wages rates will rise by 5 per cent.
(d) Manufacturing charges will increase in proportion to the combined cost of Materials and Wages.
(e) Selling expenses per unit will remain unchanged.
(f) Other expenses will remain unaffected by the rise in output.

Prepare a statement showing the price at which type writers to be manufactured in 2011 should be marketed so as to show a profit of 10 per cent on selling price.

[Guj. uni., Oct., 1965 & Oct. 1966; Sau; Uni., T.Y.1990, N.G.U. March, 1999]

Ans.

COST SHEET
for the year ended 31st Dec., 2010
(output : 1,000 Typewriters)

Particulars		Total ₹	Per unit ₹
Cost of Materials		1,60,000	160
Direct Wages		2,40,000	240
PRIME COST		4,00,000	400
Manufacturing Charges		1,00,000	100
WORKS COST		5,00,000	500
Administration Expenses :			
Management & Staff Salaries	1,20,000		
Rent, Rates & Insurance	20,000		
General Expense	40,000	1,80,000	180
COST OF PRODUCTION		6,80,000	680
Selling Expenses		60,000	60
COST OF SALES (Total Cost)		7,40,000	740
Sales		8,00,000	800
NET PROFIT		60,000	60

ESTIMATED COST SHEET FOR 2011

Particulars		Unit ₹	Total ₹
Cost of Materias 2010	160		
+ 20% increase in 2011	32	192	2,32,400
Wages 2010	240		
+ 5% increase in 2011	12	252	3,02,400
PRIME COST		444	5,32,800
Manufacturing Charges 2010	100		
+ 11% increase	11	111	1,33,200
WORKS COST		555	6,66,000
Administrative Expense : (same)			
Management & Staff Salaries	1,20,000		
Rent, Rates & Insurance	20,000		
General Expense	40,000	150	1,80,000
COST OF PRODUCTION		705	8,46,000
Selling Expense (Same)		60	72,000
COST OF SLAES (Total cost)		765	9,18,000
Net Profit (10% on S.P. i.e. 11 1/9% on C.P.)		85	1,02,000
SALES		850	10,20,000

Note : In 2010 combined cost of wages and materials per unit was ₹ 400 whereas in 2011 it will be ₹ 444. Thus there is an increase of ₹ 44 i.e. 11% (400 : 100 : 44 : ?)

Ex.3 The following figures relate to cost of a commodity for the year ending 30th June, 2010 :

	₹
Raw materials purchased	41,000
Direct wages	13,000
Production expenses	5,200
Administrative expenses	7,800
Stock on 1st July, 2009:	
Raw materials	5,000
Finished goods (1,000 tons)	5,000
Stock on 30th June 2010:	
Raw materials	7,000
Finished goods (2,000 tons)	10,000
Sale of finished goods	82,500

Advertisement, discount allowed and selling expenses came to 0-50 paise per ton sold. The sales amounted to 12,000 tons during this period.

From the information given above, prepare A statement (1) Showing Cost per unit and (2) Profit for the period.

It is estimated by the manufacturing firm that production will be 15,600 tons for the year ending 30th June, 2011. You are required to calculate the selling price per ton of product, taking into account the following information. :

1. Prices of materials will go up by 5% and wage rate will rise by 25% as compared to last year.
2. Production expenses will rise in proportion to the combined cost of materials and wages.
3. Administration overheads will remain unaffected by increase in output.
4. Selling expenses per unit will remain unaffected.
5. Last year's rate of profit is to be maintained for the year ending 30 the June, 2009.

Ans. Production for the year ending 30th June, 2009

= Sales + Closing stock – Opening Stock

= 12,000 tons + 2,000 tons – 1,000 tons

= 13,000 tons.

COST SHEET

Particulars	**1/07/'09 to 30/06/'10 13,000 tons**		**1/07/'10 to 30/06/'11 15,600 tons**		
	Total ₹	**P.U ₹**	**Increase ₹**	**P.U ₹**	**Total ₹**

Raw material Consumed :						
Opening Stock	5,000					
+ Purchase	41,000					
	46,000					
- Cl. Stock	7,000	39,000	3-00	0-15	3-15	49,140
+ Wages		13,000	1-00	0-25	1-25	19,500
Prime Cost		52,000	4-00	0-40	4-40	68,640
+ factory overheads		5,200	0-40	0-04	0-44	6,864
Factory Cost		57,200	4-40	0-44	4-84	75,504
+ Administration overhead		7,800	0-60	-0-10	0-50	7,800
Cost of production		65,000	5-00	0-34	5-34	83,304
Add : Opening stock of Finished goods		5,000				
		70,000				
Less : Closing Stock		10,000				
		60,000	5-00	0-34	5-34	83-304
+ Selling overheads		6,000	0-50	-	0-50	7,800
Cost of sales (Total Cost)		66,000	5-50	0-34	5-84	91,104
Sales		82,500	6-87	0-42	7-30	1,13,880
Profit (25% on cost)		16,500	1-37	0-08	1-46	22,776

Ex.4 The trading and profit and l.oss account of Sagar Mfg. Co. for the year ending 31-12-2010 are as follows.

Trading and Profit & Loss Account.

Particulars	Rs.	particulars	Rs.
To Raw materials purchased	68,000	By Sales	2,50,000
Carriage inward	3,000	Closing stock of	4,000
Productive wages	36,000	Raw materials	
Railway freight	3,000		
Production expenses	14,000		
Gross profit c/d	**1,30,000**		
	2,54,000		2,54,000
To Office salaries	16,000	By Gross Profit	1,30,000
Office rent	15,000	Interest	10,000
Other adm. Expenses	9,000	Discount received	1,000
Advertising	3,000	sundry receipts	2,500
Distribution Cost	6,000		
Other selling cost	5,470		
Commission of sales	15,000		
Net Profit	**75,030**		
	1,43,500		1,43,500

Estimates for the year 2011 are as under:

1. Output and sales will rise by 40%.
2. Price of material will rise by 12.5%, Carriage inward and railway freight will rise in proportion to output.
3. Because of increase in output, five new workers will be recruited and each will be paid a salary of ₹ 150 per month.
4. Half the production expenses are variable. Fixed cost will rise by 25%.

5. The company cages purchased the rented house from 1-1-2000 in respect of which the municipality has assessed rates and taxes of ₹ 6,000.
6. Office salaries will rise by 8%.
7. Distribution cost includes packing charge at the rate of Re. 1 per unit.

Prepare a statement showing selling price per unit for 2011 if the sales are to be made so as to make a profit of 25% on selling price.

Ans.

➔ The number of units sold in 2010 will be calculated on the basis of commission on sales. Commission of ₹ 6 is payable on sale of 1 unit, therefore if ₹ 15,000 paid for commission, the number of units sold will be 2,500.

➔ The production and sales during 2011 will rise by 40% i.e. 2,500 × 40/100 = 1,000 units and thus it will be 2,500 + 1,000 = 3,500 units.

➔ The cost raw materials used for 2,500 units during 2010 was ₹ 64,000 (Rs. 68,000) purchases Less ₹ 4,000 closing stock); On that basis the cost for 3,500 units would have been ₹ 89,600, but there would be a price rise of 12 1/2% during 2011 i.e. there would be a price rise of ₹ 11,200. Thus the total cost of raw material will be ₹ 1,00,800.

➔ If there is no proportionate increase in the number of workers during 2011, and only 5 new workers are recruited, then there will be an increase of ₹ 9,000 in total wages for 5 workers @ ₹ 150 p.m. for 12 months.

➔ Half of the production expenses (Rs. 14,000) is variable which comes to ₹ 7,000. This will rise in proportion to production. For 2,500 units it was ₹ 7,000 then for 3,500 units it will be ₹ 9,800; the remaining ₹ 7,000 are fixed expenses which will rise by 25% i.e., there will be an increase of ₹ 1,750; fixed expenses which will rise by 25% i.e., there will be an increase of ₹ 1,750; thus the total fixed expenses will be ₹ 8,750; Total Production Expenses = 9,800 + 8,750 = ₹ 18,550.

➔ Now office rent will not payable in 2011, as the company ahs purchased the building but the rates and taxes of ₹ 6,000 will have to be paid.

➔ Office salaries are ₹ 16,000 which will increase by 8% i.e., by ₹ 1,280; thus the total salaries will be ₹ 17,280.

➔ Distribution cost includes Re. 1 packing charge per unit which will rise by ₹ 1,000 due to increase in salsas by 1,000 units i.e., the total distribution cost will be ₹ 7,000.

➔ It is assumed that other administrative expenses, other selling expenses and advertising expenses have remained at the same level.

➔ Railway freight and carriage inward for 2,500 units were ₹ 3,000 which will rise proportionately for 3,500 units ₹ 4,200 (3,000 × 3,500/2,500)

Estimated Cost sheet for the year 2011

		Rs.	**Rs.**
Raw materials consumed	89,600		
12.5 % increase	11,200	1,00,800	
Carriage inward (3,000 + 1,200 increase)		4,200	
Railway freight (3,000 + 1,200 increase)		4,200	1,09,200
Production wages		36,000	
+ wages of five new workers		9,000	45,000
Prime cost			1,54,200

Add : Productoin expenses :		
• Variable	9,800	
• Fixed (7,000 + 1,750 increase)	8,750	18,550
Factory Cost		1,72,750
Add : Administration overheads :		
• Office salaries 16,000 + 12,80 increase	17,280	
• Muni. rates and taxes	6,000	
• Other Adm. expenses	9,000	32,280
Cost of production		2,05,030
Add : Selling & distribution overhead:		
• Advertising	3,000	
• Distribution Exps. (6,000 + 1,000 increase)	7,000	
• Other selling Exps.	5,470	
• Commission on Sales (3500 × ₹ 6)	21,000	36,470
Cost of Sales (Total Cost)		2,41,500
Add : Profit – 25% on selling price		80,500
Selling price (for 3,500 units)		3,22,000

$$\text{Selling Price per unit} = \frac{3,22,000}{3,500} = \text{Rs.92}$$

Ex.5 Following is the trading and profit and loss account of the Meera sowing machines Ltd. for the year ending date. 31-3-2010.

Company had sold and produced 1,200 machine during this year.

Dr. **Cr.**

Particulars	Rs.	Particulars	Rs.
To Cost of materials	48,000	Sales	2,40,000
To wages	72,000		
To Manufacturing charges	30,000		
To Gross profit	90,000		
	2,40,000		**2,40,000**
Salaries of office staff	36,000	By Gross profit	90,000
Rent and Taxes	6,000		
Sales expenses	12,000		
General expense	18,000		
Net profit	**18,000**		
	90,000		90,000

Following estimate had been made for the year 2011:

1. Production and sales will be of 1,500 machines.
2. Price of materials will rise by 25%.
3. Wages rates will rise by 12.5 %
4. Manufacturing chares (or expenses) will increase in proportion to the combined cost of materials and wages.
5. Selling expenses per unit will remain unchanged.
6. Other exposes will remain unchanged (or unaffected) even by the rise in production.

Prepare an estimated cost sheet showing what should be market price of machine, to receive a profit of 10% on selling price.

Ans.

Cost sheet of Meera showing Machine Ltd. for the year ending dtd. 31 -3 – 2010

Particulars		Cost Per Unit Rs.	Total Cost Rs.
Materials		40-00	48,00
Wages		60-00	72,000
Prime Cost		100-00	1,20,000
Manufacturing charges		25-00	30,000
Factory Cost		125-00	1,50,000
Administration expenses :			
Salaries of office staff	36,000		
Rent and taxes	6,000		
General expenses	18,000	50-00	60,000
Cost of production		175-00	2,10,000
selling expenses		10-00	1,2000
Cost of sales (Total cost)		185-00	22,2000
Profit		15-00	18,000
Sales		200-00	2,40,000

(Production = 1,500 machine)

Estimated Cost Sheet for 2011

Particulars		Cost Per Unit Rs.	Total Cost ₹
Materials	40-00		
+ 25% increase	10-00	50-00	75,000-00
Wages	60-00		
+ 2.5% increase	7-50	67-50	1,01,250-00
Prime Cost		117-50	1,76,250-00
Manufacturing charges	25-00		
+ 17.5% increase	4-375	29-375	44,062,50
Factory Cost		146-875	2,20,312-50
Administration expenses (fixed)		40-00	60,000-00
Cost of production		186-875	2,80,312-50
selling expenses		10-00	15,000-00
Cost of sales (Total cost)		1,96-875	2,95,312-50
Profit (10% on selling price)		21-875	32,812-50
Sales		218-75	3,28,125-00

Ex.6 Following information had been received from the books of Alpa Ltd. for the year 2010. Prepare cost sheet on the base of it :

Particulars	Amt. ₹
Direct materials	2,40,000
Direct wages (or salaries)	50,000
Deprecation on factory building	1,500
Expenses of branch office	4,000
Depreciation on office building	800
Depreciation on employees' Motor car	1,200
Insurance of office building	120
Insurance of factory building	150
Maintenance expense of Delivery van	1,000

Insurance of employees' motor car	150
Sales	4,20,000
Expense of participation in trade exhibition	1,000
Salary (including salary of sales manager ₹ 2,500 and factory engineer ₹ 2,500)	30,000
Godown expenses for finished goods	2,000
Lighting (including ₹ 400 for administration office)	4,000
Advertisement expenses	2,000
Factory miscellaneous expenses	34,000
Sales promotion expenses	5,000
Administration office expenses	5,000
Units produced (units of production) (units)	1,000

Solution Cost sheet of Alpa Ltd/ For the year 2010

(Units produced = 1,000 units)

Particulars	Rs.	Total Rs.	Cost per Unit ₹
Direct materials		2,40,000	
Direct wages (salaries)		50,000	
Prime Cost		2,90,000	290-00
Factory overheads			
• Depreciation on factory building	1,500		
• Insurance of factory building	150		
• Salary of factory engineer	2,500		
• Lighting	3,600		
• Factory miscellaneous expenses	34,000	41,750	41-75
Factory Cost		3,31,750	331-75
office and administration overheads :			
• Depreciation on office building	800		
• Depreciation on employee's motor car	1,290		
• Insurance of office building	120		
• Insurance of employee's motor car	150		
• salary	25,000		
• Lighting	400		
• Administration office expenses	5,000	32,670	32-67
Cost of production		3,64,420	364-42
Selling and distribution overheads			
• Expenses of branch office	4,000		
• Delivery van expenses	1,000		
• Expenses of participation in trade exhibition	1,000		
• Salary of sales manger	2,500		
• Godowon expenses for finished	2,000		
• Advertisement expenses	2,000		
• Sales promotion expense	5,000	17,500	17-50
Cost of sales Total cost		3,81,920	381-92
Profit		38,080	38-08
Sales		4,20,000	420-00

Ex.7 Sheeta Ltd/ Manufacturing and sold 1,000 instruments for the year ending dt. 31-3-2010. Summarized trading and profit and loss account for the year is as under :

Dr. **Cr.**

Particulars	₹	Particulars	₹
To direct material	2,00,000	By sales	7,75,000
To direct wages	3,00,000		
To manufacturing charges	1,50,000		
To gross profit	1,25,000		
	7,75,000		7,75,000
To administrative expenses :		By gross profit	1,25,000
Fixed 50,000	60,000		
Variable 10,000			
To selling expenses :			
Fixed 5,000	25,000		
Variable 20,000	40,000		
To net profit			
	1,25,000		1,25,000

For the year 2011, it is estimated that :

1. Production and sales will be of 1250 instruments.
2. Price of material will rise by 25%.
3. Wages rate will rise by 10%.
4. Manufacturing charges will increase in proportion to the combined cost (or expenses) or materials and wages.

Prepare an estimated cost sheet, showing the price at which instruments to be sold in 2011 as to earn a profit of 20% on selling price.

(North Guj. Uni. April, 1991)

Ans. First of all, let us prepare cost sheet for the year 2010 cost sheet of Sheeta Ltd. for the year ending 31 – 3 – 2010.

(Instrument Produced = 1,000 unit)

Particulars	Total cost ₹	Cost per unit ₹

Direct material consumed	2,00,000	200
Direct wages	3,00,000	300
Prime cost	5,00,000	500
Manufacturing charges	1,50,000	150
Factory cost	6,50,000	650
Administrative expenses / overheads :		
Fixed	50,000	50
Variable	10,000	10
Cost of production	7,10,000	710
Selling and distribution expenses :		
Fixed	5,000	5
Variable	20,000	20
Cost of sales (Total cost)	7,35,000	735
Profit	40,000	40
Sales	7,75,000	775

Estimated cost sheet for the year 2011

(Production = 1,250 units)

Particulars	**Amt. ₹**	**Per unit cost ₹**	**Total cost ₹**
Direct materials	200		
+ 25% increase	50	250	3,12,500
Direct wages	300		
+ 10% increase	30	330	4,12,500
Prime cost		580	7,25,000
Manufacturing charges	150		
+ 16% increase *(Note – 1)	24	174	2,17,500
Factory cost		754	9,42,500
Administrative expenses :			
Fixed		40	50,000
Variable		10	12,500
Cost of production		804	10,05,000
Selling and distribution expenses :			
Fixed		4	5,000
Variable		20	25,000
Cost of sales (total cost)		828	10,35,000
Profit (20% on selling price)		207	2,58,750
Sales		1,035	12,93,750

(Note – 1) :

	₹
Combined cost of materials and wages in 2010	500
Combined cost of materials and wages in 2011	580
	80

Increase in combined cost

So, if Cost Increase

500 80

$$100 \qquad ? \qquad = \frac{80 \times 100}{500} = 16\%$$

So, as per this calculation, increase in manufacturing charges will be calculated at 16%.

Ex.8 Jignesh Ltd. manufactures uniform standards shirts. Monthly production capacity of which is 10,000 shirts. Information of different elements of cost of for three months is as under :

Months	Units	Materials	Wages	Factory overheads	Administrative overheads	Selling overheads
January	6,000	1,20,000	90,000	60,000	22,000	28,000
February	9,000	1,80,000	1,35,000	75,000	28,000	40,000
March	4,000	80,000	60,000	50,000	18,000	22,000

Company is in a position to receive an order of 7,500 shirts in the month of April. Price is to be determined by adding 33.33 % profit on cost. Prepare cost sheet. All calculations are to be shown as part of answer.

Ans. Necessary calculations:

(1) Raw materials : January $= \frac{1,20,000}{6,000}$ = ₹ 20 per unit

February $= \frac{1,80,000}{9,000}$ = ₹ 20 per unit

March $= \frac{80,000}{4,000}$ = ₹ 20 per unit

(2) Wages : January $= \frac{90,000}{6,000}$ = ₹ 15 per unit

February $= \frac{1,35,000}{9,000}$ = ₹ 15 per unit

March $= \frac{60,000}{4,000}$ = ₹ 15 per unit

(3) Factory overheads: Factory overheads are not uniform per unit during three months. It means fixed and variable factory overheads are included in it, which will be calculated as under.

$$\frac{\text{Factory overheads of Feburary} - \text{Factory overheads of January}}{\text{Production of February} - \text{Production of January}}$$

$$= \frac{75,000 - 60,000}{9,000 - 6,000} = \frac{15,000}{3,000}$$

= ₹ 5 variable factory overheads per unit.

Total factory overheads of January	₹ 60,000
Less : Variable expenses, 6,000 units × 5	₹ 30,000
Fixed factory overheads	**₹ 30,000**

(4) Administrative overheads: Variable and fixed portion of administrative overheads can be calculated as per above method once again.

$$\frac{28,000-22,000}{9,000-6,000} = \frac{6,000}{3,000}$$

= ₹ 2, variable administrative overheads per unit.

Total administrative overheads of January	₹ 22,000
Less : Variable expenses, 6,000 units × 2	₹ 12,000
Fixed administrative overheads	**₹ 10,000**

(5) Selling overheads: By applying same method, variable and fixed selling overheads can be calculated as under:

$$\frac{40,000-28,000}{9,000-6,000} = \frac{12,000}{3,000}$$

= ₹ 4, variable selling overheads per unit.

Total selling overheads of January	₹ 28,000
Less : Variable expenses, 6,000 units × 4	₹ 24,000
Fixed selling overheads	**₹ 4,000**

Tender sheet

(Production = 7,500 units)

Particulars	Per unit ₹	Total amt. ₹
Materials	20-00	1,50,000
Wages	15-00	1,12,500
Prime cost	35-00	2,62,500
Fixed	4-00	30,000
Variable	5-00	37,500
Factory cost	44-00	3,30,000
Administrative overheads :		
Fixed	1-33	10,000
Variable	2-00	15,000
Cost of production	47-33	3,55,000
Selling overheads :		
Fixed	0-53	4,000
Variable	4-00	30,000
Total cost	51-86	3,89,000
Profit	17-29	1,29,667
Sales	69-15	5,18,667

Ex.9. Cost structure from production cost of goods sold. ₹ 45,000, is as under:

Direct materials	50%
Direct wages	20%
Overheads	30%

At present sales price, profit will get reduce by 25% if price of materials rise by 15 percent and wages rates rise by 25%.

On the basis of above information, prepare,

(1) A statement showing present profit and

(2) A statement showing new sales price to maintain present rate of profit.

(C.A. Inter, Nov. 1987)

Ans. Assume that present cost is x, on the base of it,

Particulars	Present cost	Increase	New estimated cost
Direct materials	0.5 x	0.75 x	0.575 x
Direct wages	0.2 x	0.05 x	0.250 x
Overheads	0.3 x	-	0.300 x
Total	**x**	**0.125 x**	**1.125 x**

Assuming present cost = x and profit = y :

x + y = 45,000 … (1)

Profit has been reduced by 25% due to increase in cost, which can be presented by following equation:

1.125x + 0.75y = 45,000 … (2)

x + y = 45,000

1.125x + 0.75y = 45,000

Multiplied by three (3) to first equation and by four (4) to second equation :

3x + 3y = 1,35,000
4.5x + 3y = 1,80,000
– 1.5x = – 45,000

x = 30,000 = Total cost

x + y = 45,000, in which by putting price of x

30,000 + y = 45,000

y = 15,000 = Total profit

Statement showing present profit

Particulars	₹
Direct materials (as per 50%)	15,000
Direct wages (20%)	6,000
Overheads (30%)	9,000
Total cost	30,000
Profit (50% of total cost)	15,000
Sales	45,000

Statement showing new sales price

Particulars	₹
Direct material = 15,000 + 15% increase	17,250
Direct wages = 6,000 + 25% increase	7,500
Overheads	9,000
Total cost	33,750
Profit (50% of total cost)	16,875
Sales	50,625

:: LATEST EXAMINATION EXAMPLE ::

Ex.1 Following details are taken from "Mitsy Ltd." the year ending 31-12-'10. During the year 1000 units are produced and 950 units are sold :

	Rs.	**Rs.**
Direct Materials	2,00,000	

Direct wages	3,00,000	
Direct expenses	50,000	
Manufacturing charges (20% fixed)		1,00,000
Administrative expenses :		
Fixed	50,000	
Variable	10,000	60,000
Selling expenses :		
Fixed	5,000	
Variable	20,000	25,000
		8,00,000

For the year 2011 it is estimated that:

1. Production will be 1,500 units and sales will be 1400 units
2. Price of materials will rise by 25% and price of direct wages will rise by 10%.
3. Manufacturing charges will increase in proportion to the combined cost of materials and wages.
4. Fixed administrative charges will remain fixed but variable administrative charge will increase by 5%.
5. Fixed selling expense will be doubled, but variable selling expense will remain unchanged.

Prepare : (1) Cost sheet of total units, per units for 2010. Tender sheet of total units, per units for 2011.

(S.U.S.Y.B.Com., March – 2006)

Ans.

Particulars	**2010 (1000 Units)**		**2011 (1500 Units)**	
	Total Rs.	**P.U Rs.**	**P.U Rs.**	**Total Rs.**
Direct Marterial	2,00,000	200.00	250.00	3,75,000
Direct wages	3,00,000	300.00	330.00	4,95,000
Direct Exp.	50,000	50.00	50.00	75,000
Prime Cost	5,50,000	550.00	630.00	9,45,000
Manu. Exp.				
Fixed	20,000	20.00	13.33	20,000
Variable	80,000	80.00	92.80	1,39,200
Factory Cost	6,50,000	650.00	736.13	11,04,200
Adm. Exp. :				
Fixed	50,000	50.00	33.33	50,000
Variable	10,000	10.00	10.50	15,750
Cost of Production	7,10,000	710.00	779.96	11,69,950
Less : Closing Stock	35,500	-	-	77,996
Cost of goods sold	6,74,500	710.00	779.96	10,91,954
Selling Exp. :				
Fixed	5,000	5.26	7.14	10,000
Variable	20,000	21,05	21.05	29,470
Total Cost	6,99,500	736,31	808.15	11.31,424
Profit	1,00,500	105.80	-	-
Sales	8,00,000	842.11	-	-

Ex.2 The following particulars are available from the books of Guddy ltd for the year 2010. Prepare cost sheet for the year 2005 and Estimated cost sheet for the year 2011.

Particulars	**₹**

Direct Materials	6,03,000
Direct Labour	3,82,500
Direct Expenses	54,000
Factory overhead expenses (40% Variable)	3,82,500
Administrative overhead expense (Fixed)	2,16,000
Selling expense (20% Fixed)	1,80,000
Output and sales (4,500 Units)	22,72,500

For the year 2011 the company will produce and sell 12,000 units for that the following estimation has been made:

(1) Prices of direct materials will go up by 41 rupees per unit.

(2) Direct labour will increase by 20%.

(3) Fixed factory overheads will be increased by ₹ 22,500

(4) Variable selling expenses per unit will increase up to ₹ 35.

(5) The rate of profit on sales during previous year will have to be maintained during 2010. ***[S.U.S.Y.B.Com., March – 2007]***

Ans. :

Particulars	**2010 (4500 Units)**		**2011 (1200 Units)**	
	Total Rs.	**P.U Rs.**	**P.U Rs.**	**Total Rs.**
Materials	6,03,000	134.00	175.00	21,00,000
Direct Labour	3,82,500	85.00	102.00	12.24.000
Direct Expenses	54,000	12.00	12.00	1,44,000
Prime cost	10,39,500	231.00	289.00	34,68,000
Factory overheads :				
Fixed	2,29,500	51,00	21.00	2,52,000
Variable	1,53,000	34.00	34.00	4,08,000
Factory Cost	14,22,000	316.00	344.00	41,28,000
Adm. Overheads (Fixed)	2,16,000	48.00	18.00	2,16,000
Cost of Production	16,38,000	364.00	362.00	43,44,000
Selling Expense :				
Fixed	36,000	8.00	3.00	3,000
Variable	1,44,000	32.00	35.00	4,20,000
Total Cost	18,18,000	404.00	400.00	48,00,000
Sale	22,72,500	505.00	100.00	12,00,000
Profit	4,54,500	101.00	500.00	60,00,000

Ex.3 Khushbu Ltd. manufactured and sold 2000 calculators as its 80% production capacity in the year 2010. Its profit and loss account the year 2010 is as follows :

Profit and Loss Account

Particulars	**Rs.**	**Particulars**	**Rs.**
Raw materials Consumed	1,50,000	Sales	5,00,000
Direct wages	80,000		
Factory overhead:			
Fixed	50,000		
Variable	40,000		
Office overheads (fixed)	30,000		
Selling dist. overheads :			
Fixed	30,000		
Variable	20,000		
Net profit	**1,00,000**		
	5,00,000		5,00,000

For the year 2011, it is estimated that:

1. The output will be at its full production capacity and 80% of the units produced will be sold.
2. Cost of raw materials and wages per unit will increase by 20%. And 10% respectively.
3. Factory and selling and distribution overheads (fixed) each will increase by ₹ 10,000.
4. The rate of profit on cost will remain as per last year.

From the above information, prepare the following statements :

- A cost statement for the year 2010 and
- A statement of cost showing estimated profit for the year 2011.

[S.U.S.Y.B.Com. March – 2008]

Ans. In cost books of Khushbu Ltd. cost sheet for the year 2010 and Budgeted cost sheet for the year 2011.

Particulars	2010 (4500 Units)		2011 (1200 Units)	
	Total Rs.	P.U Rs	P.U Rs.	Total Rs.
Raw Materials	1,50,000	75.00	90.00	2,25,000
Direct wages	80,000	40.00	44.00	1,10,000
Prime cost	2,30,000	115.00	134.00	3,35,000
Factory overheads :				
Fixed	50,000	25.00	24.00	60,000
Variable	40,000	20.00	20.00	50,000
Factory Cost	3,20,000	160.00	178.00	4,45,000
Office Overheads (Fixed)	30,000	15.00	12.00	30,000
Cost of Production	3,50,000	175.00	190.00	4,75,000
Less : Closing Stock	-	-	-	95,000
Cost of Goods Sold	3,50,000	175.00	190.00	3,80,000
Selling and distribution				
Expenses : Faxed	30,000	15.00	20.00	40,000
Variable	20,000	10.00	10.00	20,000
Cost of Sale/Total cost	4,00,000	200.00	220.00	4,40,000
Profit (at 25% of cost)	1,00,000	50.00	55.00	1,10,000
Sale	5,00,000	250.00	275.00	5,50,000

Ex.4 Radha Ltd. has produced and sold 5,000 units of clock at its 50% production capacity in the year 2010. The details of the cost for the year ended 31-12-2010 were as follows :

Particulars	Amt. Rs.	Particulars	Amt. ₹
Materials	5,00,000	Direct labour	3,00,000
Direct expenses	1,00,000	Factory indirect expenses	
Selling distri. exp.		(50% variable)	2,00,000
(60% fixed)	1,00,000	Office indirect exp.	
Sales	16,20,000	(fixed)	1,50,000

Estimates for the 2011:

1. The output will be at its full production capacity.
2. 80% of the units produced will be sold.
3. Cost of raw materials and wages per unit will be increased by 20% and 10% respectively.
4. Factory, office and selling and distribution overhead (fixed) will increase by ₹ 50,000, ₹ 40,000 and ₹ 20,000 respectively.

5. Variable selling expenses will increase by 25% per unit.
6. The rate of profit on cost will remain same as per the last year.

Prepare :

➔ A statement of cost showing total as well as per unit cost and profit for the year 2010.

➔ A statement of showing estimated profit for the year 2011.

[S.U.S.Y.B.Com. March / April - 2009]

Ans. **Cost Sheet of Radha Ltd. for the year 2010**
(Production selling 5,000 units)

Particulars	Total Rs.	P.U Rs.
Direct Material	5,00,000	100.00
Direct Labour	3,00,000	60.00
Direct Expenses	1,00,000	20.00
Prime Cost	9,00,000	180.00
Factory indirect expenses :		
- Fixed	1,00,000	20.00
- Variable	1,00,000	20.00
Factory Cost	11,00,000	220.00
Office indirect expenses : (fixed)	1,50,000	30.00
Cost of Production	12,50,000	250.00
Selling & Distribution Expenses :		
- Fixed	60,000	12.00
- Variable	40,000	8.00
Total Cost	13,50,000	270.00
Profit	2,70,000	54.00
Sale	16,20,000	324.00

Note : Percentage of Profit on Cost : $\frac{54 \times 100}{270} = 20\%$

Budget Cost Sheet of Radha Ltd. for the year 2011
(Production 10,000 units & Sale 8,000 Units)

Particulars	P.U Rs.	Total Rs.

Direct Material ₹ 100		
+ 20 % increase Rs. 20	120.00	12,00,000
Direct Labour Rs. 60		
+ 10% increase Rs. 6	66.00	6,60,000
Direct Expenses	20.00	2,00,000
Prime Cost	206.00	20,60,000
Factory indirect expenses :		
- Fixed ₹ 1,00,000 + increase ₹ 50,000	15.00	1,50,000
- Variable	20.00	2,00,000
Factory Cost	241.00	24,10,000
Office indirect expenses :		
Fixed ₹ 1,50,000 + Rise ₹ 40,000	19.00	1,90,000
Cost of production	260.00	26,00,000
Less : Closing Stock		
(2,000 units × R. 260 per unit)	-	5,20,000
Production cost of goods sold	260.00	20,80,000
Selling and distribution expenses :		
- Fixed ₹ 60,000 + Increase ₹ 20,000	10.00	80,000
- Variable (Rs. 8 + 25% increase)	10.00	80,000
Total Cost OR Selling Cost	280.00	22,40,000
Profit (20% on cost)	56.00	4,48,000
SALES	336.00	26,88,000

Ex.5 Sangam Ltd. produced and sold 10,000 'Walkman' during 2010. The particulars are as under .Selling price per unit is ₹ 390.

Particulars	**Amount ₹**
Materials	13,00,000
Direct wages	7,00,000
Direct expenses	1,00,000
Factory expenses (40% variable)	7,00,000
Office expenses (fixed)	2,80,000
Selling expenses (70% variable)	3,20,000
Total amount	34,00,000

During the year 2011 production and sale is estimated at 50,000 'Walkman'.

The additional information is as under:

1. Direct wage per unit will decrease by 20%.
2. Fixed factory expenses will increase by ₹ 3,00,000.
3. Office expenses will increase by 25%.
4. Variable selling expenses will rise by ₹ 0.80 per unit.
5. 25% profit is estimated on cost.

Prepare :

➔ Statement o f cost per unit and total cost of 2010.

➔ Estimated cost statement of 2011.

[Sau. Uni. S.Y.B.Com. March / April - 2010]

Ans. In Cost Book of Sangam Ltd. :

Cost Sheet for the year 2010 (Units Prof. & Sold 10,000)

Particulars	**P.U Rs.**	**Total ₹**

Material	130.00	13,00,000
Direct wages	70.00	7,00,000
Direct Expenses	10.00	1,00,000
Prime Cost	210.00	21,00,000
Factory Overheads :		
- Fixed	42.00	4.20.000
- Variable	28.00	2.80.000
Factory Cost	280.00	28.00.000
Office Expenses (Fixed)	28.00	2.80.000
Production Cost	308.00	30.80.000
Selling Expenses :		
- Fixed	9.60	9.60.000
- Variable	22.40	2.24.000
Total cost	340.00	34.00.000
Sale	390.00	39.00.000
Profit	50.00	5.00.000

Estimated Cost sheet of Sangam Ltd. for the year 2011
(Production and Sale : 50,000 units)

Particulars	P.U Rs	Total ₹
Material	130.00	65,00,000
Direct Wages : ₹ 70 – 20 % decrease	56.00	28,00,000
Direct Expenses	10.00	5,00,000
Prime Cost	196.00	98,00,000
Factory Overheads:		
- Fixed (4,20,000 + 3,00,000)	14.00	7,20,000
- Variable	28.00	14,00,000
Factory cost	238.40	1,19,20,000
Office Expenses (fixed)		
2,80,000 + 25% increase	7.00	3,50,000
Production Cost	245.40	1,22,70,000
Selling Expenses :		
- Fixed	1.92	92,000
- Variable (22.40 + 0.80 Increase)	23.20	11,60,000
Total cost	270.52	1,35,26,000
+ Profit : 25%on Cost	67.63	33,81,500
Estimated selling value	338.15	1,69,07,500

Ex.6 Mahi Limited produced and sold 10,000 units at its 50% production capacity. Following is the profit and loss account for the year ended 31st March, 2010.

Dr. **Cr.**

Particulars	Rs.	Particulars	Rs.

Direct materials consumed	6,00,000	Sales	20,00,000
Direct labour	4,00,000		
Factory overheads			
Fixed	1,00,000		
Variable	1,50,000		
Office overheads (fixed)	1,80,000		
Selling &Dist Over-heads :	60,000		
Fixed	1,50,000		
Variable (including commi. on sales @ 5%)	3,60,000		
Net profit	**20,00,000**		**20,00,000**

For the year 2011 it is estimated that:

1. Production will be carried out at 60% capacity. Of which 90% units will be sold.
2. Direct material cost, labour cost and variable factory overhead will rise by 20%.
3. Factory fixed overhead are expected to go up ₹ 20,000.
4. Selling variable cost per unit will be same except commission on sales. The commission on sales will be reduced up to ₹ 7 per unit.
5. (Selling fixed overhead will be reduced by 120% whereas office overhead will remain the same.
6. It is determined to get 20% profit on selling price.

Prepare :

➔ The cost-sheet for the year 2010 and

➔ A statement showing estimated cost and profit for the year 2011

[North G.U. T.YU.B.Com. March / April - 2009]

Ans. : Cost Sheet of Mahi Ltd. for 2010

Particulars	Total Amt. Rs.	P.U Rs.
Direct Material	6,00,000	60.00
Direct Labour	4,00,000	40.00
Prime Cost	10,00,000	100.00
Factory overheads :		
- Fixed	1,00,000	10.00
- Variable	1,50,000	15.00
Factory Cost	12,50,000	125.00
Office overheads (Fixed)	1,80,000	18.00
Production Cost	14,30,000	143.00
Selling and distribution overheads		
- Fixed	60,000	6.00
- Variable (Except commission)	50,000	5.00
- Selling commission at 5% of sale	1,00,000	10.00
Total Cost Or cost of sale	16,40,000	164.00
Profit	3,60,000	36.00
Sale	20,00,000	200.00

In the year 2008-'09, production will be at 60% capacity. So 12,000 units will be manufactured and 90% of production i.e. 10,800 units will be sold an 1,200 units will be in stock.

Estimated Cost Sheet of Mahi Ltd. for 2011

Particulars			Per unit Rs.	Total ₹
Material :	₹ 60.00			
+ Increase of 20%	₹ 12.00		72.00	8,64,000
Labour :	₹ 40.00			
+ Increase	₹ 8.00		48.00	5,76,000
Prime Cost			120.00	14,40,000
Factory Overheads :				
- Fixed ₹ 1,00,000 + Rise ₹ 20,000			10.00	1,20,000
- Variable ₹ 15.00 + Increase of 20%		Rs. 3.00	18.00	2,16,000
Factory Cost			148.00	17,76,000
Office overheads (Fixed)			15.00	1,80,000
Production Cost			163.00	19,56,000
Less : Closing Stock				
(1,200 units @ ₹ 163)			-	1,95,600
Production cost of goods sold			163.00	17,60,400
Selling overheads :				
- Fixed ₹ 60,000 – 10% decreases			5.00	54,000
- Variable			5.00	54,000
- Selling commission @ ₹ 7 per unit			7.00	75,600
Total cost			180.00	19,44s,000
Profit at 20% on selling price			45.00	4,86,000
Sale Estimate			225.00	24,30,000