Absorption costing
and
Variable costing

Absorption costing:

(i) It is costing system which treats all manufacturing costs including both the fixed and variable costs as product costs.

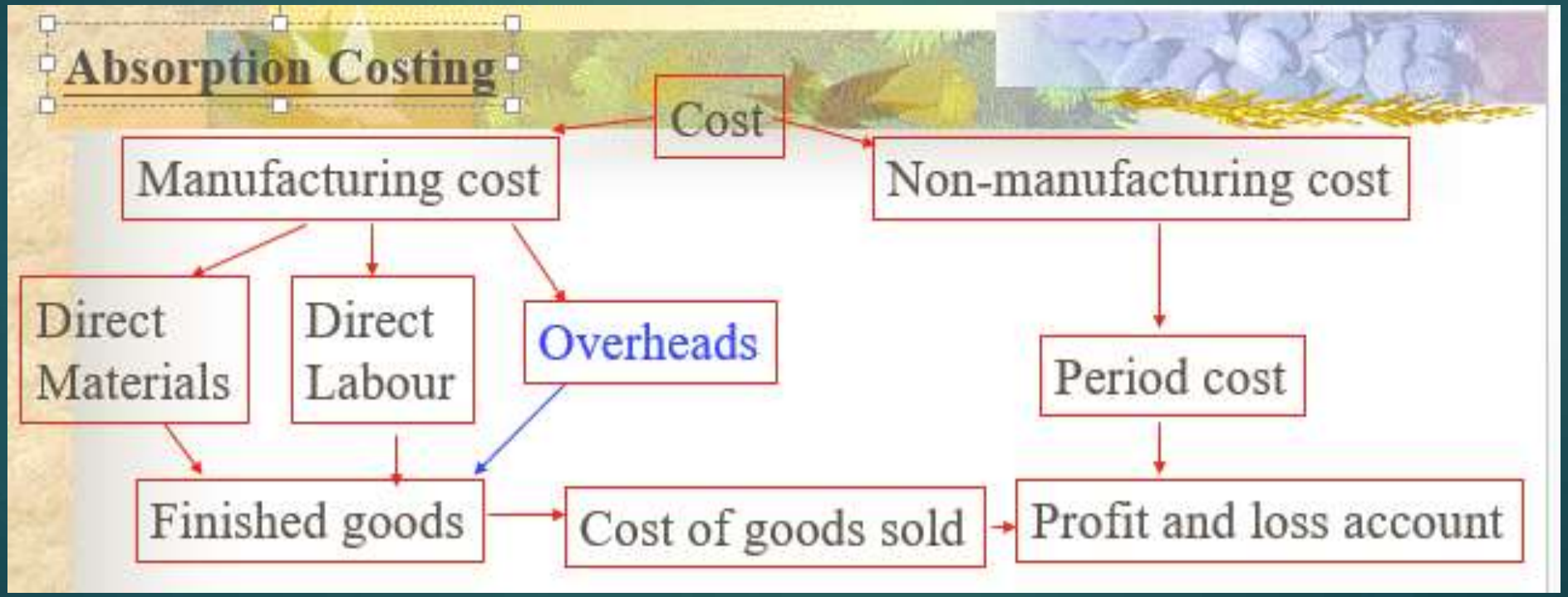
(ii) Also known as full costing.

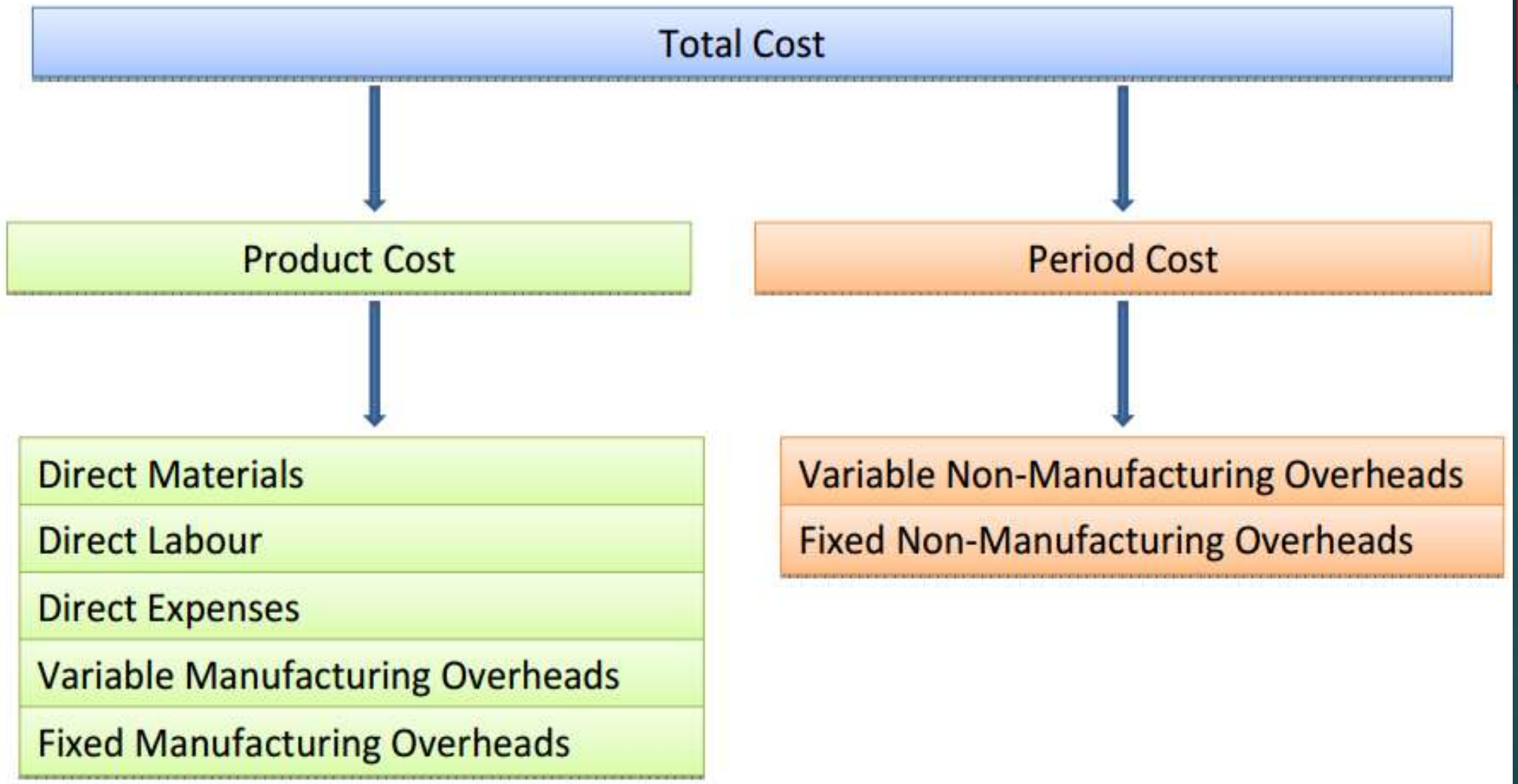
(iii) All manufacturing cost are fully absorbed into finished goods.

(iv) Fixed cost are absorbed on actual basis or on predetermined rate basis (based on normal capacity)

(v) Under/over absorption of fixed overheads are adjusted before computing profit.

(v) Stocks are valued at total cost.
(vi) Non-manufacturing costs are treated as period cost i.e. charged to profit and loss account.





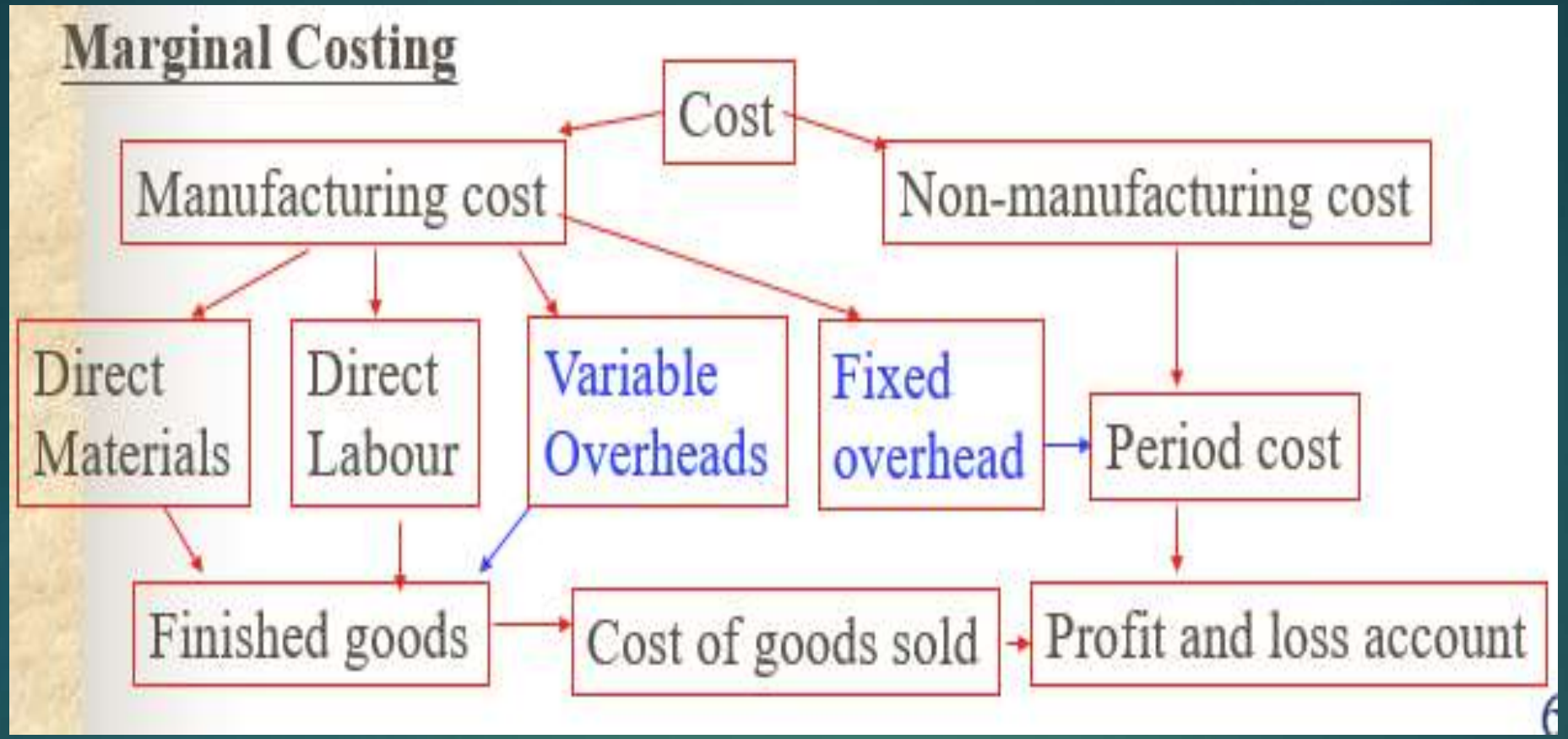
Absorption Costing

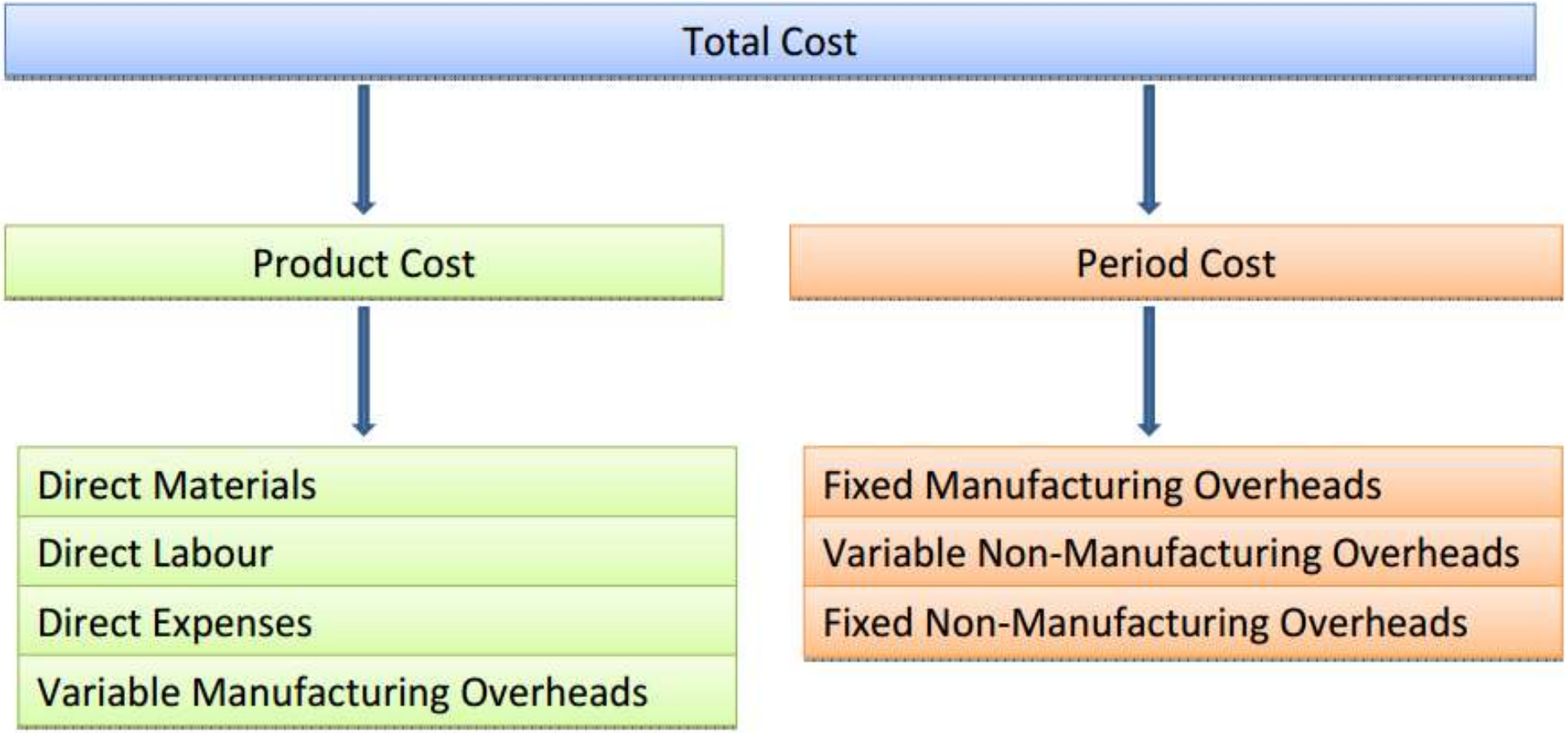
Income statement under Absorption costing

Particulars	Rs.
(A) Sales	xxxx
Production cost:	
direct material	xx
direct labour	xx
variable manufacturing overhead	xx
Fixed manufacturing overhead	xx
Cost of goods produced:	xxxx
Add: Opening stock of finished goods(valued at cost of previous period's production)	xx
Cost of goods available for sale	xxxx
Less: Closing stock of finished goods	xx
Cost of goods sold	xxxx
Add/less: under/over absorption of fixed manufacturing o/h	xx
Add: non-manufacturing cost	xx
(B) Total cost	xxxx
Profit (sales – total cost) or (A – B)	xxx

Variable costing: CIMA – "The system in which variable costs are charged to cost units and fixed costs of the period are written off in full against the aggregate contribution."

(i) The variable manufacturing costs as product costs.
(ii) The fixed costs are regarded as period cost.
(iii) The work in progress and finished stocks are valued at variable cost only.
(iv) Contribution is difference between sales and variable cost of sales.


Marginal Costing
Cost
Manufacturing cost
Non-manufacturing cost
Direct Materials
Direct Labour
Variable Overheads
Fixed overhead
Period cost
Finished goods
Cost of goods sold
Profit and loss account



Marginal Costing

Income statement under Variable costing

Particulars	Rs.
(A) Sales	xxxx
Production cost: direct material direct labour variable manufacturing overhead	 xx xx xx
Cost of goods produced:	xxxx
Add: Opening stock of finished goods(valued at variable cost of previous period's production)	xx
Cost of goods available for sale	xxxx
Less: Closing stock of finished goods	xx
Cost of goods sold	xxxx
Add: non-manufacturing variable cost	xx
(B) Total variable cost	xxxx
Contribution(sales – variable cost) or (A – B)	xxx
(C) Less: Fixed manufacturing & non-manufacturing cost	xx
Profit (B – C)	xxx

(Q) ABC company has a production capacity of 12,500 units and normal capacity utilization is 80%. Opening stock of finished goods on 01-01-2014 was 1000 units. During the year ending 31-12-2014, it produced 11,000 units while it sold only 10,000 units. Standard variable cost per unit is Rs 6.5 and standard fixed factory cost per unit Rs 1.50.Total fixed selling and administration overhead amounted to Rs. 10,000.The company sells its product at Rs 10/unit.

Prepare income statement under absorption and variable costing.

Income statement under absorption costing

	Rs
(A)Sales (10,000 x Rs 10)	1,00,000
Variable cost (11,000 x Rs 6.50)	71,500
Fixed manufacturing cost(11,000 x Rs 1.50)	16,500
Cost of goods produced	88,000
Add: opening stock (1000 x Rs 8)	8,000
Cost of goods available for sale	96,000
Less: Closing stock (2000 x Rs 8)	(16,000)
Cost of goods sold	80,000
Less:Over absorption of overhead(1,000 x Rs 1.5)	(1,500)
Add: non-manufacturing fixed cost	10,000
(B)Total cost	88,500
Profit (A – B)	11,500

Income statement under Variable costing

	Rs
(A)Sales (10,000 x Rs 10)	1,00,000
Variable cost (11,000 x Rs 6.50)	71,500
Variable Cost of goods produced	71,500
Add: opening stock (1000 x Rs 6.5)	6,500
Cost of goods available for sale	78,000
Less: Closing stock (2000 x Rs 6.5)	(13,000)
(B)Variable Cost of goods sold	65,000
Contribution(A – B)	35,000
less: Manufacturing fixed cost	(15,000)
non-manufacturing fixed cost	(10,000)
(C) Profit	10,000

Difference in profit under Absorption and Variable costing:

Profit under two systems may be different because of difference of stock valuation

(a) Production equal to sale:

(i) When there is no opening stock & closing stock, profit/loss under both system are equal

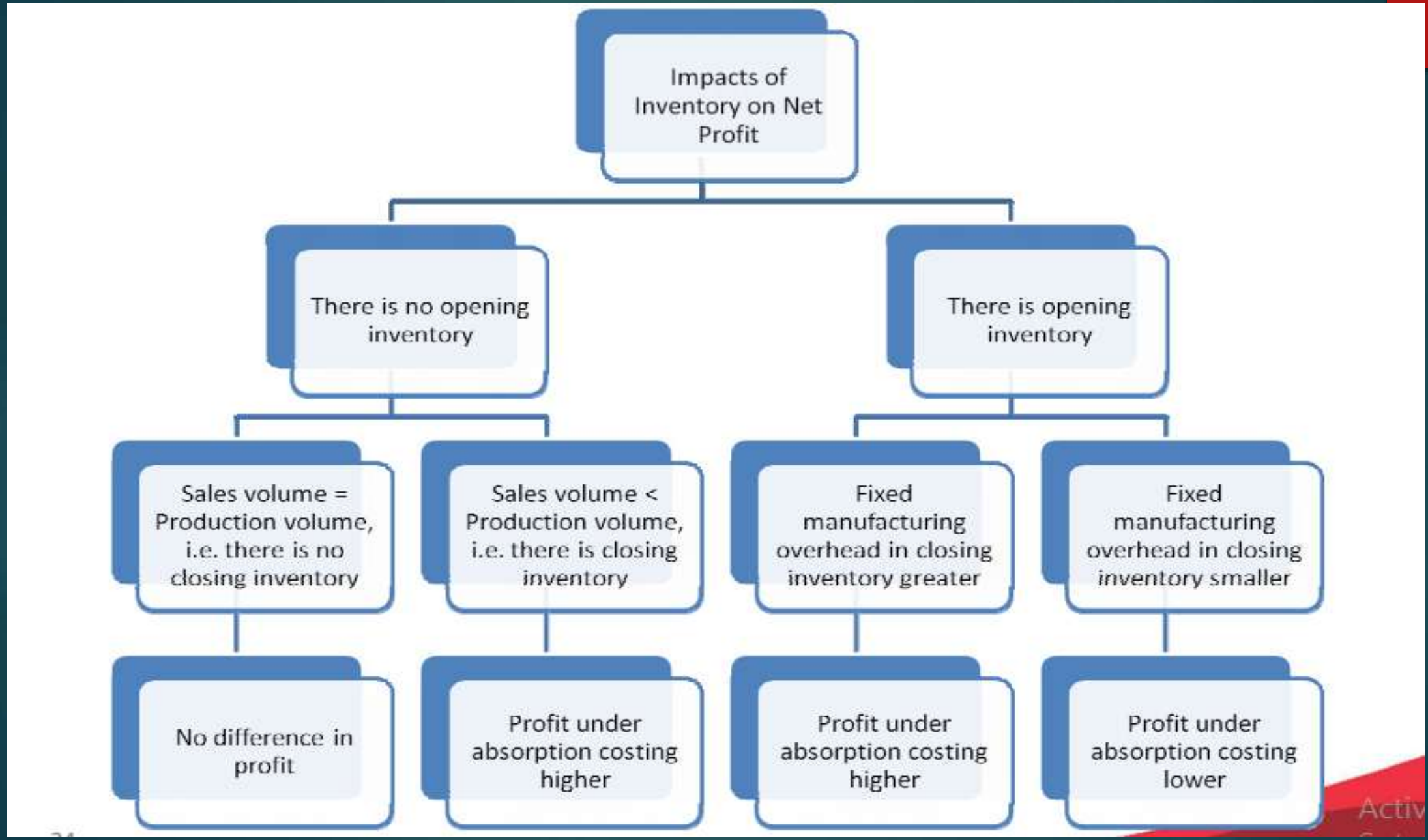
(ii) When opening stock equals closing stock then profit/loss under both system are equal provided the fixed cost element in opening and closing stock is the same amount.

(b) production more than sales: (closing stock more than opening stock): profit under Absorption costing will be more than Variable costing because part of fixed cost included in the closing stock are carry forward to next accounting period.

(c) Production less than sales(opening stock more than closing stock):

- Profit shown by Variable costing will be more than Absorption costing profit.

- This is because under absorption costing cost of goods sold is higher because of a part of fixed cost from preceding period is added in current year's cost of goods sold in the form of opening stock


Impacts of Inventory on Net Profit
There is no opening inventory
There is opening inventory
Sales volume = Production volume, i.e. there is no closing inventory
Sales volume < Production volume, i.e. there is closing inventory
Fixed manufacturing overhead in closing inventory greater
Fixed manufacturing overhead in closing inventory smaller
No difference in profit
Profit under absorption costing higher
Profit under absorption costing higher
Profit under absorption costing lower

Difference between Absorption costing and Variable costing:

Basis	Absorption costing	Variable costing
i. Treatment of fixed overhead	Fixed manufacturing expenses are treated as *product cost*.	Fixed manufacturing expenses are treated as *period cost*.
ii. Difference in valuation of stock	Values stock at total production cost. i.e. fixed plus variable cost, hence value of closing will be high.	Stock are valued at Variable cost only, hence value of closing stock will be low
iii. Contribution	Absorption costing calculate *Net profit*.	Variable costing calculate *Contribution.*
iv. Reporting purpose	Absorption costing is mostly for *external* reporting and taxable income computation.	Variable costing is mainly use for *internal* reporting.

Advantage of Absorption costing:

i. Consideration of Fixed cost: Fixed costs are used in production of goods and services. So treated as product cost.
ii. Efficient pricing policy: The pricing policy based on Absorption costing ensures that all costs are covered.
iii. Conformity with Accrual and Matching concept: Which requires matching costs with revenue for a particular accounting period.
iv. External Reporting and Income taxes: absorption costing has been recognized for the purpose of preparing external reports and stock valuation. FASB, ASB recommended this system.
v. No need to separate costs as Fixed and Variable cost.
vi. Relevance of under/ over costing: It disclosed inefficient or efficient utilization of production resources.

Disadvantages of Absorption Costing System:

(i) Absorption costing is not useful for decision making: It consider fixed manufacturing overhead as product cost which increase the cost of output. Managerial problems, such as optimum capacity utilization, selection of product-mix, whether to buy or manufacture, evaluation of performance, choice of alternatives can be solved only with the help of variable costing analysis.

(ii) Absorption costing is not helpful in control of cost: It is not useful in fixing the responsibility for incurrence of costs. It is not practical to hold a manager accountable for costs over which he/she has not control.

(iii) Fixed Costs are Period Costs: Many accountants argue that fixed costs, whether related to manufacturing or to non-manufacturing, are period costs which produce no future benefits and therefore, should not be included in the cost of the product and inventory.

(iv) Costs Hide in Inventory : Since the company allocates fixed overhead to the finished unit level in absorption costing, until the company sells a unit, the cost does not show up as an expense, or Cost of Goods Sold.

Q. A company has produced 1,500 units against a budgeted quantity of 2,000 units. Actual sales were 1,300 units. The company's policy is to value stocks at standard absorption cost. Following details are given-

Direct material	Rs 100 per unit
Direct labour	Rs 100 per unit(at normal efficiency)
Variable overhead	Rs 50 per unit
Fixed OH at budgeted capacity	Rs 1,00,000
Variable selling OH	Rs 26,000
Budgeted fixed selling OH	Rs 30,000
Actual fixed selling overhead	Rs 25,000
Selling price	Rs 400 per unit

There was no opening stock

Present the profitability statement under absorption costing system

Fixed OH at budgeted capacity = Rs 1,00,000
Budgeted quantity = 2,000 units.
Fixed OH per unit = Rs 100,000/2000 = Rs 50 per unit
Actual production = 1,500 units
Actual absorbed fixed OH = 1500 x 50 = Rs 75,000
Under Absorption = Rs 1,00,000 – 75,000
= Rs 25,000

Income statement under Absorption costing

		Rupees
(A)Sales (1,300 x 400)		5,20,000
Production cost:		
Direct material	Rs. 100 x 1,500 = Rs 1,50,000	
Direct labour	Rs 100 x 1,500 = Rs 1,50,000	
Variable OH	Rs 50 x 1,500 = Rs. 75,000	
Fixed OH	Rs 50 x 1,500 = Rs 75,000	
Cost of goods produced		4,50,000
Add: Opening stock		Nil
Less: Closing stock (Rs 300 x 200)		(60,000)
Cost of goods sold		3,90,000
Add: Under absorption Fixed OH(Rs.50 x 500)		25,000
Add: Non Manufacturing variable OH		26,000
Non manufacturing fixed OH		25,000
(B)Total cost		4,66,000
Profit (A – B)		54,000

Q. For several months, top management of company has been puzzled by fluctuation in the income reported by the accountant. The result reported are as follows:

	(Rs)February	March	April
Sales	18,00,000	18,00,000	9,00,000
Less: Manufacturing cost of sales	16,60,000	13,60,000	4,30,000
Selling & Admn. Expense	4,40,000	4,40,000	4,40,000
Total expense	21,00,000	18,00,000	8,70,000
Net Income/loss	(3,00,000)	0	30,000

There has been no change in sales price during the 3 month period. During the months of February and March, the plant sold 3,00,00,000 units. In April it sold 1,50,00,000 units.

The production for the 3 months was as follows:

	February	March	April
Opening Inventory	3,01,00,000	1,00,000	1,00,000
Production	0	3,00,00,000	6,00,00,000
	3,01,00,000	3,01,00,000	6,01,00,000
Units sold	3,00,00,000	3,00,00,000	1,50,00,000
Ending inventory	1,00,000	1,00,000	4,51,00,000

The standard cost for the units sold discloses the following information:

	Cost per 1,000 units (Rs)
Direct material and labour	30
Variable OH	2
Fixed OH	10
	42

The fixed manufacturing costs budgeted for each of the months were Rs.4,00,000. There were no spending or efficiency variances during three months. All selling & administrative expenses were fixed nature.

Prepare comparative income statement for the 3 months using Absorption and Variable costing system.

The fixed manufacturing costs budgeted for each month = Rs.4,00,000.

Fixed OH per 1000 units = Rs 10

	February	March	April
Production	0	3,00,00,000	6,00,00,000
Actual Fixed OH incurred	0	30,000 x 10 = Rs 3,00,000	60,000 x 10 = Rs 6,00,000
Over/under Absorbed	4,00,000	100,000	(2,00,000)

Income statement under Absorption costing

	February	March	April(Rs)
Sales	18,00,000	18,00,000	9,00,000
Cost of goods produced:			
Variable cost	Nil	9,60,000	19,20,000
fixed cost	Nil	3,00,000	6,00,000
Cost of goods produced	0	12,60,000	25,20,000
Add: Opening stock(30,100 x 42)	12,64,200	42,00	42,00
Cost of goods available for sale	12,64,200	12,64,200	25,24,200
Less: Closing stock	(4,200)	(4,200)	(18,94,200)
Cost of goods sold	12,60,000	12,60,000	6,30,000
Add/less: Over/ under absorption of fixed cost	4,00,000	1,00,000	(2,00,000)
Add: Non-manufacturing cost	4,40,000	4,40,000	4,40,000
Total cost	21,00,000	18,00,000	8,70,000
Profit	(3,00,000)	Nil	30,000

Income statement under Variable costing

	February	March	April(Rs)
Sales	18,00,000	18,00,000	9,00,000
Cost of goods produced:			
Variable cost	Nil	9,60,000	19,20,000
Cost of goods produced	0	9,60,000	19,20,000
Add: Opening stock(30,100 x 32)	9,63,200	32,00	32,00
Cost of goods available for sale	9,63,200	9,63,200	19,23,200
Less: Closing stock	(3,200)	(3,200)	(14,43,200)
Cost of goods sold	9,60,000	9,60,000	4,80,000
Contribution	8,40,000	8,40,000	4,20,000
Less: Non-manufacturing cost	4,40,000	4,40,000	4,40,000
Less: Fixed cost	4,00,000	4,00,000	4,00,000
Profit	Nil	Nil	(4,20,000)

Advantage of variable costing:

i. Planning and control: Variable costing emphasis on cost behaviours which provides necessary information to understand how different costs will change in reaction to changes in activity level.

ii. Managerial decision making: Information regarding variable cost and contribution facilitates making policy decisions like fixing selling price below cost, make or buy, introduction of new product line, utilization of spare plant capacity etc.

iii. Cost control: The management can concentrate more on the control of variable cost which are generally controllable and pay less attention to fixed cost.

iv. No under and over absorption of overheads

v. Realistic valuation of stock: No fictitious profit can arise due to fixed cost being absorbed in unsold stock. This is because variable costing prevents the carry forward in stock valuation of some portion of current year's fixed cost.

Limitation of Variable costing:

i. Improper basis of pricing: Pricing policies can be fully based on marginal costing system(few exceptions)

ii. Product costs not without fixed cost: Complete product cost does not depend only variable production cost.

iii. Ignore time factor: By ignoring fixed costs, time factor is also ignored.

iv. Difficulty in application: It is difficult to apply variable costing system in industries where large stocks of work in progress are locked up

v. Separation of costs into fixed and variable component

Q. The Gurgaon plant of Maruti Udyog ltd. Assembles Zen motor vehicle. The standard unit manufacturing cost per unit in 2016 as follows:
Direct material = Rs 60,000
Direct manufacturing labor = Rs 18,000
Variable manufacturing OH = Rs 20,000
The Gurgaon plant is highly automated. The maximum production capacity per month is 4000 vehicles. Fixed manufacturing OH in 2016 is allocated on the basis of normal capacity utilization of the plant. In 2016, the budgeted normal capacity is 3,000 vehicles per month. The budgeted monthly Fixed manufacturing OH is Rs 7,50,000. On January1 , 2016 there is zero beginning inventory of Zen vehicles. The actual unit production and sales figure for the first three months are:

	January	February	March
Production	3,200	2,400	3,800
Sales	2,000	2,900	3,200

Selling price per vehicle is Rs 2,00,000
Prepare income statement for the three months under absorption and Variable costing system. Prepare reconciliation statement to reconcile the difference in net income in the two costing system.

1. Direct material = Rs 60,000
Direct manufacturing labor = Rs 18,000
Variable manufacturing OH = Rs 20,000
Total variable cost per vehicle= Rs 98,000

2. Budgeted Fixed manufacturing OH = Rs 7,50,000
Budgeted normal capacity = 3,000 vehicles
fixed manufacturing OH absorption rate = 7,50,000/3000
= 250 per vehicle

	January	February	March(Rs)
Variable production cost	32,00 x 98,000 = 31,36,00,000	2400 x 98,000 = 23,52,00,000	3,800 x 98,000 = 37,24,00,000
Under/over absorption of fixed manufacturing OH	200 x 250 =(50,000)	600 x 250 = 1,50,000	800 x 250 =(2,00,000)
Opening stock	Nil	1200 x 98,250 = 11,79,00,000	700 x 98,250 = 6,87,75,000

Income statement under Absorption costing

	January	February	March(Rs)
Sales	400,00,000	580,00,000	640,00,000
Cost of goods produced:			
Variable cost	31,36,00,000	23,52,00,000	37,24,00,000
fixed cost	8,00,000	6,00,000	9,50,000
Cost of goods produced	31,44,00,000	23,58,00,000	37,33,50,000
Add: Opening stock	Nil	11,79,00,000	6,87,75,000
Cost of goods available for sale	31,44,00,000	35,37,00,000	44,21,25,000
Less: Closing stock	11,79,00,000	6,87,75,000	12,77,25,000
Cost of goods sold	19,65,00,000	28,49,25,000	31,44,00,000

Add/less:Over/under absorption of fixed OH	(50,000)	1,50,000	(2,00,000)
Add: Non-manufacturing cost	Nil	Nil	Nil
Total cost	19,64,50,000	28,50,75,000	31,42,00,000
Profit	20,35,50,000	29,49,25,000	32,58,00,000

Income statement under Variable costing

	January	February	March(Rs)
Sales	400,00,000	580,00,000	640,00,000
Cost of goods produced:			
Variable cost	31,36,00,000	23,52,00,000	37,24,00,000
Cost of goods produced	31,36,00,000	23,52,00,000	37,24,00,000
Add: Opening stock	Nil	11,76,00,000	6,86,00,000
Cost of goods available for sale	31,44,00,000	35,28,00,000	44,10,00,000
Less: Closing stock	11,76,00,000	6,86,00,000	12,74,00,000
Variable Cost of goods sold	19,60,00,000	28,42,00,000	31,36,00,000
Contribution	20,40,00,000	29,58,00,000	32,64,00,000
Less: Fixed manufacturing OH	(7,50,000)	(7,50,000)	(7,50,000)
Less: Non-manufacturing OH	Nil	Nil	Nil
Net profit	20,32,50,000	29,50,50,000	32,56,50,000

Reconciliation of difference in net income

	January	February	March
Absorption costing income	20,35,50,000	29,49,25,000	32,58,00,000
Variable costing income	20,32,50,000	29,50,50,000	32,56,50,000
Difference in net income	+3,00,000	(-)1,25,000	+1,50,000
Carry forward amount	---	(3,00,000)	(1,75,000)
Stock values: Absorption costing			
Closing stock	11,79,00,000	6,87,75,000	12,77,25,000
Variable costing:			
Closing stock	11,76,00,000	6,86,00,000	12,74,00,000
difference in closing stock	3,00,000	1,75,000	3,25,000
Net difference income	3,00,000	(1,25,000)	1,50,000