

UDHNA COLLEGE
M.COM.SEM-III
FINANCIAL & MANAGEMENT ACCOUNTING-VII
UNIT-1 COST-VOLUME-PROFIT ANALYSIS

Q1) Calculate P/V Ratio from the following:

(a) Sales Rs. 80000, variable cost Rs.60000

(b) Sales Rs. 100000, fixed cost Rs.30000, Profit Rs.20000

Q2) Calculate Break Even Point

	Year 1	Year 2
Sales	80000	90000
Profit	10000	14000

Q3) Find out break even point from the following:

Fixed cost 360000

Variable cost 264000

Sales 660000

Units sold 66000 units

Q4) A company sells its product at Rs.15 per unit. In a period, if it produces and sells 8000 units it incurs a loss of Rs.5 per unit. If the volume is raised to 20,000 units, it earns a profit of Rs.4 per unit. Calculate BEP.

Q5) Calculate the BEP from the following and ascertain the margin of safety:

Fixed cost for the year 8000

Variable cost per unit 4

Sales for the year 20000

Selling price per unit 20

Q6) Fixed cost Rs.8000, Profit earned Rs.2000, break even sales Rs.40000. Find out actual sales.

Q7) A company gives you the following information:

Sales (50000 units) 300000

Variable costs 120000

Fixed costs 150000

(a) Calculate BEP, P/V Ratio and Margin of Safety.

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(b) What would be the effect of:

- (i) 10% increase in variable costs
- (ii) 10 % decrease in fixed costs
- (iii) 20% increase in sales volume.

Q8) From the following indicate the number of units to be manufactured and sold (a) to break even, (b) to earn a profit of Rs.10000

Fixed expenses	100000
Variable expenses	10 per unit
Selling price	15 per unit

(c) what additional units would be necessary to increase the above profit by Rs. 5000

Q9) A small manufacturing unit sold its output in 2024-25 for 1150000 at 11.5 per unit.

The total fixed charges of the establishment amounted to Rs.200000 p.a. and the variable cost per unit of production was 7.5. the management wants to reduce the selling cost to Rs. 11 per unit and to maintain the same amount of profit as before.

How many more units should be produced and sold to give effect to this decision?

Q10) A company budgets for a production of 150000 units. The variable cost per unit is Rs.14 and fixed cost is Rs.2 per unit. The company fixes its selling price to fetch a profit of 20% on selling price.

- (a) What is break even point
- (b) What is P/V Ratio
- (c) If it reduces its selling price by 5%. How does the revised selling price effect the BEP and P/V Ratio?
- (d) If a profit increase of 10 % is desired more than the budget, what should be the sales at reduced prices?

Q11) The CVP relationship of a company is desired by the equation $y=240000+0.7x$ in which x represents sales revenue and y is the total cost. Find out the following:

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- (i) P/V Ratio
- (ii) Production BEP
- (iii) Company wants to increase profit by Rs.60000, what will be sales?
- (iv) Increase in profit if sales increase by Rs.30000
- (v) Sales volume required to produce an income of 90000

Q12) X Company has been formed to manufacture product Y. The capacity of plant is 12000 units and this is what the company also expects to sell. The variables and fixed costs are as follow:

Direct material	1.20 per unit
Direct labour	2 per unit
Other variable costs	0.80 per unit
Total fixed cost	Rs.35000

(i) If the company desires to make a profit of ₹25,000, what should be the selling price?

(ii) The company intends to increase its capacity after a year. The capacity can be increased to 50,000 units if ₹ 40,000 are incurred as additional annual fixed costs. The company now desires to make Other costs would not change. How many units must be sold to realise profit targets if the selling a profit of ₹ 85,000. It is expected to incur ₹40,000 on advertising to achieve the profit goal price were 8?

Q13) A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost for one bucket is as under:

Materials	Rs.10
Wages	Rs.3
Overheads	Rs.5

60% Fixed

The selling price is 20 per bucket. It is desired to work the factory at 50% capacity the selling price falls 3%. At 90% capacity the selling price falls by 5% accompanied by a similar fall in the price of materials.

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You are required to prepare a statement showing the profit at 50% and 90% capacities and also calculate the break-even points at this capacity production.

Q14) There are two similar plants under the same management. Management desires to merge the two plants. Following particulars are available.

	Plant I	Plant II
Capacity utilisation Sales	100 %	60%
Sales	300 Lakh	120 Lakh
Variable Costs	220 lakh	90 lakh
Fixed Costs	40 lakh	20 lakh

You are required to calculate: (a) What would be the capacity of the merged plant to be operated for the purpose of Break-even? (b) What would be the profitability on working at 75% of merged capacity?

Q15) There are two plants under the same management. The management wishes to merge these two plants and to run as one integrated plant. The following particulars are made available:

	Plant I	Plant II
Capacity in Operation	60%	100%
Sales (₹)	120000	300000
Variable Costs (Rs.)	90000	220000
Fixed Costs (₹)	25000	40000

You are required to state:

- What would be the capacity of merged plant to be operated for break-even?
- What would be the profitability on working at 75% of the integrated capacity?
- What turnover would give an overall profit of 60,000?

Q16) VNSGU-Oct. 2024

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(b) Details about the single product manufactured by a company are as under:

Per Unit	Rs.
Selling Price	100
Direct Material	60
Direct Labour	10
Variable Overheads	10

Number of units sold in the year 2012 is 5035. Pursuant to an agreement with the employees union, there would be next year a 10% increase in wages. Work out: -

- (1) How many more units must be sold next year to maintain the previous year's profit?
- (2) Or, by what percentage the selling price has to be increased to maintain the same P/V ratio?

Q17) VNSU-OCT. 2024

Q.3 VINAYAK LTD. which produces three products furnishes you the following information for 2011-12:-

	PRODUCTS		
Particular	A	B	C
Selling price per unit (Rs)	100	75	50
Profit volume ratio%	10	20	40
Maximum sales potential units	40,000	25,000	10,000
Raw Material content as % of variable costs	50	50	50

The expenses – fixed are estimated at Rs. 6,80,000. The company uses a same raw material in all the three products. Raw material is in short supply and the company has a quota for the supply of raw materials of the value of Rs. 18,00,000 for the year 2011-12 for the manufacture of its products to meet its sales demand

You are required to:-

- (a) Set a product mix which will give a maximum overall profit keeping the short supply of raw material in view.
- (b) Compute that maximum profit.

Q18) VNSGU-OCT.2024

A review, made by the top management of Sweet and Struggle Ltd. Which makes only one product, of the result of two first quarters of the year revealed the following: -

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Sales in units	10,000
Loss	Rs. 10,000
Fixed Cost (for the year Rs 1,20,000)	30,000 Quarterly
Variable cost per unit	Rs. 8

A troubled financial manager suggests that the company must achieve at least break-even sales in the second quarter in order to increase sales. Towards this the company should introduce a better packing which will increase the cost by Rs. 0.50 per unit.

The Sales Manager has an alternate proposal. For the second quarter additional sales promotion expenses can be increased to the extent of Rs. 5,000 and a profit of Rs. 5,000 can be aimed at the for the period with increased sales.

The product manager thinks otherwise. To improve the demand, the selling price per unit has to be reduced by 3%. As a result, the sales volume can be increased to attain a profit level of Rs. 4,000 for the quarter.

The Managing Director asks for as a Cost Accountant to evaluate these three proposals and calculate the additional units required to reach their respective targets help him to make a decision.

Q19) VNSGU-APRIL 2024

IBM Ltd. Manufacture Laptop. For the current year, the company expects to sell 11,250 units involving a loss of 2,25,000, only 75% of the plant's normal capacity is being utilized during the current year, The fixed costs for the year amount to 11,25,000 and variable costs amount to 75% of sales value.

You are required to –

- 1) Calculate the break-even point
- 2) Calculate the amount of profit or loss, if the company operates at 90% of its normal capacity.
- 3) Calculate the new break-even point, if there is a reduction in selling price by 10%, a reduction in variable costs per unit by 20% and an increase in fixed costs by 20%, all these changes are to be taken to gather.

Q20) VNSGU MARCH-2024

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The cost structure of Aadvik company is as follows.

Production and sales (3,125 units)	₹ 12,50,000
Less	Variable cost <u>₹ 7,50,000</u>
	Contribution ₹ 5,00,000
Less	Fixed cost <u>₹ 10,00,000</u>
	Loss ₹ 5,00,000

Calculate the following:

- 1) Per unit selling price to remove 40% loss on sale
- 2) If it is not possible to increase the selling price, then required sales in units and rupees to get 20% profit on sales instead of 40% loss on sales

Q21) VNSGU MARCH 2024

Vishwa Limited has furnished the following data for the two years:

Particulars	Year 2021	Year 2022
Sales	₹ 15,24,000	?
P/V ratio	50%	37.5%
The margin of safety (as a % of total sales)	40%	21.875%

There have been substantial savings in the fixed cost in the year 2022 due to the restructuring process. The company could maintain its sales quantity level of 2021 in 2022 by reducing the selling price.

You are required to calculate the following:

- 1) Sales for 2022
- 2) Fixed Cost for 2022
- 3) Break Even Sales for 2022 in Rs.

Q22) VNSGU MARCH-2025

There are two plants manufacturing the same products under one corporate management which decides to merge them.

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.	PLANT - I	PLANT - II
Capacity operation	100%	60%
Sales (₹)	6,00,00,000	2,40,00,000
Variable costs (₹)	4,40,00,000	1,80,00,000
Fixed Costs (₹)	80,00,000	40,00,000

You are required to calculated for the consideration of the Board of Directors

- (1) What will be the capacity of the merged plant for break-even point purposes?
- (2) What will be the profitability of the merged plant on production at 75% of its capacity.

Q23) VNSGU MARCH-2025

A factory budget for a production of ₹ 1, 50,000 units. The variable cost per unit is ₹14 and fixed cost is ₹ 2 per unit. The company fixes its selling price to fetch a profit of 15% on cost.

- (a) What is the break even point?
- (b) What is the profit volume ratio?
- (c) If it reduces its selling price by 5% how does the revised selling price affect the BEP and the profit volume ratio?
- (d) If a profit increase of 10% is desired more than the budget what should be the sale at the reduced prices?

Q24) VNSGU MARCH-2025

VINAYAK Ltd. operating at 75% level of activity produces and sells two products A and B. The cost sheets of these two products are as under:-

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.	Product A	Product B
Units produced and sold	600	400
Direct materials (₹)	2.00	4.00
Direct labour (₹)	4.00	4.00
Factory overheads (40% fixed) (₹)	5.00	3.00
Selling and administration overheads (60% fixed) (₹)	8.00	5.00
Total cost (₹)	19.00	16.00
Selling price per unit (₹)	23.00	19.00

Factory overheads are absorbed on the basis of machine hour which is the limiting factor. The machine hour rate is ₹ 2 per hour. The company receives an offer from Canada for the purchase of Product A at a price of ₹ 17.50 per unit. Alternatively the company has another offer from the Middle East for the purchase of Product B at a price of ₹ 15.50 per unit. In both cases, a special packing charge of fifty paise per unit has to be borne by the company. The company can accept either of the two export orders and in the either case the company can supply such quantities as may be possible to produce by utilising the balance of 25% of its capacity.

You are required to prepare:

- (1) Which of the two export proposals should be accepted?
- (2) Prepare a sheet showing the overall profitability of the company after incorporating the export proposal recommended by you