MARGINAL COSTING

Q.NO.1: What is Marginal Costing? Write down the salient features of Marginal Costing.

Ans:-

Marginal cost: can be defined as the "change in aggregate costs due to change in the volume of production by one unit'.

Marginal Costing: It is a technique of costing in which only variable manufacturing costs are considered while determining the cost of goods sold and also for valuation of inventories.

This technique is based on the fundamental principle that the total costs can be divided into fixed and variable. While the total fixed costs remain constant at all levels of production, the variable costs go on changing with the production level. It will increase if the production increases and will decrease if the production decreases.

For example, if the total number of units produced are 800 and the total cost of production is Rs.12,000, if one unit is additionally produced the total cost of production may become Rs.12, 010 and if the production quantity is decreased by one unit, the total cost may come down to Rs.11,990. Thus the change in the total cost is by Rs.10 and hence the marginal cost is Rs.10. The increase or decrease in the total cost is by the same amount because the variable cost always remains constant on per unit basis.

Features

i. In marginal costing, costs are segregated into fixed and variable. Only variable costs are charged to the production, i.e. included in the cost of production. Period costs are not included in the cost of production, which means that they are not absorbed in the production. However this does not mean that they are ignored or not taking into consideration at all. Fixed Costs are taken into consideration while computing the final profit or loss by debiting them to the Costing Profit and Loss Account.

ii. Another important feature of marginal costing is the valuation of inventory is done at variable cost only. This means, that variable costs only are taken into consideration while valuing the inventory. Fixed costs are eliminated from the inventory valuation because they are largely period costs and relate to a particular period or year. If they are included in the inventory valuation, they will be carried forward to the next period because the closing inventory for a particular year is the opening inventory for the next year. Thus charging current year's costs to the next year will be against the principle and hence fixed costs are not included in the inventory valuation.

iii. Another feature of marginal costing is the preparation of income statement. The income statement is prepared in a different manner as compared to the statement prepared under traditional costing, i.e. absorption costing.

Q.NO.2:- Distinguish between Marginal Costing and Absorption costing.

Ans:-

Absorption costing	Marginal costing
Under Absorption Costing ,Costs are classified as direct and indirect, direct costs are identifiable with a particular product and hence charged directly. Indirect costs i.e. overheads are first identified, apportioned to the cost centers and finally absorbed in the product units on some suitable basis.	On the Other hand ,Under Marginal costing ,Costs are classified as fixed and variable. While direct costs are mostly variable, indirect costs, i.e. overheads may be semi variable. The variable portion in the total overhead cost is identified and thus the total variable costs are computed. Only variable costs are charged to the product while the fixed costs are not absorbed in the product units. They are finally debited to the Costing Profit and Loss Account for computing the final figure of profit or loss. Thus the cost of production under marginal costing is only the variable portion of the total costs.
The year-end inventory of finished goods under absorption costing is valued at total cost, i.e. fixed and variable.	under marginal costing ,the year-end inventory is valued at variable cost only
Under Absorption costing ,the fixed overhead absorption may create some problems like over/under absorption. This happens because of the overhead absorption rate which is pre determined. Suitable	On the other hand ,Under Marginal costing ,the fixed overheads are charged directly to the Costing Profit and Loss Account and not absorbed in the product units. Therefore there is no question of under/over

corrective entries are to be made to rectify the over/under absorption of overheads; otherwise the cost of production will be distorted.	absorption of overheads.
Under absorption costing ,due to the inventory valuation, which is done at the full cost, the fixed costs relating to the current period are carried forward to the subsequent period. This will distort the cost of production.	Under marginal costing, Fixed costs are not taken into consideration while valuing the inventory and hence there is no distortion of profits.

Q.NO.3:- Discuss Marginal costing as a tool of Cost Control

Ans:-

- One of the important challenges in front of the management is the control of cost.
- In the modern competitive environment, increase in the selling price for improving the profit margin can be dangerous as it may lead to loss of market share. The other way to improve the profits cost reduction and cost control.
- Marginal costing technique helps in this task by segregating the costs between variable and fixed.
- While fixed costs remain unchanged irrespective of the production volume, variable costs vary according to the production volume.
- Certain items of fixed costs are not controllable at the middle management or lower management level. In such situation it will be more advisable to focus on the variable costs for cost control purpose.
- Since the segregation of costs between fixed and variable is done in the marginal costing, concentration can be made on variable costs rather than fixed cost and in this way unnecessary efforts to control fixed costs can be avoided.

Q.NO.4:- Discuss role of marginal costing in Profit Planning:

Ans:-

i. Profit planning, generally known as budget or plan of operation may be defined as the planning of future operations to attain a defined profit goal.
- The marginal costing technique helps to generate data required for profit planning and decision-making.

ii. For example,
   a. computation of profit if there is a change in the product mix,
   b. impact on profit if there is a change in the selling price,
   c. change in profit if one of the product is discontinued or if there is a introduction of new product,
   d. decision regarding the change in the sales mix are some of the areas of profit planning in which necessary information can be generated by marginal costing for decision making.

iii. The segregation of costs between fixed and variable is thus extremely useful in profit planning.

Q.NO.5:- Write a short note on Key Factor Analysis:

Ans:-

- The management has to prepare a plan after taking into consideration the constraints, if any, on the various resources. These constraints are also known as limiting factors
- These key factors may be availability of raw material, availability of skilled labour, machine hours availability, or the market demand of the product.
- Marginal costing helps the management to decide the best production plan by using the scarce resources in the most beneficial manner and thus optimize the profits.
- For example, if raw material is the key factor and its availability is limited to a particular quantity and the company is manufacturing three products, A, B and C. In such cases marginal costing technique helps to prepare a statement, which shows the amount of contribution per kg of material. The product, which yields highest contribution per kg of raw material, is given the priority and produced to the maximum possible extent. Then the other products are taken up in the order of priority.
- Thus the resultant product mix will yield highest amount of profit in the given situation. The following illustration will clarify the point.

Q.NO.6:- Discuss the Applications [Merits] of Marginal Costing

Ans:-

Marginal costing is a very useful technique of costing and has great potential for management in various managerial tasks and decision- making process

I. **Cost Control:** One of the important challenges in front of the management is the control of cost. In the modern competitive environment, increase in the selling price for improving the Profit margin can be dangerous as it may lead to loss of market share. The other way to improve the Profit is cost reduction and cost control. Cost control aims at not allowing the cost to rise beyond the present level. Marginal costing technique helps in this task by segregating the costs between variable and fixed. While fixed costs remain unchanged irrespective of the production volume, variable costs vary according to the production volume. Certain items of fixed costs are not controllable at the middle management or lower management level. In such situation it will be more advisable to focus on the variable costs for cost control purpose. Since the segregation of costs between fixed and variable is done in the marginal costing, concentration can be made on variable costs rather than fixed cost and in this way unnecessary efforts to control fixed costs can be avoided.

II. **Profit Planning:** Another important application of marginal costing is the area of Profit planning. Profit planning, generally known as budget or plan of operation may be defined as the planning of future operations to attain a defined Profit goal. The marginal costing technique helps to generate data required for Profit planning and decision-making. For example, computation of Profit if there is a change in the product mix, impact on Profit if there is a change in the selling price, change in Profit if one of the product is discontinued or if there is a introduction of new product, decision regarding the change in the sales mix are some of the areas of Profit planning in which necessary information can be generated by marginal costing for decision making. The segregation of costs between fixed and variable is thus extremely useful in Profit planning.

III. **Key Factor Analysis:** The management has to prepare a plan after taking into consideration the constraints, if any, on the various resources. These constraints are also known as limiting factors or principal budget factors as discussed in the topic of 'Budgets and Budgetary Control'. These key factors may be availability of raw material, availability of skilled labour, machine hours availability, or the market demand of the product. Marginal costing helps the management to decide the best production plan by using the scarce resources in the most beneficial manner and thus optimize the Profits.

IV. **Decision Making:** Managerial decision-making is a very crucial function in any organization. Decision–making should be on the basis of the relevant information. Through the marginal costing technique, information about the cost behaviour is made available in the form of fixed and variable costs. The segregation of costs between fixed and variable helps the management in predicting the cost behaviour in various alternatives. Thus it becomes easy to take decisions. Some of the decisions are to be taken on the basis of comparative cost analysis while in some decisions the resulting income is the deciding factor. Marginal costing helps in generating both the types of information and thus the decision making becomes rational and based on facts rather than based on intuition. Some of the crucial areas of decision-making are mentioned below.

a. Make or buy decisions
b. Accepting or rejecting an export offer
c. Variation in selling price
d. Variation in product mix
e. Variation in sales mix
f. Key factor analysis
g. Evaluation of different alternatives regarding Profit improvement
h. Closing down/continuation of a division
i. Capital expenditure decisions.

Q.NO.7:-Discuss the Role of Marginal Costing in Managerial decision-making:-

Ans:-

- Through the marginal costing technique, information about the cost behaviour is made available in the form of fixed and variable costs.
- The segregation of costs between fixed and variable helps the management in the cost behaviour in various alternatives.
- Thus it becomes easy to take decisions.
- Some of the decisions are to be taken on the basis of comparative cost analysis while in some decisions the resulting income is the deciding factor.
- Marginal costing helps in generating both the types of information and thus the decision making becomes rational and based on facts rather than based on intuition.
- Some of the crucial areas of decision-making are mentioned below.
  - Make or buy decisions

- Accepting or rejecting an export offer
- Variation in selling price
- Variation in product mix
- Variation in sales mix
- Key factor analysis
- Evaluation of different alternatives regarding profit improvement
- Closing down/continuation of a division
- Capital expenditure decisions.

Q.NO.8:-Write a short note on Break Even Point

Ans:-

Meaning

- The Break Even Point is a level of production where the total costs are equal to the total revenue, i.e. sales. Thus at the break even level, there is neither profit nor loss.
- Production level below the break-even-point will result into loss while production above break-even point will result in profits.
- The concept of 'Break Even Point' is extremely important for decision making in various areas.
- This concept is based on the behaviour of costs, i.e. fixed cost and variable costs.
- fixed costs are those costs that remain constant irrespective of the changes in the volume of production.
- Variable costs are the costs that vary with the level of production.
- While fixed cost per unit is always variable, variable cost per units is always fixed.
- Semi variable costs are partially fixed and partially variable.

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Formula

1.Break Even Point(units)=Fixed cost/contribution per unit

2.Break Even Point(value)= Fixed Cost/PV ratio

Assumptions

i. Production and sales are the same, which means that as much as is produced is sold out in the market. Thus there is no inventory remaining at the end.

ii. Fixed cost remains same irrespective of the production volume.

iii. Variable cost varies with the production. It changes in the same proportion that of the production. Hence it has a linear relationship with the production. In other words, variable cost per unit remains the same.

iv. Selling price per unit remains same irrespective of the quantity sold.

Limitations

i. This is based on the assumption that
   a. the variable cost per unit,
   b. sales price per unit and the fixed cost remains the same.

ii. If there is any change in these variables,
   the break even point will give misleading results.

Significance:

Level of sales	Impact on profit
Less than BEP	Firm incurs loss (contribution < Fixed cost)
Equal to BEP	No profit no loss (contribution = Fixed cost)
greater than BEP	Firm earns profit (contribution > Fixed cost)

Q.NO.9:- Write a short note on Margin of Safety

Ans:-

Meaning and computation

- Margin of Safety is the difference between the actual sales and the break even sales.
- As at the break even point there is neither any profit nor loss. Hence any firm will always be interested in being as much above the break even level as possible.
- Margin of safety explains precisely this thing and the higher the safety margin the better it is.
- Margin of Safety = Actual Sales – Break Even Sales.
- Margin of Safety= Profit/PV ratio

Significance:

i. Upto BEP , the contribution earned by the firm is sufficient only to recover Fixed costs. However , beyond the BEP, the contribution is called Profit (since fixed costs are fully recovered by then).
ii. Profit is contribution earned out of Margin of safety sales.
iii. The size of MOS shows the strength of the business.
iv. A low margin of safety indicates that the Firm has large fixed expenses and is more vulnerable to change in sales.

Improvement in Margin of Safety:

i. Increase in selling price, provided the demand is inelastic so as to absorb the increased price.
ii. Reduction in Fixed expenses.
iii. Reduction in variable expenses.
iv. Increasing sales volume provided capacity is available.
v. Substitution or introduction of a product mix such that more profitable lines are introduced.

Q.NO.10:- What is Break Even Chart? What are the limitations of Break Even chart?

Ans:-

A Break Even chart is a graphical representation of cost –volume – profit relationship. It depicts the following:

i. Profitability of the firm at different levels of output.
ii. Break even point
iii. Angle of incidence : This is the angel at which Total sales line cuts the Total cost line. If the angle is large , the firm is said to make profit at a high rate and vice versa.
iv. Relationship between variable cost, fixed expenses and contribution.
v. Margin of safety.

Limitations

i. The variable cost line need not necessarily be a straight line because of the possibility of operation of law of increasing returns or law of decreasing returns.
ii. The selling price may not be a constant factor. Any increase or decrease in output is likely to have an influence on the selling price per unit.
iii. When a number of products are produced, separate Break even charts will have to be prepared. This poses a problem of apportionment of fixed expenses to each product.
iv. Break even chart ignores the capital employed in business, whis is one of the important guiding factors in the determination of profitability and returns.

Q.NO.11:- What are the different types of Break even chart?

Ans:-

i. **Contribution Break even chart:-** This chart shows contribution earned by the firm at different levels of activity.
ii. **Cash break even point:-** In this chart, variable cost are assumed to be payable in cash. Besides this, the fixed expenses are divided into two groups,viz (a) those expenses which involve cash outflow, e.g. Rent , Insurance , Salaries, etc. and (b) those which do not involve cash outflows, e.g. depreciation.
iii. **Control Break even point:-** Both budgeted and actual data are depicted in this chart. This chart is useful in comparing the actual performance of the firm with the budgeted performance, for exercising control.
iv. **Analytical Break even chart:-** This chart shows the break –up of variable expenses into important elements of cost, viz. Direct material , direct labour, variable overheads, etc. Also , the appropriation of Profit such as Equity dividends, preference dividends, Reserves etc are depicted in this chart.
v. **Product-wise Break Even chart:-**Separate Break even charts for different products can also be prepared to compare the profitability of the products or their contribution.
vi. **Profit graph:-** Profit graph is a special type of Break even chart , which shows the profit or loss at different levels of output.

Q.NO.12:- Write a short note on Indifference Point.

Ans:-

Meaning:

Indifference point is the level of sales at which Total costs of two options are equal . The decision –maker is indifferent as to option chosen , since both options will result in the same amount of profit.

Formula

Indifference point(units)= Difference in Fixed cost /Difference in variable cost per unit.

Indifference point(value)= Difference in Fixed cost /Difference in P/V ratio.

Significance

Levels of sales	Most profitable options to be chosen	Reason
Below indifference point	Option with lower fixed cost	Lower the fixed costs, lower will be the BEP . Hence more profits beyond BEP.
At indifference point	Both options are equally profitable	Indifference point
Above indifference point	Option with Higher Fixed Cost and higher PV ratio.	The higher the PV ratio, the better it is.

Q.NO.13:- Distinguish between Indifference Point and Break Even Point.

Ans:-

Particulars	Indifference point	Break-Even Point
Definition	Indifference point is the level of sales at which total costs and profits of two options are equal	BEP is the level of sales at which the total contribution equals fixed costs. Hence , there is neither a profit nor a loss to the firm.
Formula	Indifference point= Difference in fixed cost/Difference in variable cost	BEP= Fixed cost/PV ratio
Significance	It is the activity level at which Total cost under two alternatives are equal.	It is activity level at which the total revenue from a product or product mix is equal to its total cost.
Purpose	Used to choose between two alternative options for achieving the same objectives.	Used for profit planning.

Q.NO.15:-List the circumstances under which selling price may be fixed below marginal cost.

Ans:-

i. When goods are of perishable nature.

ii. When the firm has already purchased huge quantities of Raw materials , and the prices of these materials is falling considerably in the market.

iii. To launch a new product in the market.

iv. To eliminate competitors from the market.

v. To obviate shut down costs.

vi. To push up sales.

vii. To capture foreign market

Q.NO.16:- what is cost volume profit relationship? What are its objective?

Ans:-

- Cost Volume profit analysis is the analysis of three variables, viz cost , volume and profit, which explores the relationship existing amongst costs, revenues , activity levels and the resulting profit.
- CVP analysis aims at measuring variations of profits and costs with volume, which is significant to business profit planning.
- CVP analysis makes use of the marginal costing principles for planning and for making short –run decisions.

Q.NO.17:- What are the limitations of Marginal costing?

Ans:-

i. Difficult to classify:- It is difficult to classify exactly the expenses into fixed and variable category.

ii. Contribution is not final:- contribution of a product itself is not a guide for optimum profitability unless it is linked with the key factor.

iii. Wrong pricing decisions:- sales staff may mistake marginal cost for total cost and sell at a price, which will result in loss or low profit.

iv. **Stock valuation:-** overheads of fixed nature cannot altogether be excluded particularly in large contracts, while valuing WIP.

Q.NO.18:- write a short note on P/V ratio.

Ans:-

Meaning:

Profit volume Ratio is the relationship between contribution and sales value . It is also termed as contribution to sales ratio.

Formula:

Contribution per unit/ total/Sales per unit /total *100

Or, 100% less variable cost ratio.

Or change in profit /change in sales * 100

Significance

i. PV ratio is considered to the basic indicator of the profitability of the business.
ii. The higher the PV ratio , the better it is for a business. In the case of a firm enjoying steady business conditions over a period of years, the PV ratio will also remain stable and steady.
iii. If PV ratio is improved , it will result in higher profits.

Improvement

i. By reducing the variable cost
ii. By increasing the selling price
iii. By increasing the share of products with higher PV ratio in the overall sales mix. (where firm produces more than one product.

Uses

i. To compute the variable cost for any volume of sales.
ii. To measure the efficiency or to choose a most profitable line.
iii. To determine Break Even point and levels of output required to earn a desired profit.
iv. To decide the most profitable sales mix.

Q.NO.19:- What do you mean by contribution?

Ans:-

Contribution is the excess of sales revenue over variable cost. The contribution earned by business, forms a fund for fixed expenses and profit.

Q.NO.20:- What are the means of increasing profit?

Ans:-

Profits can be increased by –

i. Increasing selling price per unit.
ii. Increasing the sales volume
iii. Decreasing the fixed and variable expenses.
iv. Where more than one product is manufactured , by choosing the ideal product mix giving more weightage for products having higher PV ratio.

Q.NO.21:What is Angle of incidence? What is its significance?

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 angel, the higher the rate of profit or vice –versa.

SL. NO.	Formulas
1	P/V ratio = Contribution /Sales X 100
2	P/V ratio= Change in contribution /change in sales X 100
3	P/V ratio= Change in profit /Change in sales X 100
4	Contribution= Sales – Variable cost. (It is the amount which contributes towards recovery of Fixed cost).
5	If Contribution > Fixed cost, there will be profit. Profit= Contribution – Fixed cost If Contribution < Fixed cost , there will be loss. Loss = Fixed cost – Contribution. If Contribution = Fixed cost, there will be BEP (no profit no loss)

6	**Contribution = Sales X P/V ratio**
7	**BEP(value)= Fixed cost/ P/V ratio**
8	**BEP(Quantity)= Fixed cost/ Contribution per unit**
9	**P/V ratio= Fixed cost/BEP x100**
10	**At Break Even , Contribution = Fixed cost = BEP sales X P/V ratio.**
11	**If you apply P/V ratio to BEP = BEP Sales X P/V ratio=Contribution of BEP sales =Fixed cost = no profit**
12	**If you apply P/V ratio to MOS = MOS x P/V ratio=contribution of MOS sales= Profit**
13	**If you apply P/V ratio to Total sales= Total sales X P/v ratio =Contribution of total sales= Fixed cost + Profit**
14	**Profit= (Sales- Variable cost)- Fixed cost**
15	**Profit = contribution – Fixed cost**
16	**Contribution = Fixed cost + profit**
17	**Profit = MOS x P/V ratio**
18	**PV ratio= Profit/MOS**
19	**MOS = Profit/PV ratio**
20	**Contribution will be = Fixed cost+ Required profit** **Required sales units= Total contribution/Contribution per unit** **Required sales units= (Fixed cost + Required Profit)/contribution per unit**
21	**Required sales in value=(Fixed Cost + Required Profit)/P/v ratio.**
22	**Cost Indifference point** **Formula:- Difference in Total Fixed cost in two options/Difference in Variable cost per unit in two options.** **If desired quantity = Cost indifference point , choose any option.** **If desired quantity > Cost Indifference point , choose option having lower variable cost.** **If desired quantity < Cost Indifference point , choose option having lower Fixed cost cost.**
23	**Break Even chart:- Graphical presentation of Cost volume profit relationship. – will be discussed in the classroom along with present0ation.**