Hello students Myself Mrs Ksharma Dessai. I'm going to speak on marginal costing equation . Marginal costing equation is equal to we have the formula sales minus variable cost which is equal to fixed cost plus or minus profit or loss. There are different concepts of marginal costing equations. First concept is about contribution. Contribution is the difference between sales and variable cost. It is used to ascertain the profitability of product process, Department and divisions. In case of Contribution we have the formula. Contribution is equal to sales minus variable cost or contribution is equal to fixed cost plus or minus profit or loss. Next concept of marginal costing equation is profit volume ratio. In short, it is called PV ratio. It indicates the relationship between contribution and sales. It is expressed in percentage. A high PV ratio indicates a high profitability and vice versa. It helps to find out contribution sales break even point sales required for earning a desired profit and profit against a particular amount of sales.Profit Volume Ratio is equal to You can see contribution upon sales multiplied by 100 or PV ratio we can calculate in other formula if two years figures are given to you that is change in profit or loss divided by Change in sales. Next concept of marginal cost equation is break even analysis. It is a method of studying the relationship among cost, volume and profit. Break even chart and break even point are the two by products of break even analysis. Let us see first what is break even point. Break. Even point is a point where the total sales are equal to the total cost in other words where there is no profit or no loss Is made in the volume of sales. It is a point where income is equal to the expenditure. Break even chart is a graphical presentation of cost, volume and profit. Let us see the formulas of break even point. The break even point can be calculated in two ways. One in terms of output and 2nd in terms of sales value. The formula when we are calculating in terms of units or output is fixed cost upon contribution per unit. Whereas when we are calculating break even point in terms of sales value, we have the formula fixed cost upon PV ratio.

I have taken a small practical problem. This is the problem where sales units are given to you. 15,000 fixed expenses are given rupees 68,000 sales value 3 lacs rupees and variable cost is rupees 12 per unit. And they have asked you to calculate contribution ,PV ratio and break even point.

Let us calculate contribution. Contribution is equal to sales minus variable cost. Sales figure is given into

the problem three Lac rupees whereas variable cost is not directly given to you. They have given only rupees, twelve per unit and number of units sold are given 15,000 units. So 15,000 units multiplied by rupees 12. You are getting rupees one Lac 80,000 here. So three Lac rupees minus one lac. 80,000 rupees that is 15,000 into 12 so you will get your answer. Contribution is one lec

₹20,000 next we can calculate PV ratio. PV ratio is equal to

contribution upon sales multiplied by 100. This is the formula given because PV ratio. We always express in terms of percentages.

so contribution we have already calculated here rupees one lac 20,000.

So we have taken it as it is. Sales is given to you in the

question itself rupees 3 lacs multiplied by 100. It gives you PV Ratio 40%.

Next we will calculate breakeven point in terms of sales

value. So break even point is equal to fixed cost upon PV

ratio. When we are calculating in terms of sales value. So

fixed cost is given in the question rupees 68,000 and PV

ratio just now we have calculated 40% so 68,000 upon 40% so 40% we can convert into 68,000 in to 40 upon 100 because when we

say 40% it is 40 upon hundred we reverse it. It will be 100 upon 40, so you are

getting the answer rupees one lac 70,000, which is your break

even point in terms of sales value which we express in terms of

rupees. Now let us calculate break even point in terms of

units. So when we calculate in terms of units, the formula is

fixed cost upon Contribution per unit. This is actual formula, so contribution

per unit means sales price per unit minus variable cost per unit.

Here selling price per unit is not given but total sales figure

is given rupees three lacs, number of units are given to you 15,000 so

three lacs divided by 15,000units. You are getting rupees 20

per unit. OK so now therefore Sales per unit is rupees 20 . We require.

Contribution per unit, which is equal to selling price per unit minus variable cost per

unit. Variable cost per unit is given in the problem as Rs. 12, whereas sales per unit we have calculated here so rupees 20 -- 12 it

gives you rupees 8 which is your contribution per unit. Therefore

break even point in terms of units we have fixed cost upon contribution per unit.

Rupees 68,000, which is fixed cost which is already given in the

question upon rupees 8 which is sales minus variable cost that is

contribution per unit. So it gives you total 8500 units. This

is BEP in terms of units.

Another problem I have taken to show you the calculation of PV

ratio that is change in profit upon change in sales when two

years figures are given to you.So these are the two years figures which are given for sales for

two years. Profits are also for two years and

They have asked you to calculate profit volume ratio. So how to

calculate? We have the formula PV ratio is equal to change in

profit upon change in sales multiplied by 100. There are two

Years figures are given to you

so. First year 5000 profit we have got and in the second year profit is Rs. 7000 . So 7000 minus 5000, there is a difference of ₹2000 which is a change in profit. Similarly in case of sales it is

changed from rupees 60,000 to rupees 80,000. You can see in a

question, first year sale is given rupees 60,000 and second year

sales is given 80,000. So difference between both is

20,000 here .OK and similarly profit we can see.

First years profit is 5000. Second year profit is 7000. So

difference between first year and second year you can see there is an increase of₹2000 profit. So rupees 2000 is a change. So 2000 upon 20,000 multiplied by 100 You are getting 10% is the PV ratio. So this is the first equation we have studied from the above presentation We have learnt about the calculation of contribution, PV ratio and break even points . In the next session I'm going to show you calculation of margin of safety or term angle of incidence and desired level of activity. Thank you.