Management Accounting
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Lecture 11: Preparation and analysis of Cost Sheet-III

Welcome students so after discussing the basic two types of the problems with regard to the cost sheet, first one was the plain cost sheet, second one was the cost sheet after adjusting the three different types of the stocks. Now, we will add one more feature in the cost sheet where per unit information can also be calculated. In the first two problems which we did in the previous classes number of units were not given to us, we were only given information about the cost and the sales. We were not given that how many units we are producing, how many units are coming as the opening stock from the previous periods and how many units are transferred to the closing stock from the current periods, that information was missing. So, we can add a one more column now, taking into account per unit cost, and then we can calculate per unit cost, then the per unit sales value and the per unit profit.

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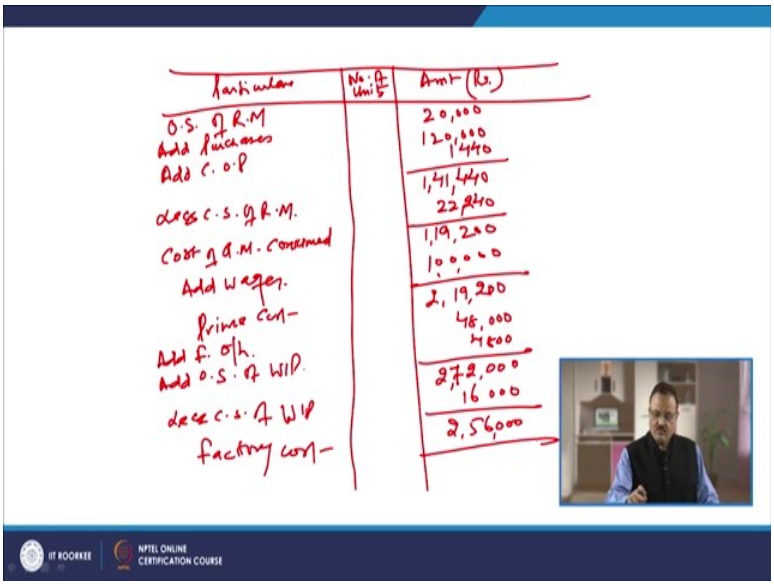

So, in this problem we will now deal with the problem of the per unit cost. So, when you prepare the cost sheet, taking into account the per unit cost. So what we have to do is that you to make now the three columns. Again the same format for the cost sheet and this is one column, this is that second column and this is the final column. So, here it is the cost sheet which we are

adding here. We will write here what, particular, this will be the number of units, number of units and here it is the amount. You can write it in the rupees. So other things will remain the same. I am not to add anything. Only the units information is given to us which will be adding here. So, again we will start with. In this problem what we are given the information about? We are given the information about the raw material. So we are, the current raw material which is purchased. We will have to treat the opening and closing stock of the raw material. We are given the information about the wages and by taking into consideration this total cost of material and the wages cost we will have to calculate the prime cost as we have been doing in the past. Then we will move to the factory cost, we will adjust the WIP, stock of WIP. Then we will move to the cost of product, adjusting the stock of finished goods and then we will finally calculate the cost of sales.

So, other things will remain the same as like the previous two problems. One this is we will have to calculate now the per unit profit also total profit and the per unit profits. So, information given in this problem is, that in the current period we are producing how many, 16,000 units and 1,000 units we are transferring from the previous period. With they were then the closing stock of the previous period which will become the opening stock. So, what is the total production available now with us now for sales? That is 16,000 produced in the current period, 1,000 we transferred from the previous period. So the total production available for the sales is 17,000 units. Out of that it is given that 2,000 units are again transferred to the closing stock. We want to keep some stock because companies never go out of stock. They manufacture more than what they are going to sell in a particular period and after selling they keep the stock. So that any unexpected order comes to the company, company is able to serve the client, if they are out of stock that creates a bad reputation for the companies in the market. Even you think about that you want to buy some product. You want to buy the tooth paste of a one particular brand, we go to the grocer or one particular store, daily needs store and we try to find out that tooth paste and if that tooth paste not available there, we feel bad. Either we go to the next shop or we replace that product with the other product. If the Closeup is not available you will buy the Colgate but if the Closeup was available Closeup would have been able to sell one more unit to the customer and the customer what he intended to buy he will get the product. So out of stock is a big cost, different types of cost are there, when you talk about the inventory cost, investment cost is there, handling cost is there similarly, there is one more cost which is called as the stock-out cost or out of stock cost.

If anything the customer wants to buy and if the companies or any distributor or retailer is not able to provide their product then it creates a bad impression in the market and customers do not like it. So some amount is kept as a reserve for the sake of the future requirements. So in this case we are given the information about the cost, we are given the information about the sales, and we are given the third information about the number of units. 16,000 units current production, 1,000 units transferred from the previous periods out of the total 17,000 units available, 2,000 units are again transferred to the closing stock which will be kept for the say situation that when unforeseen, unexpected order comes we are able to meet that requirements. So it means currently the production going to the market is 15,000 units. So we will have to find out the cost for the 15,000 units. We will have to find out the profit for the 15,000 units (by) because we are given the sales value. And whatever the total profit comes if you divided by that 15,000 units you are able to calculate the per unit profit, right? So in this case we are going to prepare another cost sheet and we are treating per unit cost also, number of units or units. So, now we are going to calculate the first cost that is the cost of materials consumed and what is that, opening stock of raw materials, just like we did it in the previous two problems.

What is the opening stock of raw materials? This is the 20,000 rupees, you put it the outer column directly then add purchases, what we purchased in the current period add purchases. So, if we add the purchases here how much is the purchases value? Total purchases value is 120,000. So, total purchases value becomes how much, that is 140,000 rupees and add carriage on purchase.

So, carriage is also the part of the cost of purchases. So carriage on COP, carriage on purchases is how much, 1440, this cost is going to be 1440. So, we will have to calculate this cost. This works out as 1440, right? So it means what is the total say cost of the raw materials which we purchased now, this cost works out as 141,440, right? Now, in this raw material cost we will have to say subtract the closing stock.

Because till now we have taken the two information into account. What was the opening stock of a raw material, first of all that will be utilized? After that when it is about to come to an end, we will purchase the additional material from the market. So total purchases plus carriage on

purchases. This works out as 141,440, right? Now out of this total amount purchased for 141,440, some amount is shifted to the closing stock and that will be used in the next period.

So what you have to do is less closing stock. So if you subtract the closing stock here what is the amount of the closing stock of a raw material, closing stock of raw material and what is that information? That is 22,240 and how much it is 40, right? So, what is the now final cost of raw material consumed, cost of raw material consumed is how much? This works out as 119,200, right? 119,200 rupees is the cost of the raw materials consumed.

Because we had the total cost of purchase and opening stock 141,440 closing stock kept is 22,240 so finally the cost of raw materials consumed for the current period is that is worth rupees 119,200, right? In this what we have to do now is add wages, so if you have add the wages here, how much is the wages information given? It is one lakh rupees. So you have to add this up. So, what is the final cost? You call it as this is the prime cost. Prime cost works as how much? 219,200. This is the prime cost.

Now, in this prime cost what you have to do is, you have to add now the factory overheads at factory overheads. So what are the factory overheads are given to us in this case? The works overheads are given to us in this case are say 48,000 rupees, total works overheads are 48,000 rupees. So this the prime cost and the works overheads are the 48,000 rupees, right? In this case we have the opening stock of the work in progress and the closing stock of the work in progress.

So we will have to add of that also, add opening stock of WIP. Opening stock of WIP is given to us is how much? This is 4,800 rupees worth, 4,800 rupees. So this becomes the total amount. What is this the total amount is? This is something like 000 and the final amount will come out as 272,000 rupees. This is the say factory cost before setting aside the closing stock of the WIP. So work in process, we had the prime cost, we added the factory cost, the factory overheads which are incurred in the current period.

Then add opening stock of the WIP. So, factory overheads are the 48,000, opening stock of WIP is 4,800. So the total works out as 272,000. This amount is 272,000. In this case, now you have to do one more thing, and that what you have to do is less closing stock of WIP. So closing stock of WIP if you will subtract here, closing stock of WIP is how much? That is amount is 16,000,

you subtract that. So in this case when you calculate the, you subtract the closing stock, so you are left with the cost of production for the period. You can say it is the factory cost, not the cost of production but the factory cost. Factory cost is finally that is the amount for the factory cost is how much, 272,000 minus 16,000. It is less, we are doing less minus 16,000.

So this is the cost, which is called as the factory cost and this cost is the 256,000, right? This is the factory cost or the works cost. We are adding here the factory cost or the works cost that is 256,000 rupees.

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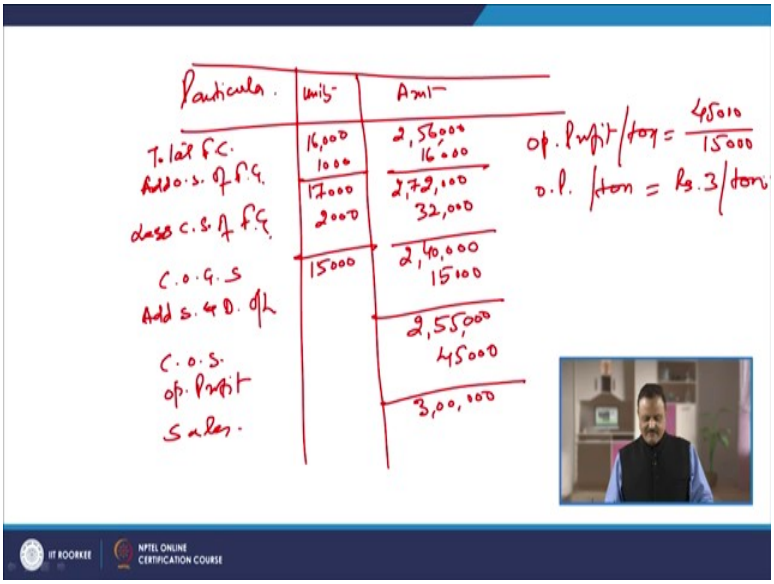

Now the further we will go to the next level. Next page we will continue the cost sheet here along with the information for the number of units and finally arrive at the, so this is the factory cost. Total factory cost is how much? This cost is 256,000 but we have calculated here is that is the 256,000 rupees. So, the stock cost of the 56,000 rupees is for how much? This is for the 16,000 units. Now will you put the units here?

This is the column for units and this is the column for amount, this is the column for particulars, details you can say. So now total faith factory cost is 16,000 units, for the 16,000 units is how much, 256,000. In this now we will have to treat the stock of the finished goods. So this is how much units we produced. In the current period we produce 16,000 units and in this case you have add of the, add opening stock of finished goods.

Some units we produced here and some we transferred from the previous period. How much that number of were, which were already there in the warehouse, 1,000, so total number of units became now how much, 17,000 and what was the cost of that 1,000 opening stock that was again 16,000. So we are putting here the cost of opening stock is 16,000. So what is the total value become, this total value again becomes 272,000 rupees. This is the opening stock of the finished goods.

Now further question says that out of this 17,000 units 2,000 units are kept aside and they are transferred to the closing stock to be sold in the next period. So what we you have to do is less, closing stock of finished goods. Closing stock of finished goods is how much? The closing stock of the finished goods is how much? We have number of units given to us are 2,000. We are keeping setting it aside. What is the amount? What is the value of this 2,000 units? This is 32,000.

So you are left with how many units, you are left with now 15,000 units and what is the cost of this 15,000 units when you are setting aside 32,000 worth of the material to be sold in the next period. So that cost of the total amount going to the market is 240,000 rupees and what this is called is as, this is called as the cost of goods to be sold, COGS. This is the cost of goods to be sold means how much goods to be sold in the market.

These are called as the 15,000 units and the cost of production is 240,000 rupees and in this now he says that in the cost of goods to be sold or the cost of goods to be produced, we will have to incur the selling and distribution expenses, when the production will go from the place of production to the place of production to the means from the factory to the market selling and distribution overheads has to be incurred. Information given to us is that selling and distribution overheads are rupees 1 per unit.

How much unit we are going to sell in the market now? 15,000 units, if the 1 rupee is selling and distribution cost it means the selling and distribution cost you are going to add up here is that is going to be say for 15,000 units how much 15,000 rupees. So you write here at selling and distribution cost, selling and distribution overheads, so if you say the selling and distribution overheads, this is the selling and distribution overheads so that if you take that into account and selling and distribution overheads.

Rupees 1 per unit, how much this amount will work out as, 15,000, this amount will work out as 15,000 rupees. So, if you take this into account, so what is the total amount now? 240 is the production amount now. 15,000 is the distribution cost so finally the cost of sales. COS, the cost of sales will be how much, 255,000 is the cost of sales, right? And here I have written the cost of goods sold. So, you should not get confused. Now, I am writing cost of goods sold, in the earlier problem I wrote the cost of production. So cost of production and cost of goods sold it is one as the same thing.

So first we calculate the prime cost, then we calculate the factory cost, factory cost in this case was 256,000 and when we adjusted the opening and closing stocks of the finished goods the final cost of the production or the cost of the goods to be sold was 240,000 units and the units going to the market are 15,000, right? And when we added selling and distribution overheads at the rate of rupees 1 per unit, per ton it is given, unit means ton here, per ton given here is 15,000 rupees.

You add up the selling and distributing cost and this total cost of sales, this becomes the total cost of sales or the production going to the market is 255,000 rupees, that is for how many units, 15,000 units, right. So now you are given the sales information also. So you put in the, you leave a blank space here and put here sales and the difference will be called as operating profit. This is called as operating profit. So we will have to calculate the operating profit.

So what is the sales value now? Sales value given to you is 300,000 this is 3 lakh rupees. 300,000 is given to you. What is the profit? Operating profit is 45,000 rupees. Operating profit is 45,000 rupees. Now you are given the per unit information, you are given the total amount for the total production. The total cost of the goods to be sold or the cost of sales is 255,000 rupees for 15,000 units.

So operating profit in total is 45,000 rupees and what is the operating profit? Operating profit, you write here operating profit per ton or the per unit means we are manufacturing in terms of tons. 15,000 tons of the production is there. So the operating profit per ton is going to be how much? This is 45,000 is operating profit divided by how many units, that is 15,000 units. So per ton operating profit, per ton is how much? This is 3 rupees per ton. This is the profit.

So, it means we have added one more profit in this cost sheet by calculating the per ton profit, we have got now the unit information also. Again I repeat that total production for the current period was 16,000 units. The units transferred from the previous period to the current period 1,000. Total stock available with us was 17,000 units. From this period to next periods stocks transferred is 2,000 units.

So we are left with the 15,000 tons to be sold in the market. Total cost including the selling and distributing cost was 255,000 and we got the sales value, it is actual value or expected value that is expected to be 300,000. So, 300,000 minus 255,000 is the total profit, operating profit is called as the 45,000 rupees and per ton profit is 3 rupees from we have calculated from this, right? So in this case we have when the profit we are calculating in the cost sheet that profit is called as operating profit.

Because profit to any manufacturing organization is not only from the production and sales, it is from the non-operating activities also. They have surplus incomes. They have invested that the company has invested those incomes in the market. They are going to get interest or they are going to get the dividends. Sometimes companies, one companies give the consultancy services to the other companies, they get the premium for that. So that will be the indirect income.

So, finally the net profit will be calculated in the income statement or in the profit and loss account. Here only the operating profit, so operating profit is the one part of the profit when you add into this the non-operating profit and then taking to account the text related information, corporate text related information, so you calculate the net profit before text, net profit after text and that net profit after text to be calculated in the profit and loss account with the help of financial accounting, that is called as a divisible profit.

That profit is available to the shareholders to the owners of the company, so part of the profit is distributed as dividend to the shareholders. Part of the profit is transferred to some specific reserves and then undistributed profit left is transferred to the balance sheet and added in the capital, share capital. So that way it appreciates the share capital of the company. Now a million dollar question here is we are not studying the cost accounting, we are studying here the Management Accounting.

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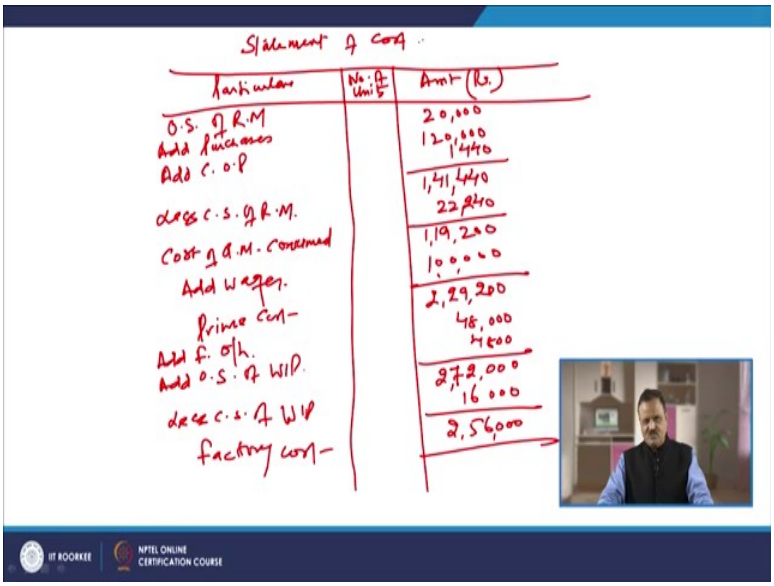

So, you need, use this information which is generated with the help of this cost sheet, this is the cost sheet or statement of the cost. This is the statement of cost. Now we have generated this information with the help of cost accounting. Cost sheet is the part of cost accounting, mind it. So we prepare a cost sheet adding the per-unit information, total information, calculated the total cost total profit. Now, this cost sheet if it is available to the management how to use this information for the management decision making.

Now, I told you in the previous classes that why we prepare the cost sheet in this fashion in this style. We calculate sub cost then the total cost. We do not jump to the total cost because exercising the control in that case will be very-very difficult. Now, how to use this information for the management decision making? Out of this total cost or the 4 sub cost if you look at the value given prime cost is the biggest one. This is the highest component of the total cost and in the prime cost also if you look at the cost of raw material that is again the biggest component.

And normally it is the standard estimate that in any product manufactured and sold in the market about 50 – 60 percent cost of the production is the cost of material then comes the cost of wages, that is a labour cost working on the plant and then the other cost. Indirect cost like administrative overheads, selling and distribution overheads remain comparatively smaller as compared to the

material and this wages paid to the workers. Now purpose of preparing the cost sheet is the cost control.

You cannot increase the selling price, so you have to reduce the cost if you want to keep your profits intact. Here we have now prepared this, cost control we have to analyze. Now, you look at what is your cost of raw material consumed because if you now exercise the control, you start exercising it from the items, inputs or the input cost which is biggest in the magnitude or in the size. Cost of raw material is the biggest one here 100, 19,000 to 100 rupees, 119,200.

Now, if the company makes efforts for purchasing of a raw material maybe you can purchase it in bulk or if we are using agricultural material as the raw material you can purchase the material in bulk during the season of the agriculture or rather than buying it through middleman, we can buy directly from the farmers. Companies can support the farmers, they can have a contract that whatever the production comes up that will be ours, that we will buy straight way buy from you.

There in that way the production is from the farmers or from the field to the factory, only two (say) set of the people are involved, one is the farmer that growing the crop, another is the company whose purchasing. There are so many companies of the direct contacts with the farmers. For example, we talk about the ITC. When the ITC manufactures different products, you talk about the wheat flour they are manufacturing, different types of biscuits they are manufacturing, different types of chips they are manufacturing.

So they help the farmers to grow the potatoes. They help them to get the good quality seeds, good quality pesticides and chemicals; they take care of the quality control, everything and that good quality potatoes when comes out of it directly goes to the factory so both are in the win-win situation. Similarly, you talk about the companies who are manufacturing these say potato chips in the market whether it is a Pepsi, Uncle Chips or any Lays or any other kind of the chips they are selling in the market, they directly buy the potatoes from the farmers.

Companies who are manufacturing, for example spices, MDH we talk about, if MDH want to buy the raw material these spices from the market, in that case some middleman will be involved. So better it is you have the direct contact with the farmer. So you ask the farmer, you grow the particular spice, you give it to us, will purchase from you directly. Quality we will

assure that, yes, we have to have the good quality product from you so that the cost remains minimum.

So, if you want to avoid now the rising of the cost or cost going beyond the control we can buy during season, we can buy in bulk, because here the cost of raw material is the highest, 119, 200 rupees. Now your job is exercising the cost control and for exercising the cost control you always hit on the item which is biggest in amount. If you, for example, from this given cost of raw material if you are able to reduce even that 10 percent cost of the raw material out of 119,200 rupees.

If we are able to somehow manage to reduce the cost by cost of raw material by how much that is 10 percent. So, how much amount you will be saving here, about 11,920 rupees saving will be there as compared to if you exercise the control on the wages, if you try to say exercise the control on wages then even 10 percent reduction you are going to reduce the cost of wages by how much amount, that is by 10,000 rupees that can be the second item first item is the raw material because this is the biggest component.

In the labour components very difficult for the companies to reduce the cost of the labour because there human element is involved and once the labour rates are decided, normally the labour rates go up in the market they never come down, right? So, if you do not increase the labour's expenses or labour wages they will stop working for you. There will be strikes, lockouts that will create a problem. It is very difficult to control the wages cost, is always you can control the material cost and then some other components.

So we have to exercise the cost control this cost sheet is helping us to find out material cost is the highest, first control that, exercise control if you are able to reduce it by 10 percent, even by 5 percent a substantial amount can be saved and the cost, total cost of production can come down. Wages if are possible to be controlled, there is a second highest component you can reduce that if it is possible or sometimes you can say have more skilled labour, so less number of people will do the better work in lesser amount of time.

So rather than employing the unskilled people, you employ the skilled people. So lesser number of people in the lesser amount of time they can contribute much and the overall cost can be kept

under control. Next, head of the expenses, for example, if you see here the next information that we have included here is that is the say administrative overheads, if we talk about the administrative overheads here. We are not given any information about the administrative overheads.

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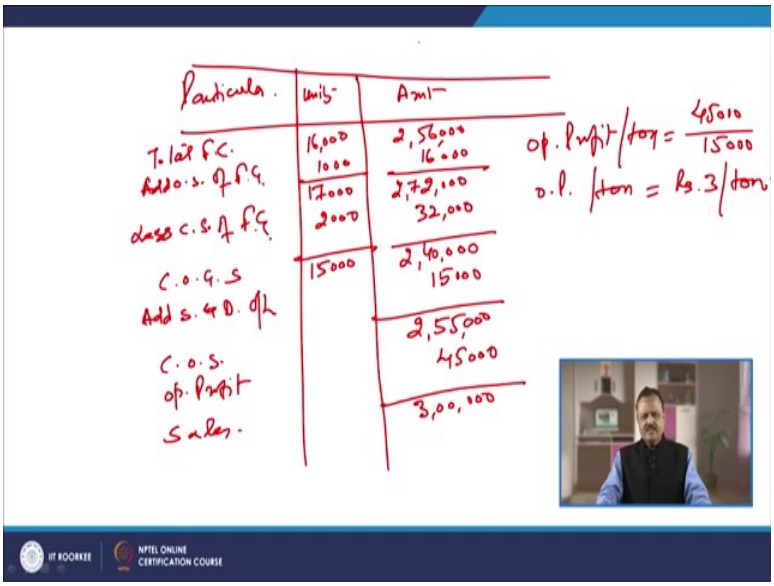

We are given the information about the factory cost and we are given the information about the say selling and distribution overheads. So, if you talk about the selling and distribution overheads. How much selling and distribution overheads we have added up here? Rupees 1 per ton, rupees 1 per unit. So there is no point controlling this because even if you say 10 percent of selling and distribution overheads, how much you are going to say 10 paisa.

So that is not a bigger amount because whatever the exercise we do, the principles of management accounting always require that cost of exercising any control must be less than the benefits arriving out of it, right? This is the basic principle. There only you have to put the efforts where results are going to out of way the input of the cost, if you are controlling making efforts on the controlling cost of raw materials, 10 percent reduction in the cost of raw materials is going to save for you 11,920 rupees.

You talk about in the practical sense; the companies will buy the materials that is in the bulk. In the tons of the materials they buy and if they are able to save even 10 percent of cost by resorting

to the efficient sources like directly buying from the farmers, removing the middleman, buying during this season or sometimes buying from the sources where it is available at the cheapest cost.

These days government after the liberalization of Indian economy, they have introduced one clause for the say reduction of the cost that any new unit when comes up and before coming up with the new production units the owners have to get the project report prepared and in that project report they will have to certify maybe because anybody who is going into the business or they are establishing a new enterprise they will be borrowing money from the different investment finance institutions, right?

So there is one clause that is the clause of the Global Sourcing. That institution would like to know how much, means what is the source of raw material you are getting. So it is not only that you buy raw materials from within the country, if the raw material are is not available if the good quality raw material is not available within your country you can import it. Today the rupees fully convertible on the current account, you will get the free amount of the foreign exchange.

You buy it, you bring it from those foreign countries, where is available in the bulk, for example, the milk products. Milk if it is not available in the, good quality milk is not available at the competitive prices in India you can even import from Denmark or maybe from other countries which are the milk surplus countries and we can make use of that. Similarly, in the electronics industry, these bigger companies like Samsung, Sony, LG they do not all the products required for manufacturing a colour TV in India.

They are into India, they have bigger manufacturing unit in India but largely that unit is called as a assembling unit other than manufacturing unit. They buy the bulk of the inputs from the standard suppliers. For example, Taiwan is a market where provides this kind of the material for manufacturing the electronics products. In Taiwan picture tubes are manufactured in millions of numbers. And when you are manufacturing thousands of numbers and you are manufacturing millions of units you can understand the cost is going to go down.

So you import the material, make sure that we have to and sure the quality of the product and we will have to reduce the cost of production, and if you are making the effort on the biggest

component of the cost even 5 or 10 percent of the cost you are able to reduce in that case a substantial part of the cost can be reduced. So go for the Global Sourcing, foreign exchanges available from the government.

You have the foreign exchange; buy it from the best source available that will ensure the good quality materials. If you use about the quality inputs the outputs will also be very good. You will be able to fetch a very good selling price from the market and the cost will also be under control. So always in this cost sheet you have to look at which one is the biggest component, raw materials standard 50 to 60 percent, reduce it by 5 to 10 percent.

So you are going to save 5 to 6 percent of the cost. Number 2, wages, you come down to that wages if you are able to reduce, you can replace the less efficient workers with the more efficient workers and you can say pay them even more but the output will be very high. In that case your overall cost of labour will come down, after that you come down to the other parts, for example, say administrative overheads.

For example, we have our own constructed building, so if it is possible that rather than using that space, if it can be rented out somewhere, your rent it out at the higher price say higher rent and you can have the you can have this space again on the rent. So that we also by managing the space, the buildings the factories you can manage the cost or any another administrative overheads you can (con) control.

Or you can reduce the salaries of the employees means you can keep less number of people who are efficient employees rather than employing more expensive employees you can have, you can reduce the salaries cost, you can reduce the stationary cost, can reduce the say other administrative cost and after that you come to the last component that is the selling and distribution overheads.

That is the next in the row the last one in the cost sheet. So you have to look at that is there any possibility of controlling the selling and distribution overheads? We will have to look for that. Always apply one principle cost and benefit, how much benefit we are going to have if we save some amount of the cost on one particular input head or cost head. Always, if the benefit are going to be lesser than the cost of reducing the, or controlling the cost never try that.

So cost sheet is prepared is, under the cost accounting we prepare this cost sheet and then we use information and use this information for the cost control or keeping the cost as low as possible. With this component I stop the discussion on the cost sheet, statement of the cost and we learnt about how to prepare the cost sheet and how to use the information given in the statement of the cost for the management decision making.

In the next class we will start talking about the next topic that is the budgets and budgetary control. Budgets is a very important component which facilitates the production planning. So, if we properly plan, properly budget we know the road map and then it is very easy to walk on that road map then we can have the real production execution of the production and then we compare the actual cost budgeted cost, actual sales with the budgeted sales and actual profit with the budgeted profit and then we can find out that whether we are able to achieve the objective or not.

So, this all will discuss in the next class – in the budgets and budgetary control. For today I stop here and meet in the next class. Thank you very much.