

UNIT-VI MARGINAL COSTING

1. What is an Absorption Costing? State its features.

Ans. Absorption costing also known as 'full costing' is a conventional technique of ascertaining cost. It is the practice of charging all costs both variable and fixed to operations, processes and products. It is the oldest and widely used technique of ascertaining cost. Under this technique of costing, cost is made up of direct costs plus overhead costs absorbed on some suitable basis.

The features associated with absorption costing are as follows:

- (i) In the absorption costing a product, the cost is determined on the basis full cost, i.e., variable and fixed manufacturing cost.
- (ii) The cost of inventory will be higher in absorption costing as product cost includes fixed factory overhead.
- (iii) Absorption costing net income changes with production,
- (iv) It is a conventional costing where gross profit is determined by subtracting the cost of goods sold from sales and net profit is determined by subtracting all commercial expenses from the gross profit.
- (v) Under or over-allocation of fixed factory overhead is required to be adjusted in absorption costing as it is included in the cost of production.

2. Explain the advantages and disadvantages of absorption costing.

Ans. Advantages of Absorption Costing

As a conventional technique, absorption costing has some advantages which are discussed below:

- (i) Determining the actual cost of production:** In absorption costing, fixed factory overhead is treated as product cost. As a result, it helps determine the actual cost of production.
- (ii) Acceptability:** Absorption costing is followed for external reporting, various rules and regulations of GAAP and Tax authority are complied with by absorption costing, As a result, it is acceptable to a tax authority, investors, creditors, etc.
- (iii) Valuation of inventory:** Inventories are valued based on actual production cost, As a result, a balance sheet represents a true and fair view.
- (iv) Calculation of Gross Profit and Net Profit:** It is a conventional costing where gross profit is determined by subtracting the cost of goods sold from sales and net profit is determined by subtracting all commercial expenses from the gross profit.

(v) Discloses inefficient or efficient utilisation of production resources: It discloses inefficient or efficient utilisation of production resources by indicating under-absorption or over absorption of factory overheads.

Limitations of Absorption Costing: Following are the main limitations of absorption costing:

(i) Difficulty in comparison and control of cost: Absorption costing is dependent on level of output; so different unit costs are obtained for different levels of output. An increase in the volume of output normally results in reduced unit cost and a reduction in output results in an increased cost per unit due to the existence of fixed expenses. This makes comparison and control of cost difficult.

(ii) Not helpful in managerial decisions: Absorption costing is not very helpful in taking managerial decisions such as selection of suitable product mix, whether to buy or manufacture, whether to accept the export order or not, choice of alternatives, the minimum price to be fixed during the depression, number of units to be sold to earn a desired profit etc.

(iii) Cost vitiated because of fixed cost included in inventory valuation: In absorption costing, a portion of fixed cost is carried forward to the next period because closing stock is valued at cost of production which is inclusive of fixed cost.

(iv) Fixed cost inclusion in cost not justified: Many accountants argue that fixed manufacturing, administration and selling and distribution overheads are period costs and do not produce future benefits and, therefore, should not be included in the cost of product.

(v) Apportionment of fixed overheads by arbitrary methods: The validity of product costs under this technique depends on correct apportionment of overhead costs. But in practice many overhead costs are apportioned by using arbitrary methods which ultimately make the product costs inaccurate and unreliable.

3. What is a Marginal Costing? State its features.

Ans. A marginal cost is the cost of one additional unit of output. Marginal costing is a costing technique whereby the marginal cost is charged to units of costs while the fixed cost is completely written off against the contribution.

According to CIMA Terminology, Marginal Costing is the ascertainment of marginal cost and of the effect on profit of changes in volume or type of output by differentiating between fixed costs and variable costs.

The main Features (Characteristics) of Marginal Costing are as follows:

(i) Cost Classification: The marginal costing technique makes a sharp distinction between variable costs and fixed costs. It is the variable cost on the basis of which production and sales policies are designed by a firm.

(ii) Managerial Decisions: It is a technique of analysis and presentation of costs which help management in taking many managerial decisions such as make or buy decision, selling price decisions etc.

(iii) Inventory Valuation: Under marginal costing, inventory for profit measurement is valued at marginal cost only.

(iv) Price Determination: Prices are determined on the basis of marginal cost by adding contribution which is the excess of selling price over variable costs of sales.

(v) Contribution: Marginal costing technique makes use of Contribution for taking various decisions. Contribution is the difference between sales and marginal cost. It forms the basis for judging the profitability of different products or departments.

(vi) Cost Volume Profit Analysis: Cost Volume Profit (or Break Even) Analysis is one of the integral parts of marginal costing.

4. Explain the advantages and disadvantages of Marginal Costing.

Ans. Advantages of Marginal Costing: The advantages claimed for marginal costing are:

(i) The technique is simple to understand and easy to operate because it avoids the complexities of apportionment of fixed costs which, is really, arbitrary.

(ii) It also avoids the carry forward of a portion of the current period's fixed overhead to the subsequent period. As such cost and profit are not vitiated. Cost comparisons become more meaningful.

(iii) The technique provides useful data for managerial decision-making.

(iv) There is no problem of over or under-absorption of overheads.

(v) The impact of profit on sales fluctuations are clearly shown under marginal costing.

(vi) The technique can be used along with other techniques such as budgetary control and standard costing.

(vii) It establishes a clear relationship between cost, sales and volume of output and breakeven analysis.

(viii) It shows the relative contributions to profit which are made by each of a number of products, and shows where the sales effort should be concentrated.

(ix) Stock of finished goods and work-in-progress are valued at marginal cost, which is uniform.

Limitations of Marginal Costing: Marginal costing suffers from the following limitations:

- (i) Segregation of costs into fixed and variable elements involves considerable technical difficulty.
- (ii) The linear relationship between output and variable costs may not be true at different levels of activity. In reality, neither the fixed costs remain constant nor do the variable costs vary in proportion to the level of activity.
- (iii) The value of stock cannot be accepted by taxation authorities since it deflates profit.
- (iv) This technique cannot be applied in the case of contract costing where the value of work-in-progress will always be high.
- (v) This technique also cannot be used in the case of cost plus contracts unless fixed costs and profits are considered.
- (vi) Pricing decisions cannot be based on contribution alone.
- (vii) The elimination of fixed costs renders cost comparison of jobs difficult.
- (viii) The distinction between fixed and variable costs holds good only in the short run. In the long run, however, all costs are variable.

5. Distinguish between Absorption Costing and Marginal Costing.

Ans.

Basis	Absorption Costing	Marginal Costing
1. Cost Classification	All cost i.e., variable manufacturing cost and fixed overheads are charged to product.	It requires classification of cost into fixed cost and variable cost and only considers variable cost as cost of production.
2. Profit ascertainment	Profit is ascertained between sales minus total cost. It fails to establish the analysis of cost, volume and profit (CVP).	Profit is ascertained by deducting only variable cost from sales and is known as marginal contribution ($S - V$). Increase in contribution means increase in profit.
3. Fixed Cost	Fixed cost is added to the cost of production.	Fixed cost is not added to the cost of production.
4. Decision Making	Not useful for decision making.	Useful for decision making.
5. Stock Valuation	Value of stock is overvalued because of the inclusion of both variable and fixed cost.	Value of stock is comparatively undervalued as only variable cost is included.
6. Effect of stock valuation	Increase in stock shows higher profit and vice versa	Increase in stock results in lower profit and vice versa.
7. Period cost v/s product cost	Closing Stock is valued at total cost. Thus fixed cost is also included in it and is carried forward to next year	Closing stock is valued at only variable (Marginal) cost. Fixed cost is added back to the profit of that year and thus

	and thus treated as product cost.	treated as period cost.
8. Cost Volume Profit (CVP) Relationship	There is no need of classifying cost into variable and fixed.	CVP analysis is the primary part of the marginal costing.

6. What is CVP Analysis? State its objectives. State the assumptions of CVP Analysis.

Ans. C.V.P. analysis is a technique used to study the inter-relationship between costs, sales and net profit. It shows the net effect that fluctuation in cost, price and volume has on profits. The higher the volume of output, the lower will be the unit cost of production and vice-versa as the fixed overhead cost in total cost does not change with changes in the volume of output.

The concept of C.V.P. is relevant to virtually all decision-making areas. The managers use this technique extensively to determine B.E.P., Margin of safety, Profits /Losses at various levels of output, etc. It is an important tool of short term planning and forecasting of business activities and is useful in taking short-run decisions and formulating business policies.

The main objectives of cost-volume-profit analysis are given below:

- (i) This analysis helps to forecast profit fairly and accurately as it is essential to know the relationship between profits and costs on the one hand and volume on the other.
- (ii) This analysis is useful in setting up flexible budget which indicates costs at various levels of activity. We know that sales and variable costs tend to vary with the volume of output. It is necessary to budget the volume first for establishing budgets for sales and variable costs.
- (iii) This analysis assists in evaluation of performance for the purpose of control. In order to review profits achieved and costs incurred, it is necessary to evaluate the effect on costs of changes in volume.
- (iv) This analysis also assists in formulating price policies by showing the effect of different price structures on costs and profits. We are aware that pricing plays an important part in stabilizing and fixing up volumes especially in depression period.
- (v) This analysis helps to know the amount of overhead costs to be charged to the products at various levels of operation as we know that pre-determined overhead rates are related to a selected volume of production.
- (vi) This analysis makes possible to attain target profit by locating the volume of sales required for such profit and finally achieving such sales volume.
- (vii) This analysis helps management in taking number of decisions like make or buy, suitable sales mix, dropping of a product etc.

Assumptions Underlying Cost-Volume-Profit Analysis: Following are the main assumptions to be taken into consideration while making a simple system of cost-volume-profit analysis:

(i) Fixed and variable cost patterns can be established with reasonable accuracy and that fixed costs remain static and marginal costs are completely variable at all levels of output.

(ii) Selling prices are constant at all sales volumes.

(iii) Factor prices (e.g. material prices, wage rates) are constant at all sales volumes.

(iv) Efficiency and productivity remain unchanged.

(v) In a multi product situation, there is constant sales mix at all levels of sales.

(vi) Turnover level (volume) is the only relevant factor affecting costs and revenue.

(vii) The volume of production equals the volume of sales.

7. Name the elements of CVP Analysis.

Ans. The elements of CVP Analysis are:

(i) Marginal Cost Equation. (ii) Contribution. (iii) Profit/Volume (PV) Ratio. (iv) Break Even Point. (v) Margin of Safety.

8. What is Marginal Cost Equation?

Ans. Marginal Cost equation explains that the total sales minus total variable cost is the contribution towards fixed costs and profit. Marginal Cost equation can be developed as follows:

Total Sales = Total Cost + Profit

or, Total Sales = Total Variable Cost + Total Fixed Cost + Profit.

9. What is Contribution?

Ans. Contribution is the difference between the Sales and the Marginal Cost. Contribution is basically that portion of sales which remains after recovering variable costs and is available towards fixed costs and profits.

Contribution = Sales – Marginal Cost

or, Contribution = Fixed Expenses ± Profit/Loss

or, Contribution = Sales × P/V Ratio.

9. What is P/V Ratio?

Ans. Profit-volume ratio indicates the relationship between contribution and sales and is usually expressed in percentage. The ratio shows the amount of contribution per rupee of sales.

The formula to calculate P/V ratio is:

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}}$$

9. What is Break Even Point?

Ans. Break Even Point (BEP) refers to that volume of operation at which total sales is just equal to total cost. It is the point at which there is neither profit nor loss. It is the point at which contribution is just equal to fixed costs.

BEP can be expressed in terms of number of units or value of sales:

$$\text{BEP (in Units)} = \frac{\text{Fixed Costs}}{\text{Contribution per Unit}}$$

$$\text{BEP (in Value)} = \frac{\text{Fixed Costs}}{\text{PV Ratio}}$$

10. What is Margin of Safety?

Ans. Margin of Safety is the difference between the Actual Sales and Break Even Sales. At any level of margin of safety, fixed costs are zero since fixed costs are already recovered upto BEP. At any level of margin of safety, the contribution (i.e. Sales - Variable Costs) is equal to profits since fixed costs are zero.

$$\text{Margin of Safety (in Units)} = \frac{\text{Profit}}{\text{Contribution per Unit}}$$

$$\text{Margin of Safety (in Value)} = \frac{\text{Profit}}{\text{PV Ratio}}$$

11. What is break even analysis? State the assumptions of break even Analysis. State its uses.

Ans. The term 'break even analysis' is interpreted in the narrower as well as broader sense. Used in its narrower sense, it is concerned with finding out the break even point, i.e., level of activity where the total cost equals total selling price. Used in its broader sense, it means that system of analysis which determines the probable profit at any level of production. The break even analysis establishes the relationship of costs, volume and profit; so this analysis is also known as 'Cost Volume Profit Analysis'.

Assumptions underlying Break-even Analysis: Following are the main assumptions underlying Break-even Analysis:

- (i) Fixed costs remain unchanged at all levels of activity.
- (ii) Variable cost change in direct proportionate to the volume of output.
- (iii) Costs can be classified into fixed and variable elements.
- (iv) Selling Price remains constant irrespective of volume or production or sales changes.
- (v) Price of raw materials, labour rate, etc. remains constant:

Uses of Break-even Analysis: Important uses of Break-even Analysis are:

- (i) It helps in determining the selling price which will give desired result.

- (ii) It helps in forecasting costs and profit as a result of change in volume.
- (iii) It helps in fixing sales volume to cover a given return on capital employed.
- (iv) It helps in determination of costs and revenues at different levels of output.
- (u) It studies the impact of increase or decrease in fixed and variable costs on profit.
- (vi) Inter-firm comparison of profit is made possible.

12. What is break even chart? State the assumptions of break even. State its importance/uses.

Ans. The technique of break even analysis can be made easy with the help of graph or mathematical formula. Graphical representation of break-even point is known as the break-even chart.

Importance and Uses of break-even chart: Same as break-even analysis.

13. What is Angle of Incidence?

Ans. It is the angle between total sales line and total cost line drawn in the case of break-even chart. It indicates the rate at which profits are being earned. The larger the angle, the higher will be the rate of profit or vice-versa.

14. What is Key Factor? Give examples.

Ans. Key Factor is a factor which limits the activities of an undertaking. The extent of its influence must first be assessed while preparing functional budgets and taking decisions about the profitability of a product.

Examples of Key Factor:

(i) Shortage of raw material. (ii) Shortage of labour. (iii) Plant Capacity available. (iv) Sales Capacity available. (v) Cash available.

15. What is Cost Indifference Point?

Ans. It refers to that level of activity at which the total cost (i.e. fixed cost + variable cost) of the two alternatives is the same. Management is indifferent as to the choice out of two alternatives at this point.