

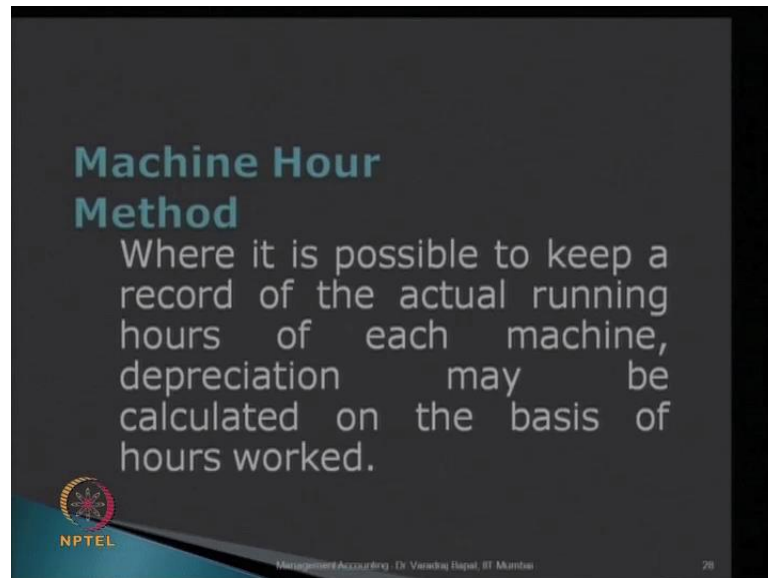
Managerial Accounting
Prof. Dr. Varadraj Bapat
School of Management
Indian Institute of Technology, Bombay

Module - 5
Lecture - 8
Depreciation, Inventory, Goodwill

Today, we shall continue our discussion on depreciation. In the last session we have discussed what do you mean by depreciation? I hope you all remember that depreciation refers to continuous reduction in the value of fixed asset. Usually it is cost by variant air or by opsolysis or simply by passage of time. We are also started our discussion on certain methods of depreciation particularly we are discussed straight line method and reducing balance method. In straight line method the amount which is to be depreciated say the cost of asset is 10000000 and it has a useful life of 400000 4 years. So, we have to write off 10000000 over a period of 4 years it is written off in the equal installments that is why it is called as a straight line method. So, what we will do is 10000000 upon 4, so each year will write off 2500000 that is known as straight line method. There is another method known as reducing balance method where will apply some percentage. For example, say it is 10000000 we may decide to write off 30 percent each year.



So, in year 1 will write of 3000000 in year 2 we will not write off 3000000 we'll take 10000000 minus 3000000 that is 7000000 which is known as written down value on that 7000000 we will charge 30 percent. So, maybe we will charge 2100000 in the year 2. In year 3 it is 70 minus 21, so 49 into 30 percent and so on. So, in reducing balance method the amount of depreciation goes on falling goes on reducing that is why it is known as reducing balance method. Amongst the 2 methods reducing balance method is advantages, because in the initial years more depreciation is charged and in the later years less depreciation is charged. As you all know in later years the cost of maintenance or repairs is going to increase. So, depreciation plus repairs the total charge is more or less matched over the period of time.

(Refer Slide Time: 02:57)



So, you usually R B M method is preferred over S L M method or straight line method. Let us go to next methods now. So, this is about depreciation then causes of depreciation, objectives, factors we were here we have already discussed S L M and R B M. Now, let us see the third method which is known as machine hour method. Now, here the depreciation is actually charged on the bases of use of asset, because depreciation is basically meant to be a charge on use. So, here we are trying to really charge it for the number of hours the asset is used. Of course, here there is a free condition that there should be proper recording of number of hours each day and each month and so on.

(Refer Slide Time: 03:29)



The machine hour rate of depreciation is calculated after estimating the total numbers of hours that machine would work during its whole life.

Management Accounting: Dr. Varadraj Bajaj, IIT Mumbai

29

Now, here the rate of depreciation is calculated by estimating the total number of hours that machine could be used throughout the life.

(Refer Slide Time: 03:54)

Year	hours
1-2:	5000 per year
3-5:	7000 per year
6-8:	3000 per year

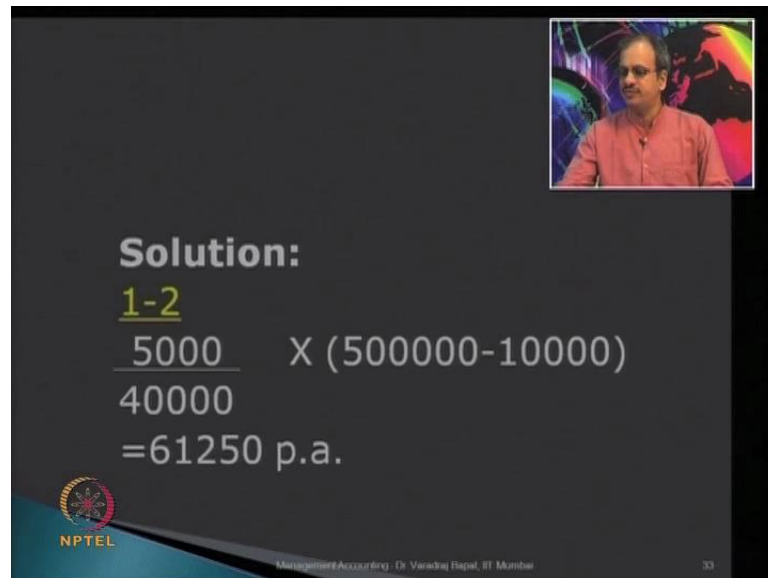
Compute depreciation p.a.

Management Accounting: Dr. Varadraj Bajaj, IIT Mumbai

32

So, here is an example if the cost of machine let us say 500000 estimated hours are 40000 the scrap value is 10000. Now, estimation has to be made as to the pattern of use. Suppose this is the roughly the pattern now, here we have the information that the total cost of the asset is 500000. You also know the scrap value can you calculate the depreciation per hour think a bit. First of all you have to calculate the depreciable amount throughout the life, so 500000 is a cost minus 10000 which is scrapped.

(Refer Slide Time: 04:43)



Solution:

$$\frac{5000}{40000} \times (500000 - 10000) = 61250 \text{ p.a.}$$

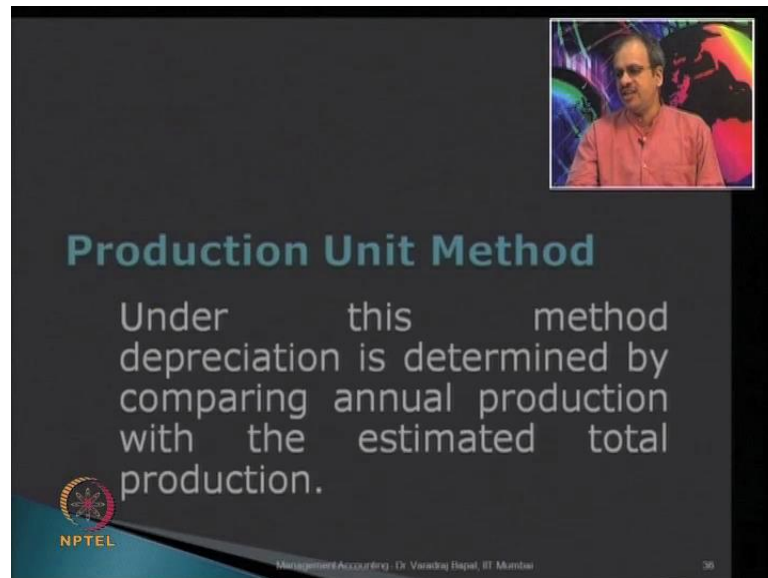
NPTEL

Management Accounting: Dr. Varadraj Bajaj, IIT Mumbai

33

So, 490000 becomes the amount to be depreciated over the life. And over the life we know that 40000 is a number of hours, so 490000 divided by 40000 is an hourly rate we can see the solution. So, here you can see in the year 1 and 2 what is expected is only 5000 hours of usage. So, 5000 upon 40000 into 500000 minus 10000 which is a depreciable amount, so depreciation comes to 61250 per annum are you getting me. So, essentially what we are doing is 500000 minus 10000 that is 490 is a depreciable amount divided by 40000 gives me the rate and multiplying it by 5000 in years 1 and 2 same way in year 3 and 4. I am going to multiply the rate by 7000, because machine is going to be used more in this period.

(Refer Slide Time: 05:52)



Production Unit Method

Under this method depreciation is determined by comparing annual production with the estimated total production.

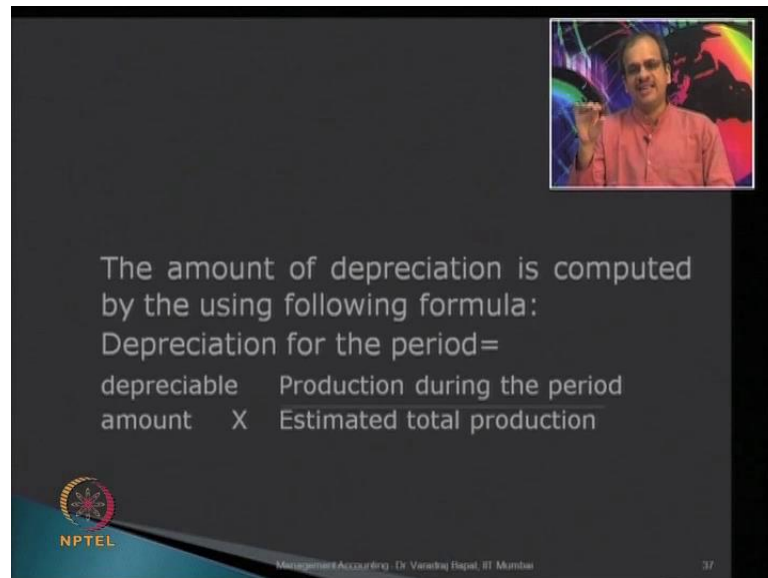
NPTEL

Management Accounting | Dr. Vinodraj Bajaj, IIT Mumbai

36

So, yearly rate becomes 877 85750 in year 6 and 8 again the amount of use is going to come down to just 3000 hours, so the depreciation amount has been recalculated and it is now 36 750. So, you will realize that in machine hour method the charge of depreciation is not kept uniform, but it is based on number of hours the machine is likely to be used or is actually used. So, according to this chart you will realize that initial 2 years the use is 5000 maximum use is between 3 to 5 years where it is 7000 and in the last years it paper soft is it reduces to just 3000 between 6 and 8 year. So, we have calculated depreciation also according to the use that is why this is better method than the earlier 2 methods. But only disadvantage is you should have reliable estimates on n number of hours the machine is likely to be used. There is one more method which is similar that is based on production units. So, here we try to calculate the number of units for which the machine is used and the output which it produces. Now, the depreciation is calculated like this.

(Refer Slide Time: 07:00)

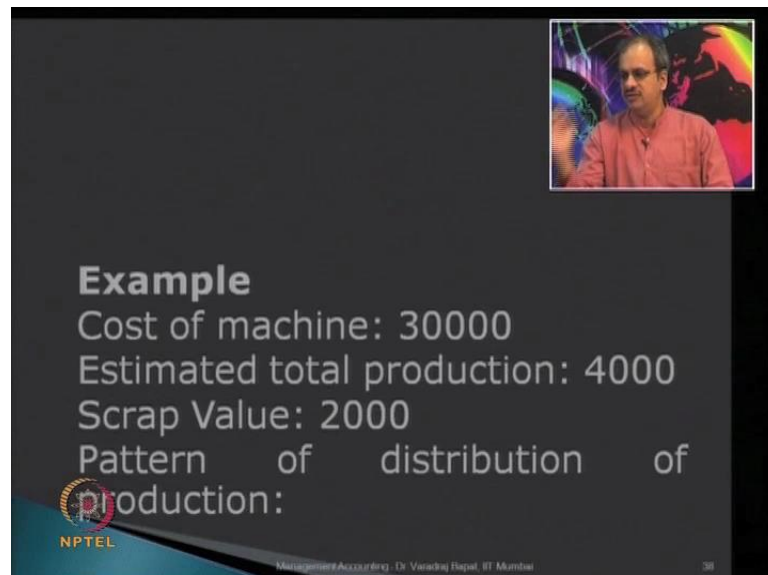


The amount of depreciation is computed by the using following formula:
Depreciation for the period =
$$\frac{\text{depreciable amount} \times \text{Production during the period}}{\text{Estimated total production}}$$

NPTEL
Management Accounting, Dr. Varadraj Rajpal, IIT Mumbai
37

So, you have the depreciable amount will multiply by production during the period divided by the estimated total production. So, again let us look at an example. Now, the cost of machine is let us say 30000 the machine is likely to give a production of 4000 during its useful life and scrap value is 2000.

(Refer Slide Time: 07:10)



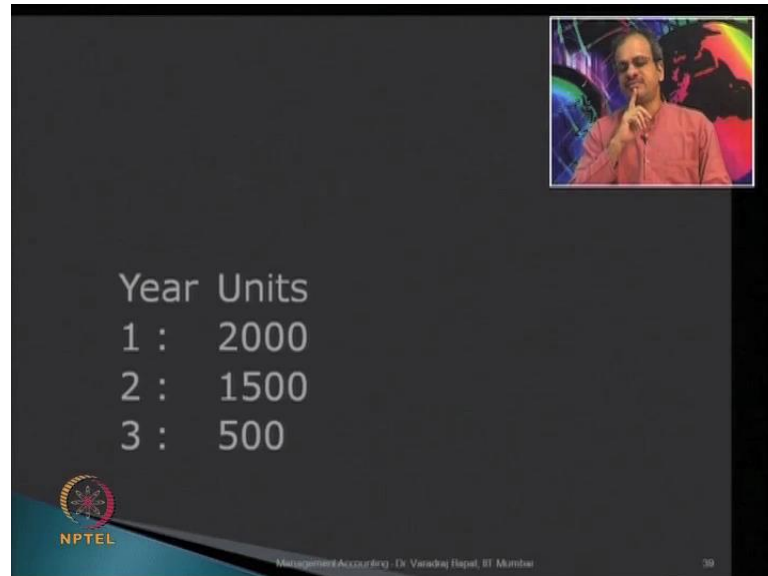
Example
Cost of machine: 30000
Estimated total production: 4000
Scrap Value: 2000
Pattern of distribution of production:

NPTEL
Management Accounting, Dr. Varadraj Rajpal, IIT Mumbai
38

Now, looking at this data can you calculate estimated depreciation per unit? Can you calculated calculate how much is a depreciable amount you will realize the depreciable amount is 30000 minus 2000 that means 28000 is to be depreciated over a life. And the

total estimated production is around 4000 so 28 upon 4, so 7 rupees per unit becomes depreciation of the machine.

(Refer Slide Time: 08:09)



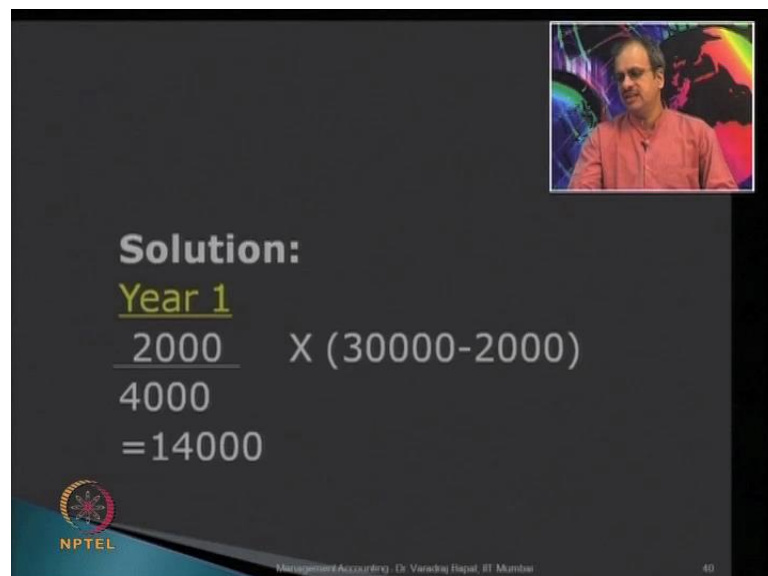
Year Units
1 : 2000
2 : 1500
3 : 500

NPTEL
Management Accounting - Dr. Varadraj Rajput, IIT Mumbai
39

This slide features a small video inset of a man in a red shirt in the top right corner. The main content is a list of production units for three years: Year 1 (2000), Year 2 (1500), and Year 3 (500). The NPTEL logo is in the bottom left, and the slide number 39 is in the bottom right.

Now, we will look at the pattern of production. Now, it is estimated that highest use that 2000 units will be produced to year 1 the use will reduce it will become 1 5 in year 2 and only 500 in year 3.

(Refer Slide Time: 08:21)



Solution:
Year 1
2000 X (30000-2000)
4000
=14000

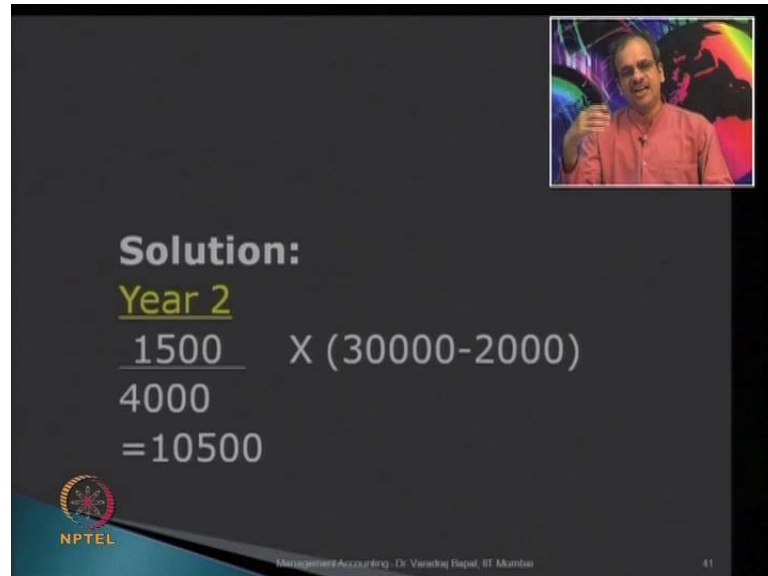
NPTEL
Management Accounting - Dr. Varadraj Rajput, IIT Mumbai
40

This slide features a small video inset of the same man in the top right corner. The main content shows a calculation for Year 1: 2000 units multiplied by (30000 - 2000) equals 4000, which is then multiplied by 7 to get 14000. The NPTEL logo is in the bottom left, and the slide number 40 is in the bottom right.

Thus the depreciation now also will be calculated proportionately, so it is 14000 in year 1. Now, you already know that the rate is 7 rupees per unit 7 into 2000 also you can

calculate it will come to 14000 or the way it is calculated here you can take 2000 upon 4000 into 30 minus 28.

(Refer Slide Time: 08:48)

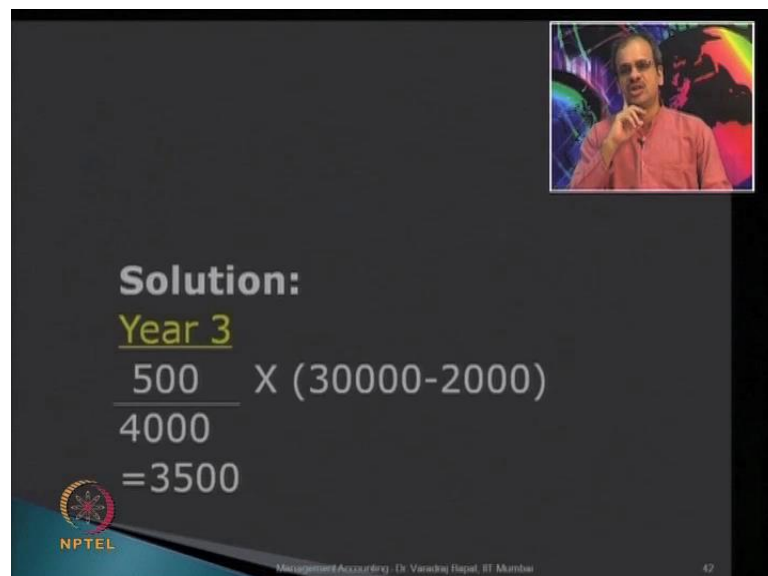


The slide shows a calculation for Year 2 depreciation. It features a small video inset of a man in a pink shirt in the top right corner. The main content is a math problem: 'Solution: Year 2' followed by a calculation where 1500 is divided by 4000 and multiplied by (30000 - 2000), resulting in 10500. The NPTEL logo is in the bottom left, and the text 'Management Accounting - Dr. Varadraj Rajput, IIT Mumbai' and the number '41' are at the bottom.

$$\begin{array}{r} \text{Solution:} \\ \text{Year 2} \\ \hline 1500 \quad \times (30000 - 2000) \\ 4000 \\ \hline = 10500 \end{array}$$

In year 2 the use is 1500, so the depreciation charge becomes 10,500. In year 3 how much will be depreciation? If you remember in year 3 the units produced is expected to be only 500. So, depreciation will be 500 upon 4000 into 28000, so it is 3500.

(Refer Slide Time: 09:12)

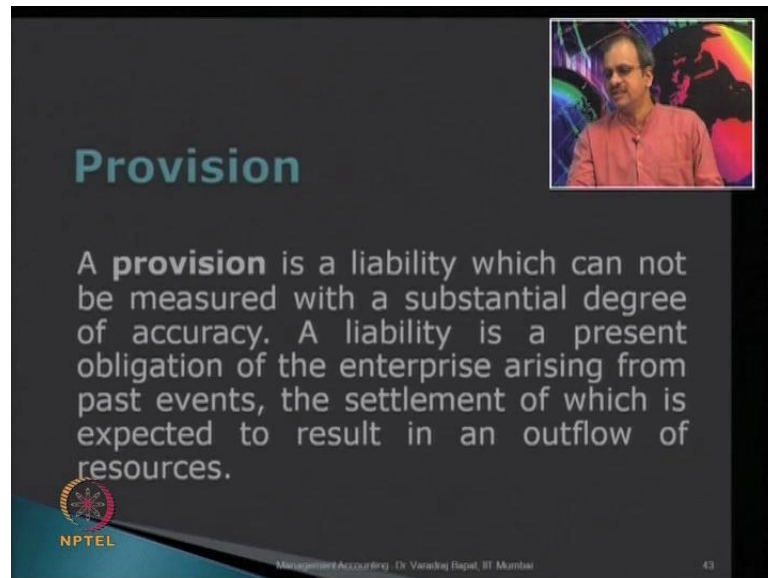


The slide shows a calculation for Year 3 depreciation. It features a small video inset of a man in a pink shirt in the top right corner. The main content is a math problem: 'Solution: Year 3' followed by a calculation where 500 is divided by 4000 and multiplied by (30000 - 2000), resulting in 3500. The NPTEL logo is in the bottom left, and the text 'Management Accounting - Dr. Varadraj Rajput, IIT Mumbai' and the number '42' are at the bottom.

$$\begin{array}{r} \text{Solution:} \\ \text{Year 3} \\ \hline 500 \quad \times (30000 - 2000) \\ 4000 \\ \hline = 3500 \end{array}$$

So, both the methods are fairly similar machine hour and production unit and both intend to charge the depreciation based on the actual use of the asset.

(Refer Slide Time: 09:28)



Provision

A **provision** is a liability which can not be measured with a substantial degree of accuracy. A liability is a present obligation of the enterprise arising from past events, the settlement of which is expected to result in an outflow of resources.

NPTEL

Management Accounting, Dr. Varadraj Bajaj, IIT Mumbai

63

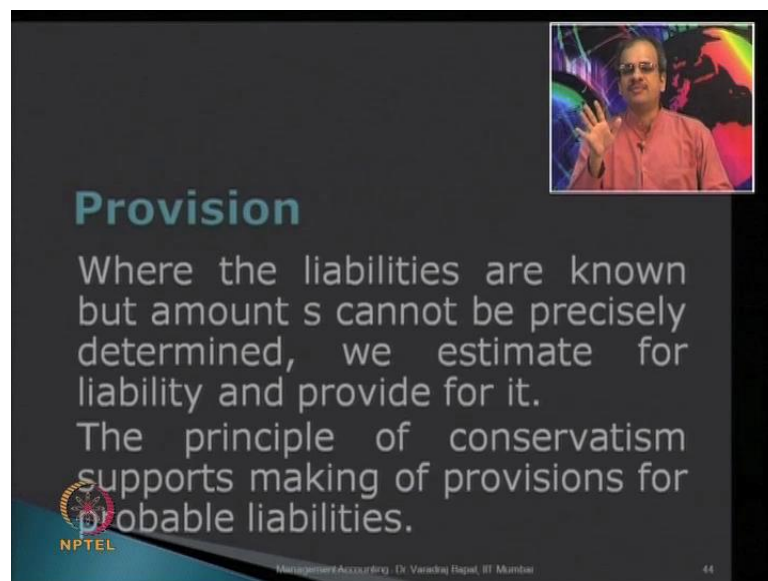
Now, let us go to more concepts in accounting that are known as provision. This is a very interesting concept, because you might remember that we have discussed about current liability and this is very close to current liability. So, suppose company has to pay 30000 per month to an employee in the month of March the salary has been not yet paid and it is expected to be paid in the month of April. So, as on 31st March the salary of March is treated as a current liability in the balance sheet.

Now sometimes what happens is the expected liability cannot be estimated with substantial accuracy. So, we were discussing that the salary is 30000. So, we could easily estimate we could easily know that the amount which is payable is going to be 30. Sometimes what happens is the amount of depreciation the amount of expense is not known to us. Let us say instead of salary usually an employee is paid a bonus of 5000 per month bonus or an incentive, but this is usually it may change as per performance. So, we do not know exactly how much amount will be payable in the month of March.

So, when we prepare the balance sheet for 31st march we will have to make a rough estimate and based on the rough estimate we will try to estimate the liability such rough estimate is known as provision. Can you think of any other example of a provision? Just think over where the liability exists, but we do not know the amount. Let us say we have to pay electricity bill at the end of the month. Now, as on 31st march bill is not yet received for the month of March. It is expected to receive only say by 15th of April, but

we have to pay the amount of bill for March in the month of April. So, we need to make calculation of, so me liability towards electricity bill of the month of March and show it in the balance sheet of 31st March. Since, we do not know the amount bill is yet to be received what we will do is we will try to calculate the estimate the bill of march based on the earlier data we may use last 12 months average or last 3 months average and so on will estimate.

(Refer Slide Time: 12:23)



And will make the calculation for the amount of liability which is payable. So, what you can see is provision is very similar to current liability. However, the amount is required to be estimated it is not very much well known. Now, why we have to make provision? 1 important reason we have to make it provision is, because of the principle of conservatism. So, all the probable liabilities we need to estimate and make a provision for show them as liability secondly it also goes with the matching concept, because the expenditure for this period we have to show it in this period only, Even if it is likely to be paid in next period.

(Refer Slide Time: 12:56)



Provisions
Examples
Product service warranty cost,
bad debts,
changes in foreign exchange
rates in case of international
transaction etc.

NPTEL

Management Accounting - Dr. Vinodraj Bapat, IIT Mumbai

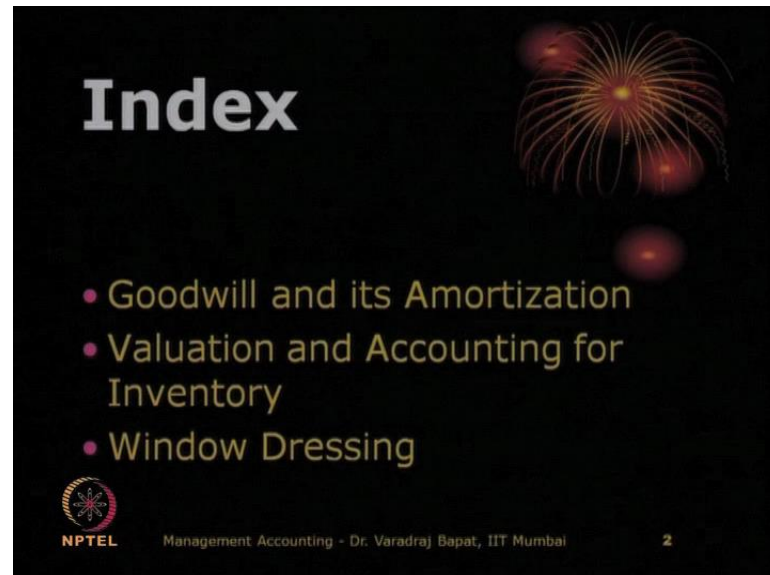
65

It is necessary that it should be accounted for in the current period since we do not know the amount we try to go for the provision. Some more examples of provision 1 are product service warranty cost. So, let us say we have sold a product we give the warranty for next 3 years. So, if there is any fault which occurs in the next 3 years the manufacturer will have to repair it without any charges. Now, naturally manufacturer does not know what is the likely repair cost in the first 3 years. So, manufacturer based on the past data makes an estimate of likely cost of giving warranty and make the provision for it. That is why there is a provision required for product service warranty cost same way bad debts. Now, whenever business sells the goods on credit there is likely hood that some of the customers fail to pay the amount.

So, when we sell the goods there is a chance that a few customers will not pay for which we have to make a provision that is known as provision for bad debts or provision for doubtful debts. Here again based on the past data company make a provision for 1 percent 2 percent 3 percent depending on the bad debts which were incurred in the earlier years. One more example you is given here that changes in the foreign exchange rates. Now, if the company is entering into international transactions there is every possibility that forex rates may change leading to reduction in the value of our foreign exchange assets. Again company will have to make an estimate and make the provision. Of course, it is much difficult to estimate forex rates, but based on the reasonable assumption some

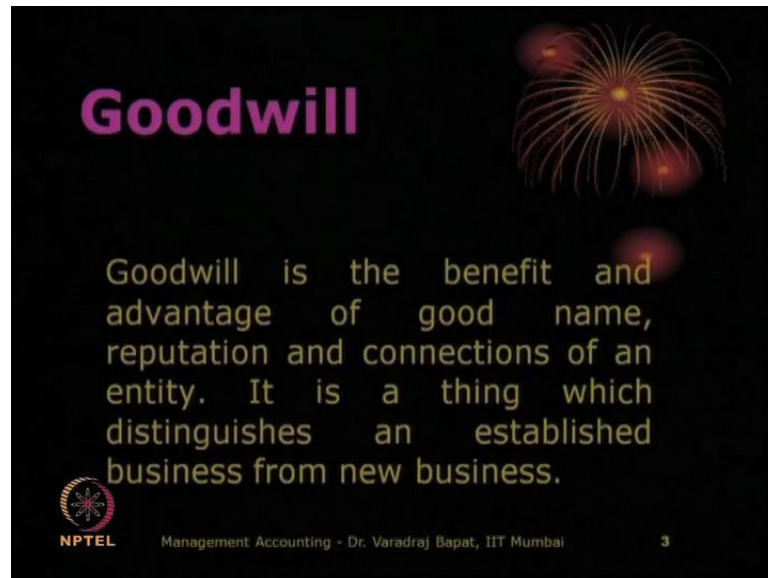
estimation may have to be made, so this was about provision. Now, let us go to the second part which is now, about valuation of inventory.

(Refer Slide Time: 15:07)



So, in module 3 alone we are going to look at the valuation of inventory now we have discussed the depreciation. In this particular PPT, we are going to discuss goodwill and its amortization valuation and accounting for inventory and about the window dressing. So, initially we will start our discussion on goodwill. Now, goodwill is a benefit and advantage of the good name as you know suppose we have to purchase something we generally prefer a well known company or a well known brand.

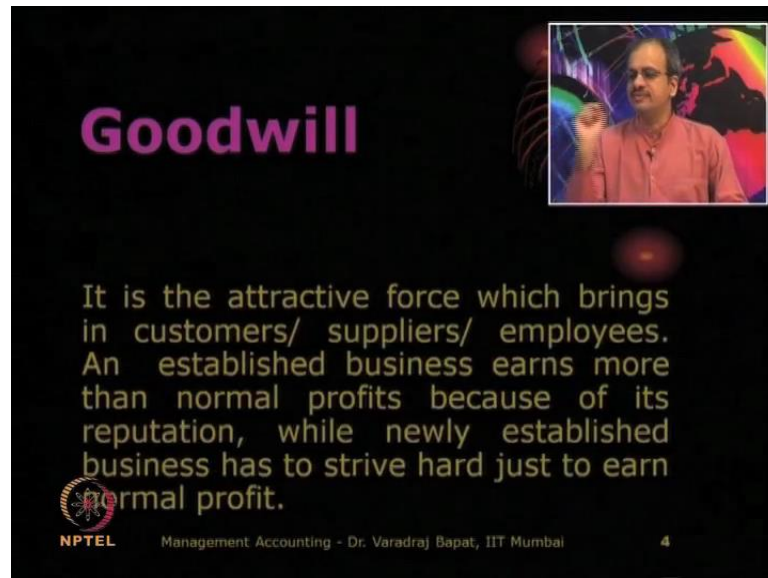
(Refer Slide Time: 15:23)



So, if shop keeper shows you a product which is totally new which you are never heard of company which you are never heard of you are likely to say that no. I want the product which I normally use this happens, because of the goodwill which is created by the company. Same manner when employees have to join some company usually they prefer a listed company, they prefer a large size company, they prefer a company which is known for having good policies or good behavior towards employees. Why it happens again, because of the goodwill of the company when suppliers have to supply the goods.

Again if they have already dealt with some person or some company they prefer to supply to the same person. Because they know that they will receive the payment in time they also know the party they know that the party is reliable. All this factors are built into what is known as goodwill? So, goodwill is a benefit and advantage of good name reputation and connection. This is something which makes the difference between an existing entity and a new entrant in the field always an existing entity has an advantage over a new entrant. Because existing entity is likely to have developed goodwill over the period of years.

(Refer Slide Time: 17:10)



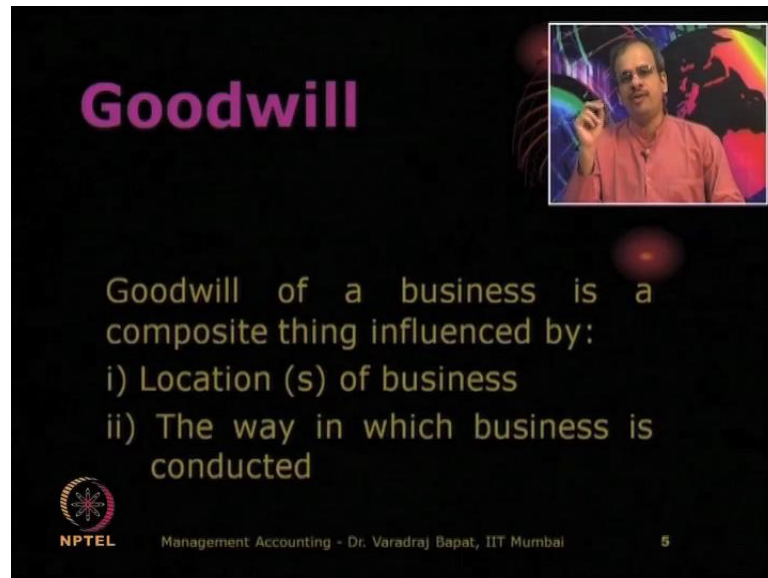
Goodwill

It is the attractive force which brings in customers/ suppliers/ employees. An established business earns more than normal profits because of its reputation, while newly established business has to strive hard just to earn normal profit.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 4

Now goodwill is nothing but, the attractive force which attracts customer's employees or suppliers as we have just now discussed. Now, what is an affect? The effect of goodwill is that over the period of time a well known company will be able to earn more profits than a new company why? Because they get access to raw material easily they have the capacity to sell more goods or they may have a capacity to charge premium on the products or services which they sell they also may attract good employees. As a result of all this things an established player is likely to have more profit than a new player. So, what profit which profit which can normally be earned is known as normal profit whereas, a reputed entities likely earn something known as super profit which is extra profit over the normal profit. So, if a company is earning super profit generally it is assumed that a company has some goodwill in the market.


(Refer Slide Time: 18:26)



Goodwill

Goodwill of a business is a composite thing influenced by:

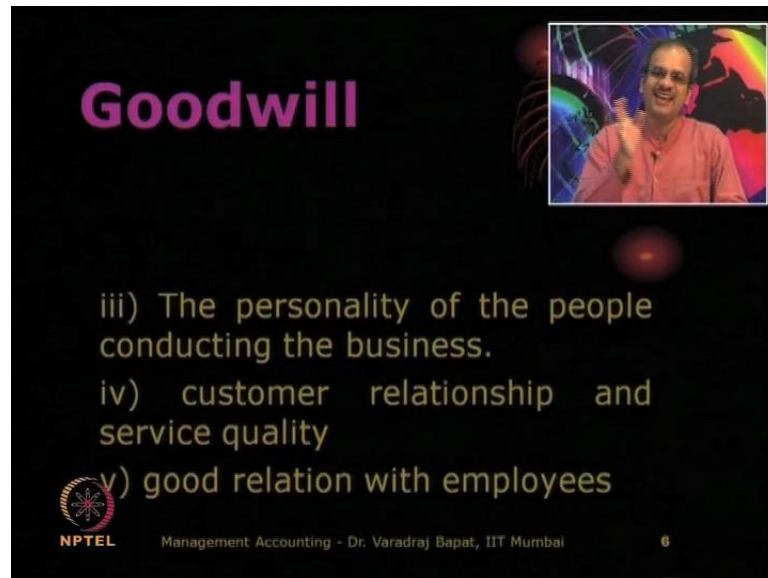
- i) Location (s) of business
- ii) The way in which business is conducted

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 5

The slide features a dark background with the word 'Goodwill' in large, bold, pink letters at the top left. Below it, the text 'Goodwill of a business is a composite thing influenced by:' is written in a light green font. This is followed by two bullet points, 'i) Location (s) of business' and 'ii) The way in which business is conducted', also in light green. In the top right corner, there is a small inset video frame showing a man in a pink shirt speaking. At the bottom left is the NPTEL logo, and at the bottom center, the text 'Management Accounting - Dr. Varadraj Bapat, IIT Mumbai' is displayed. A small number '5' is in the bottom right corner.

Now, good will of a business is something which is composite of many things it is very difficult to know exactly, because of what goodwill is created or generated. I have tried to list a few factors. One of the factors is location or locations of business especially in case of retail trade it is very important where the shop or the mall is located, because that helps in attracting customers. It also depends on where the factories or where the worth places are located. Then the way in which business is conducted this is very important. So, if as a customer. If you visit a shop if you get a feeling that the person the shop is reliable the people are courtesied the people are providing good service then you are likely to again go to the same shop.

(Refer Slide Time: 19:22)



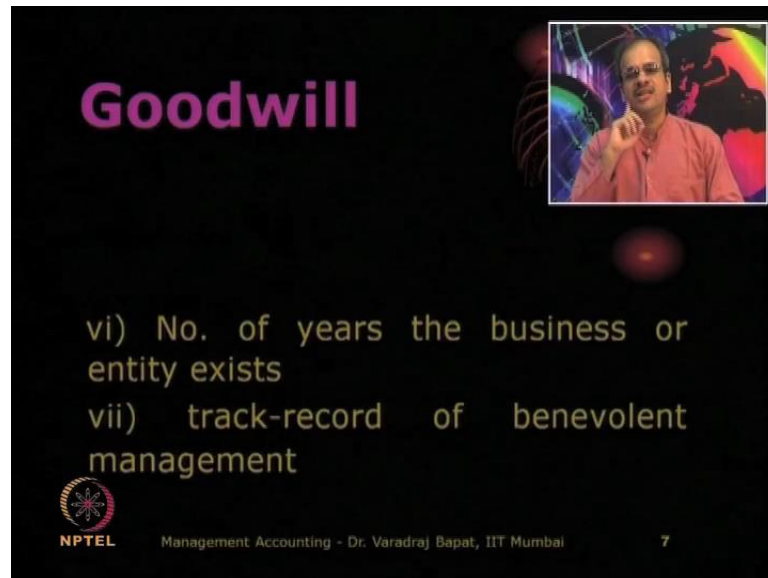
Goodwill

- iii) The personality of the people conducting the business.
- iv) customer relationship and service quality
- v) good relation with employees

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 6


So, the way the business is conducted actually creates the goodwill for the entity. The third personality of the people conducting the business here again its important if the person receives you well you feel very happy you feel like you can go again So, right from the employee with whom you are interacting up to c e o different persons you may be interacting in a particular entity or a company and that personality helps those personalities help in creating the goodwill. Next is customer relationship and service quality. So, if a company is known to have good relationships with customers it is known that the quality of service they provide is good. Then it helps in building goodwill then again good relations with employees employee friendly policy especially from employee angle the good for goodwill these things are very important.

(Refer Slide Time: 20:17)



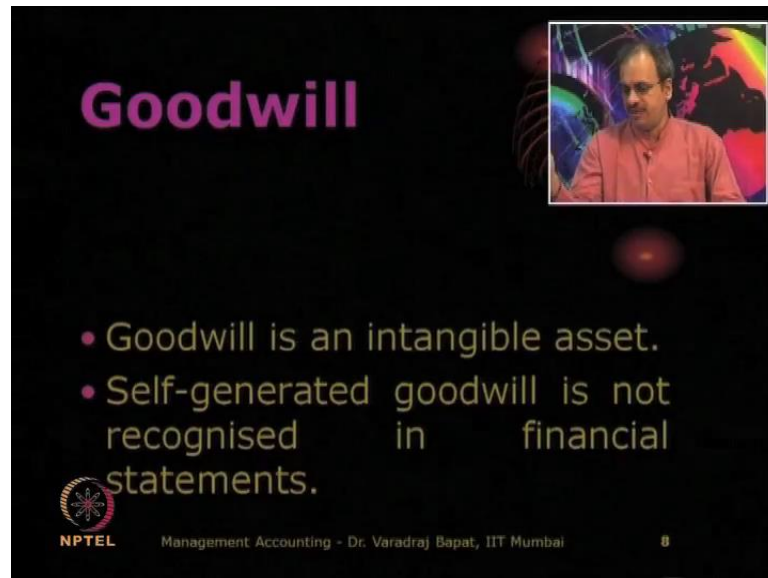
Goodwill

- vi) No. of years the business or entity exists
- vii) track-record of benevolent management

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 7

The number of years the business or the entity exists this is also very important. Can you remember some very well known companies in India or very well known brand names in India which are there for a pretty long time? I think most of you would remember a Tata group it has been around for more than 100 years. So, any new product which is launched by a Tata group company naturally has an advantage, because it has been there for so many years in business. So, just by being in the business is not enough they have developed a good name, but even when a company exists for a pretty long time there is an advantage over New Year's new players. Next factor is track record of a benevolent management.

(Refer Slide Time: 21:27)



Goodwill

- Goodwill is an intangible asset.
- Self-generated goodwill is not recognised in financial statements.

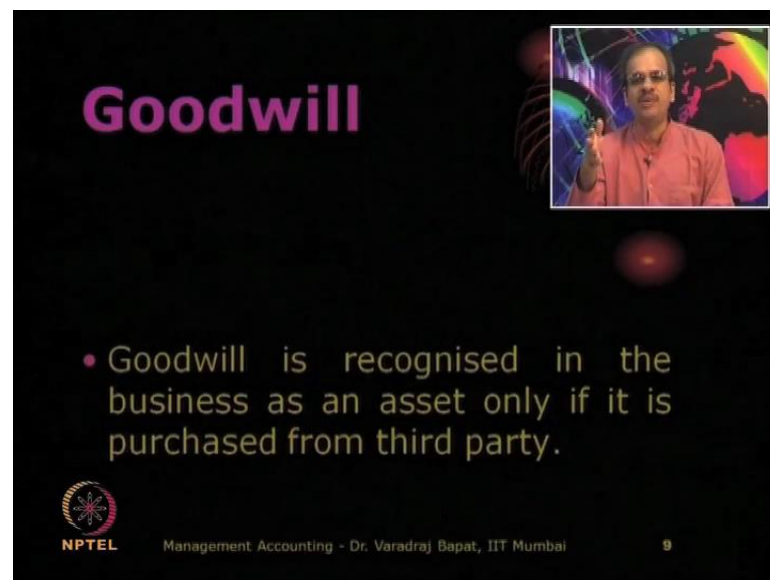
NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai #

So, if you know that the management is good they are not going to cheat they are not the once who create malpractices then the goodwill develop gets developed. As you all know goodwill is an intangible asset can you think of 3 4 well known brand names or 3 4 well known corporations in India or abroad give a thought which are the companies who have developed goodwill. Let us say in an automobile segment I think most of you will remember the name Maruti. Maruti is not as old as Tata's it has emerged in 1980, but still it has a very good name in the Indian automobile company industry same way in consumer products there are number of companies say like H L L which have developed names. In the same manner in the industrial products also people know the companies in their fields which are known to be reputed. As you all know there are i t companies like T C S or Infosys or Wipro, Satyam these all now Satyam has been converted into Mahindra tech, but these are all the companies which developed goodwill of their own.

Now, the goodwill which most of you were talking most of the time which we are talking is self generated goodwill. Keep in mind it is not recognized in the financial statements. So, company might have been working for a pretty long time it may be very good it might have created good name in the market. And the advantage which it gets, because of its may be reflected as a goodwill however accounting standards or gap does not allows self generated goodwill to be recognized in the financial statements. Now what could be the reason? It is for 2 3 reasons. The most important reason is it is very difficult to reliably estimate, there is no objectivity many people will put many different values

for their own goodwill. Since, the accounts are supposed to be objective and reliable documents you cannot have something which is just judgmental in nature. That is why self generated goodwill is not permitted to be shown in the financial statements. Does it mean that no goodwill is recorded that is not true.

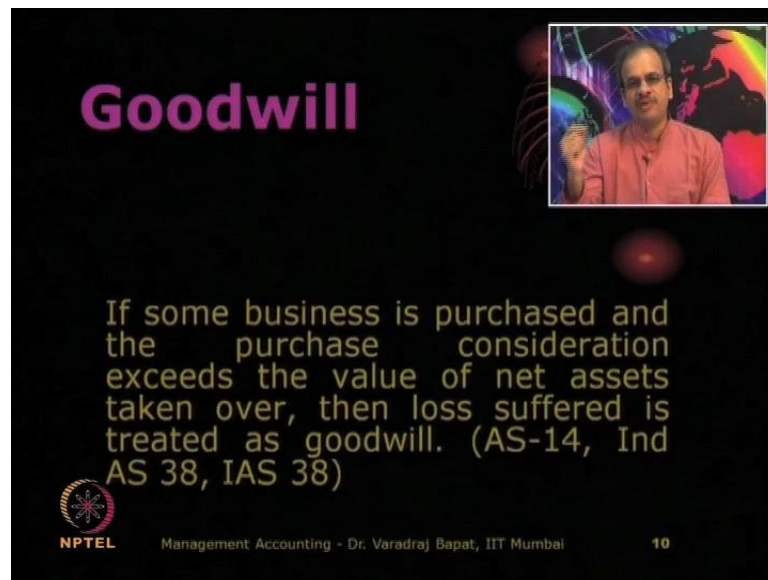
(Refer Slide Time: 23:58)



The slide features a dark background with the word "Goodwill" in large, bold, pink letters at the top left. In the top right corner, there is a small inset video frame showing a man in a pink shirt speaking. Below the title, a single bullet point in yellow text reads: "• Goodwill is recognised in the business as an asset only if it is purchased from third party." At the bottom left is the NPTEL logo, and at the bottom center is the text "Management Accounting - Dr. Varadraj Bapat, IIT Mumbai". A small number "9" is visible in the bottom right corner.

So, goodwill which comes from purchase of business from a third party is recognized as goodwill in the business it is known as purchased goodwill. For example, do you think of any can you think of any merger related transactions in last few years any company has taken over some another company. A very famous merger or takeover was when Tata motors took over jaguar. You must be knowing that jaguar was extremely well, is was and is extremely well known name all over the world particularly in Europe. So, when jaguar and land rover were taken over by Tata's they had to pay huge premium. That money which they paid is shown in the books of Tata motors as goodwill this is an example of purchase goodwill.

(Refer Slide Time: 24:57)



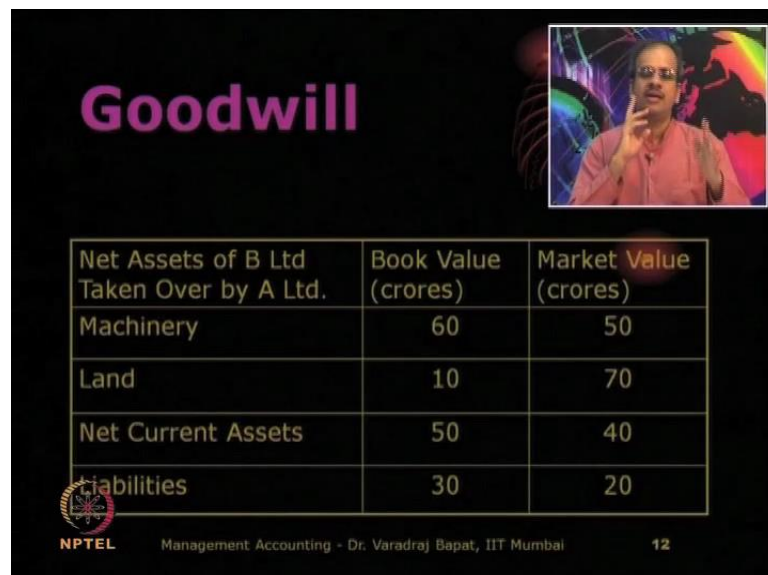
Goodwill

If some business is purchased and the purchase consideration exceeds the value of net assets taken over, then loss suffered is treated as goodwill. (AS-14, Ind AS 38, IAS 38)

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 10

So, if some business is purchased and purchase consideration exceeds the value of net assets taken over then the loss suffered is treated as goodwill. This is as per AS 14 Ind AS 38 and also as per IAS 38. Now, let us see some examples as to how the goodwill is calculated and recognized.

(Refer Slide Time: 25:32)



Goodwill

Net Assets of B Ltd Taken Over by A Ltd.	Book Value (crores)	Market Value (crores)
Machinery	60	50
Land	10	70
Net Current Assets	50	40
Liabilities	30	20

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 12

So, suppose A took over B and a purchase consideration paid by a is 150 crores and a assets of B which are taken over are as follows. So, they have taken over machinery land and net current assets and they have also taken over liability. We know the book value

we know the market value and we know that the purchase consideration is 150 crore. Now, how much is goodwill of the entity? How much is a goodwill which A has paid to B? Can anyone calculate imagine how you can calculate the goodwill? Goodwill is calculated as the price paid that is purchased consideration minus net assets which are taken over, so 150 crore minus the assets which is acquired.

Now, should the assets be taken at book value or at a market value book value is a value which is there in the balance sheet of the selling company which is B or we should look at the market or the current value just give a thought. Since, B is being sold out to a it is logical to take market value rather than book value. So, if you make a fast calculation of market value what is a value of net assets taken over by B taken over of B by a. So, you can save 50 plus 70 plus 40 minus 20. So, how much it will come to, so 140 is a net assets which are taken over and a purchase consideration is 150, so goodwill is 100000000. So, as were seen goodwill is something over and above the value of assets which A or the buying company has paid.

(Refer Slide Time: 27:03)



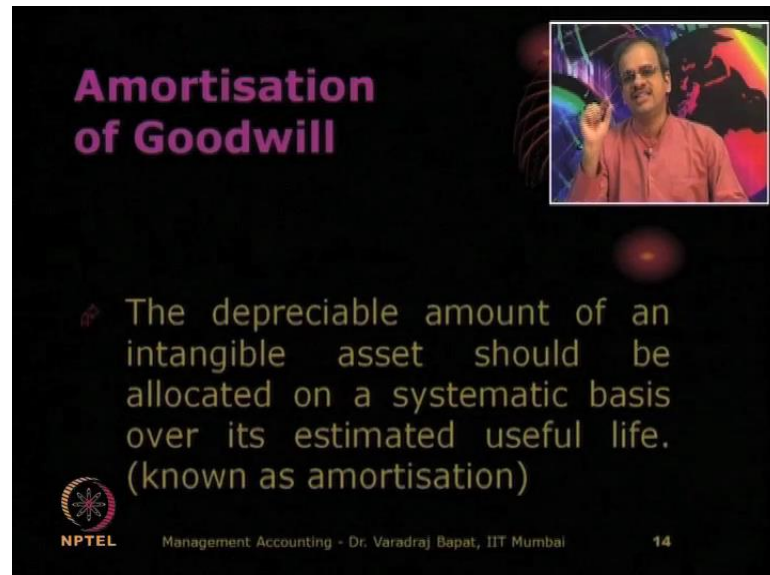
The slide features a dark background with the word "Goodwill" in large pink letters at the top left. Below it, the word "Solution" is written in yellow. In the top right corner, there is a small video inset showing a man in a pink shirt speaking. The main content is a table with three rows and two columns. The first row shows "Purchase Consideration" as 150 Crs. The second row shows "Net Assets (MV)" as 140 Crs. The third row, which is bolded, shows "Goodwill" as 10 Crs. At the bottom left is the NPTEL logo, and at the bottom center is the text "Management Accounting - Dr. Varadraj Bapat, IIT Mumbai". The number "13" is in the bottom right corner.

Purchase Consideration	150 Crs
Net Assets (MV)	140 Crs
Goodwill	10 Crs

So, the value of assets at the market prices is 140, but A has agreed to pay 150 which is over and above the market price why is a paying more? Because they realize that the business of B is actually more than that 140 more than the assets which you can see there is something more which is hidden something more which you cannot see. But it exists its gives benefits to the business that something more is a reputation of the company

which is known as goodwill. So, goodwill is valued as 100000000 is it clear to all. Let us go ahead now, about amortization.

(Refer Slide Time: 28:00)



Amortisation of Goodwill

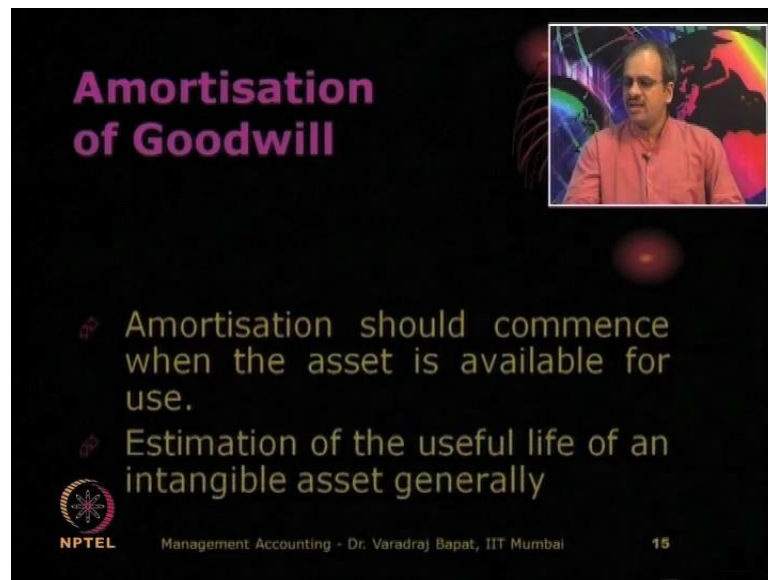
The depreciable amount of an intangible asset should be allocated on a systematic basis over its estimated useful life. (known as amortisation)

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 14

The slide features a dark background with a small inset photo of a man in a red shirt pointing upwards. The text is in a light, sans-serif font. The NPTEL logo is in the bottom left corner, and the slide number '14' is in the bottom right corner.

Now, in this case we have seen that A has purchased business of B and when it purchase it paid 10 crore more which is shown in the balance sheets of balance sheet of A as goodwill. Now, can you show this goodwill forever in the business in the balance sheet of the business? The answer is no just as you will write off all other assets through depreciation you will also have to write off goodwill. This process of writing of goodwill is known as amortization. So, what accounting standards say is the depreciable value amount of intangible asset should be allocated on a systematic base over its useful life. This is known as amortization. In simple words you can say amortization is nothing but depreciation on intangible assets. So, all intangible assets like say goodwill brand name patents need to be amortized.

(Refer Slide Time: 29:13)



Amortisation of Goodwill

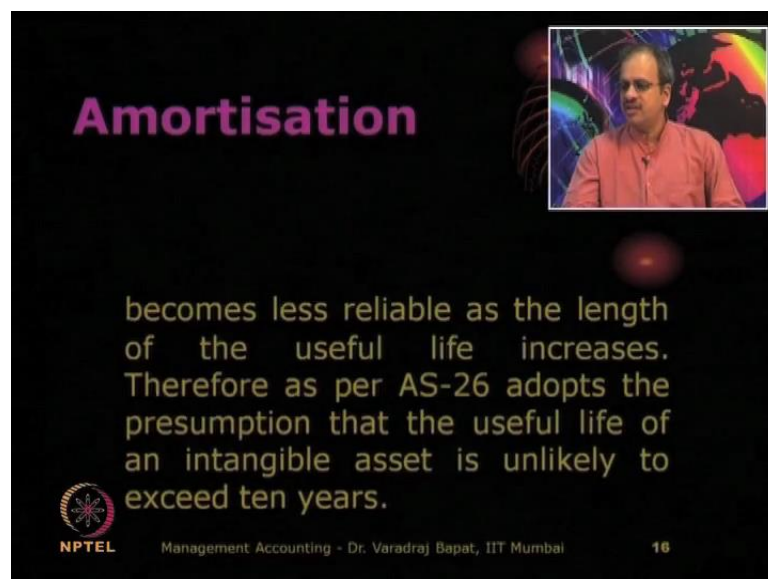
- Amortisation should commence when the asset is available for use.
- Estimation of the useful life of an intangible asset generally

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 15

This slide features a dark background with a small inset video of a man in a pink shirt. The title 'Amortisation of Goodwill' is in pink. The text is in a light green font. The NPTEL logo and course information are at the bottom.

Now, how to calculate? Now, it should commence when the asset is available for use. So, as soon as the business of B is taken over by A. It has started using B is reputation, so immediately the depreciation goodwill should also be amortized.

(Refer Slide Time: 29:36)



Amortisation

becomes less reliable as the length of the useful life increases. Therefore as per AS-26 adopts the presumption that the useful life of an intangible asset is unlikely to exceed ten years.

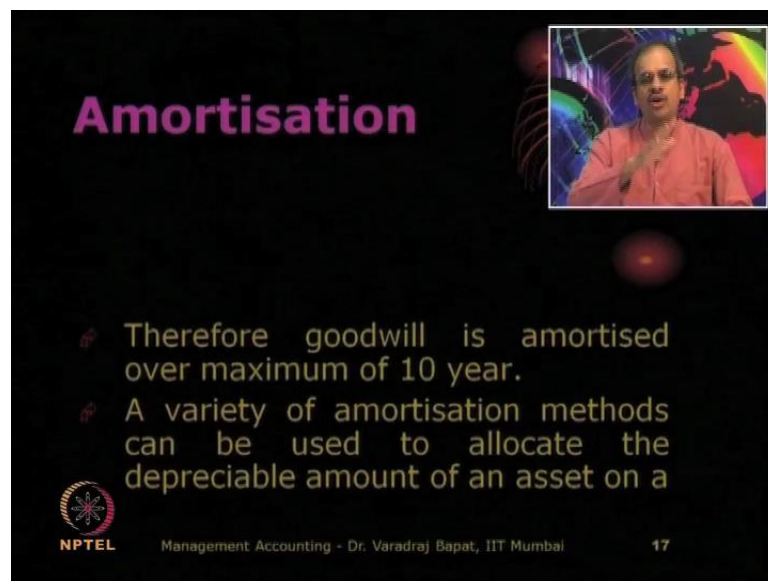
NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 16

This slide features a dark background with a small inset video of a man in a pink shirt. The title 'Amortisation' is in pink. The text is in a light green font. The NPTEL logo and course information are at the bottom.

Now, estimation of useful life generally becomes less reliable, because somebody may say let us say we have purchased machinery. We know that we can use it for 3 years 5 years 6 years etcetera. As per the manufacturers specification it is easy to use. However it is very difficult to estimate how long you can use goodwill, because goodwill is

something which may be useful forever. At the same time unless the policies of the new business are good we cannot use goodwill for a longer period, because even if A takes over B eventually it will have to develop its own policies it will have to be good to people then only the reputation can be maintained. So, it is illogical to say that goodwill of B can be used by A forever that is why accounting standards provide that you cannot have a very long life for writing off intangible asset.

(Refer Slide Time: 30:46)



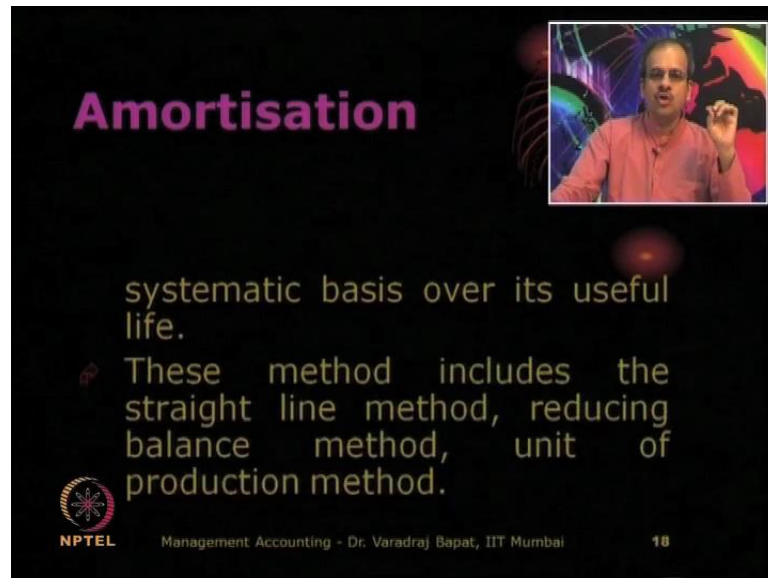
Amortisation

- Therefore goodwill is amortised over maximum of 10 year.
- A variety of amortisation methods can be used to allocate the depreciable amount of an asset on a

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 17

So, maximum gap for writing of any intangible asset is kept as 10 years. So, we can assume that goodwill also should not be amortized for a period in excess of 10 years. It has to be writ 10 off within first 10 years itself. Further now, you can use a variety of amortization methods just as in depreciation we saw various methods do you remember them? So, we have there is a straight line method, there is a reducing balance method, there is a machine hour method in the same way for amortizing goodwill usually written down value method or reducing balance method is used. Sometimes straight line method is used different methods of depreciation are applied. So, that the cost of goodwill which is paid gets written off over the period of its useful life.


(Refer Slide Time: 31:35)



Amortisation

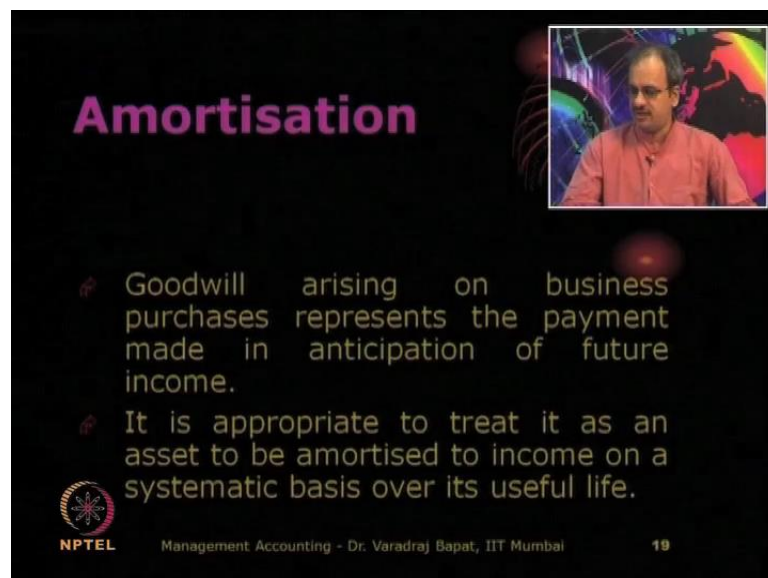
systematic basis over its useful life.

- These method includes the straight line method, reducing balance method, unit of production method.

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 18


This slide features a dark background with a small inset video of a man in a red shirt speaking. The title 'Amortisation' is in pink. The text is in a light green font. The NPTEL logo is in the bottom left, and the course information and slide number are at the bottom.

(Refer Slide Time: 31:43)



Amortisation

- Goodwill arising on business purchases represents the payment made in anticipation of future income.
- It is appropriate to treat it as an asset to be amortised to income on a systematic basis over its useful life.

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 19

This slide features a dark background with a small inset video of a man in a red shirt speaking. The title 'Amortisation' is in pink. The text is in a light green font. The NPTEL logo is in the bottom left, and the course information and slide number are at the bottom.

So, these methods include various methods like we have seen. Now, goodwill arising on business purchases represents the amount paid in anticipation of future income. So, as we estimate when we will receive income in the same proportion it is logical to amortize it.

(Refer Slide Time: 32:02)

Amortisation

Due to nature of goodwill, it is considered appropriate to amortise goodwill over period not exceeding **5 years** unless somewhat longer period can be justified. (AS-14)

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 20

Now, the goodwill is such that you cannot hope to make the business by using some other person's good name for a very long time. That is why AS 14 which talks about goodwill says that goodwill be written off usually within 5 years only in exceptional circumstances you can use a longer period that also cannot be longer than 10 years, but the norm is goodwill is written off within 3 to 5 years.

(Refer Slide Time: 32:35)

Amortisation


Example
Goodwill 10 Crs
Say, company expects that during next 4 years such goodwill should be written off as per straight line method.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 21

Now, let us take an example. Now, suppose goodwill is 100000000 say company expects that during next 4 years such goodwill should be written off and they are using straight

line method. So, how much is a amortization charge each year? Of course, is pretty simple you know that the value of good will is 10 crore you also known that the period it should be written off.

(Refer Slide Time: 33:04)



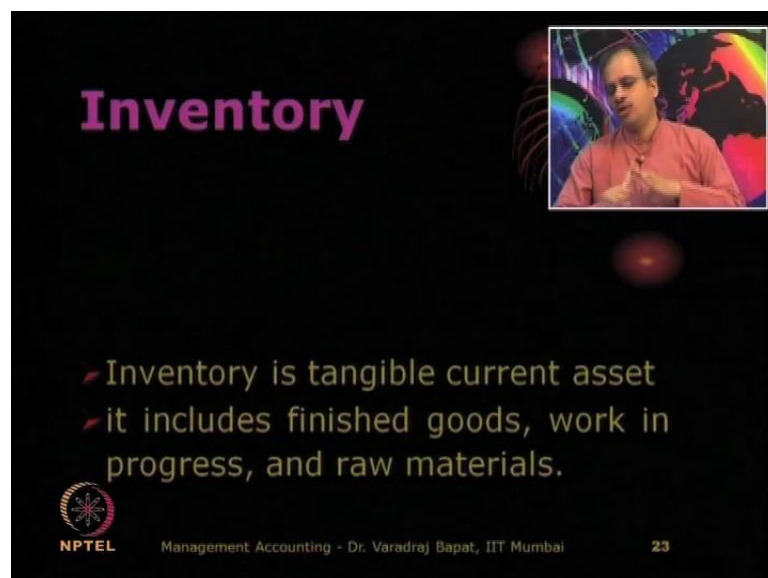
Amortisation

Therefore, amortisation of goodwill will be 2.5 lakhs per year.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 22

And it is equally it is on a straight line basis. So, 10 by 4 that means 2.5 crores is a amount of goodwill which should be written off each year. So, I trust you have understood the concept of goodwill and its amortization. Now, let us go to the new next concept that is about inventory.

(Refer Slide Time: 33:35)



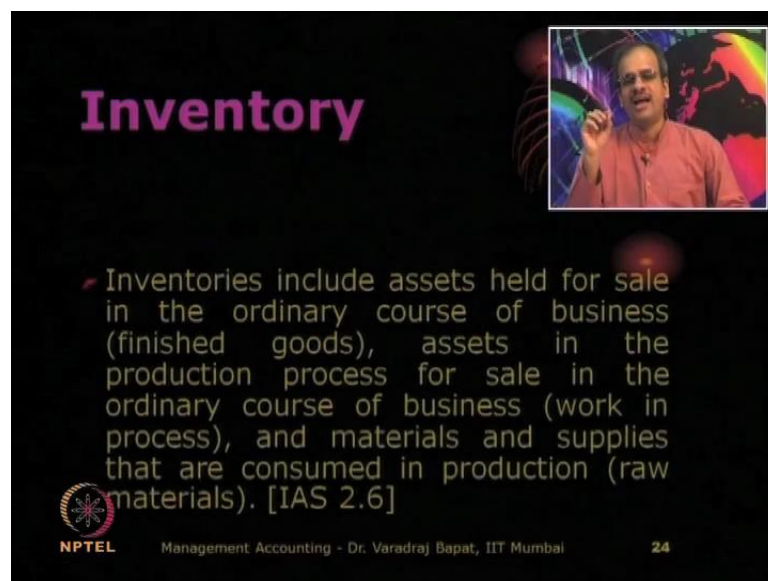
Inventory

- Inventory is tangible current asset
- it includes finished goods, work in progress, and raw materials.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 23

In this module, we are discussing earlier we discussed about depreciation then we also discussed the concept of conservatism the concept of provision. Now, we have completed the concept of goodwill and we are starting with inventory and its valuation. Now what is inventory how do you define inventory? Popularly the term stock is also use for inventory and it includes fixed assets. The finished goods it includes something which is known as work in-progress and it also includes raw material. As you all know it is a tangible current asset, so you can see you can feel the inventory it has to be usually kept in go downs or in stores that is why it is tangible in nature. It is current asset because it is not suppose to be kept like a machine it is not a fixed asset which will be there in the business forever. It is a current asset and usually you're suppose to have a rolling life cycle you will buy inventory; you will sell it out or you will buy raw material use it for consumption.

(Refer Slide Time: 34:53)



Inventory

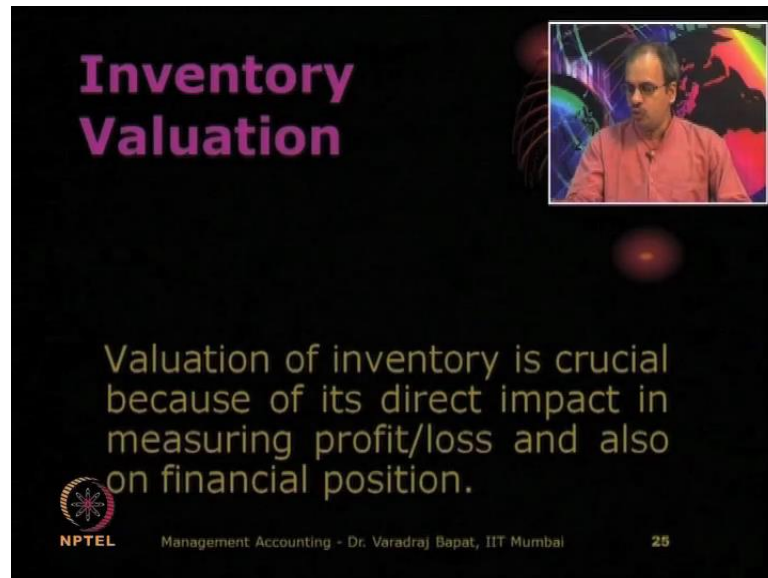
- Inventories include assets held for sale in the ordinary course of business (finished goods), assets in the production process for sale in the ordinary course of business (work in process), and materials and supplies that are consumed in production (raw materials). [IAS 2.6]

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 24

You will make finished goods you will sell them out. So, inventory is a moving item that is why its defined as a tangible current asset and it consist of finished goods work in-progress and raw materials. Now, let us look at the formal as the formal definition of inventory as per international accounting standard IAS 2.6. Again the same thing is given that these are the assets which are held for sale in the normally normal course of business when it is a finished goods stock or the assets. In the production process which is meant again for a normal course of business which we call work in-progress or the materials.

And supplies that are for consumption in the production which we call as raw material. So, all this 3 things are included in the term inventory.

(Refer Slide Time: 35:35)



Inventory Valuation

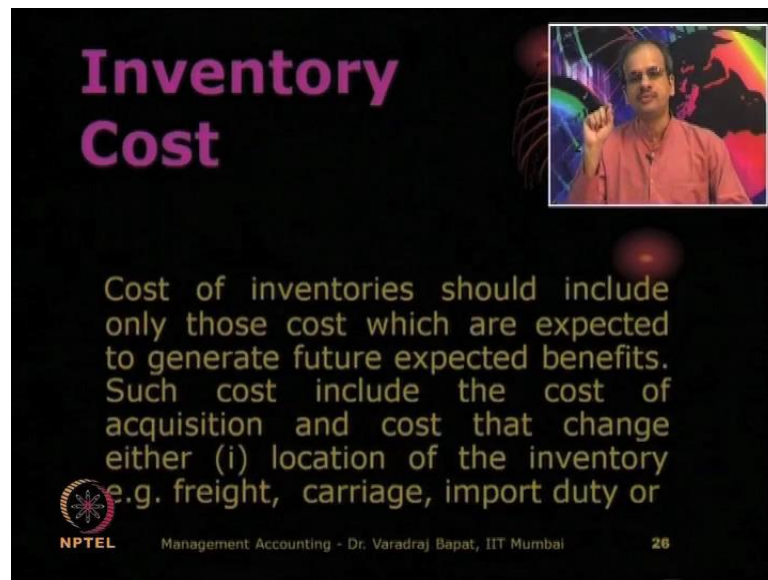
Valuation of inventory is crucial because of its direct impact in measuring profit/loss and also on financial position.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 25

The slide features a dark background with the title 'Inventory Valuation' in large, bold, pink letters at the top left. Below the title, a video inset shows a man in a pink shirt speaking. The main text is in a light green font, stating that inventory valuation is crucial due to its impact on profit/loss and financial position. At the bottom left is the NPTEL logo, and at the bottom right is the slide number 25. The footer text reads 'Management Accounting - Dr. Varadraj Bapat, IIT Mumbai'.

Now, the question is valuation of inventory. Keep in mind that the valuation of inventories extremely important for preparing proper financial statement. Because inventory is 1 of the few items that is going to be their both in profit and loss account and also in the balance sheet. Because on 1 hand the amount of inventory which is there in the go downs is shown in the income statement as reducing the cost. That is why more the inventory your profits will raise on the other hand inventory being a current asset. It is shown in the balance sheet as an asset. So, if your inventory value is high your financial position is also better that is why any manipulation in the value of inventory or any increase in the value of inventory will significantly show a better profitability.

(Refer Slide Time: 36:55)



Inventory Cost

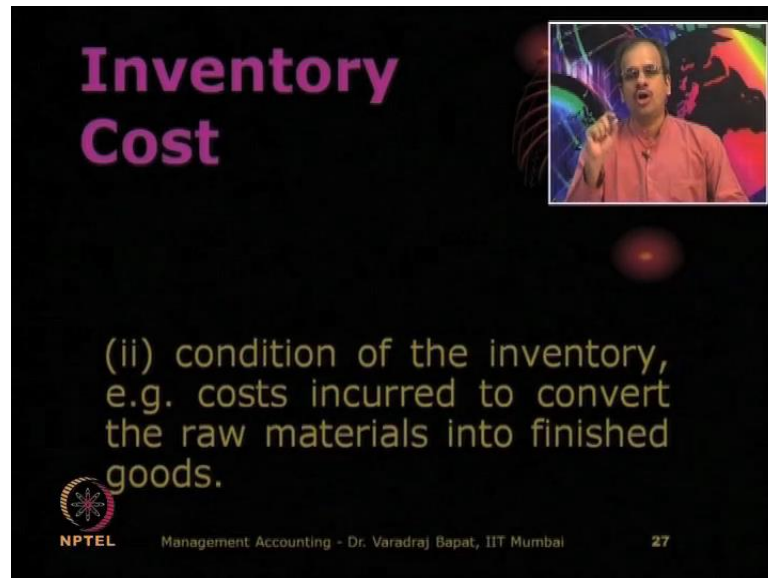
Cost of inventories should include only those cost which are expected to generate future expected benefits. Such cost include the cost of acquisition and cost that change either (i) location of the inventory e.g. freight, carriage, import duty or

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 28

And at the same time it will also show better financial position. On the other hand if business tries to understate or under value its inventory profit will be undervalued and the financial position also will be somewhat understated that is why it is very important that proper valuation of inventory is done. Now, the question is how to value the inventory? Naturally since, we use cost concept all assets should be valued at cost, so inventory is also normally valued at cost.

Now, it is very important to know what are the items which are included in the cost of inventory. Here I have tried to list such items first is of course, the cost of acquisition. So, suppose I have raw material which i have purchased for say 4000 rupees 4000 is a main cost of raw material. I will also include the cost of transportation. So, if I have paid 500 rupees for the transporter to bring the inventory from the place where I have purchased to my go down, so the cost of inventory will become 4000 plus 500. So, I do include all those cost to bring the inventory to my location. So, it will include carriage inward freight import duties taxes like octrai which are necessary which are required to be paid to change the location of inventory and bring them to my place.

(Refer Slide Time: 38:03)



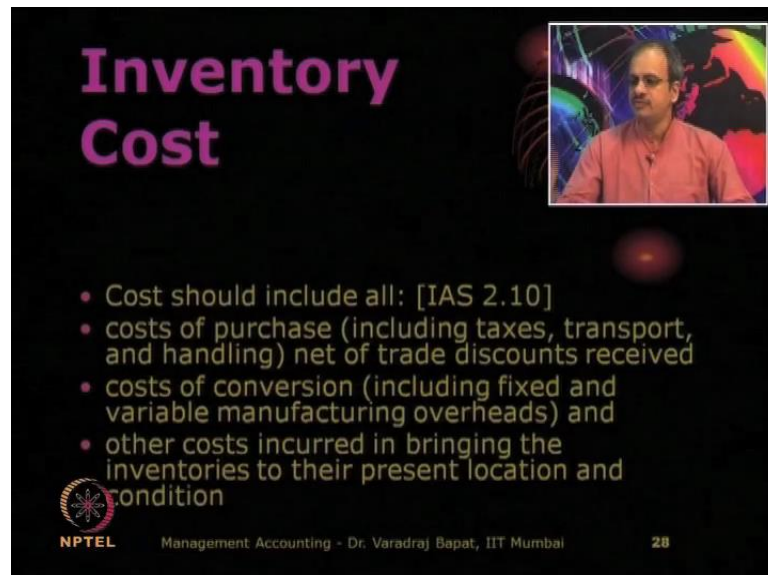
Inventory Cost

(ii) condition of the inventory, e.g. costs incurred to convert the raw materials into finished goods.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 27

It will also include on those cost which are incurred to change the condition of inventory. For example, if I have purchased raw material and I process it. So, incur my labor I incur the cost of electricity I incur the cost of various items which I may add or the packing which I provide.

(Refer Slide Time: 38:48)



Inventory Cost

- Cost should include all: [IAS 2.10]
- costs of purchase (including taxes, transport, and handling) net of trade discounts received
- costs of conversion (including fixed and variable manufacturing overheads) and
- other costs incurred in bringing the inventories to their present location and condition

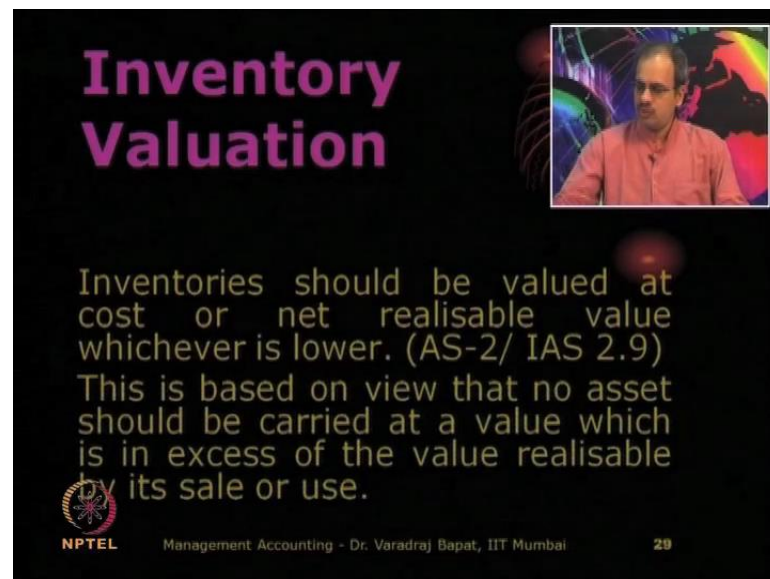
NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 28

So, all these from inventory if I say let us say if i purchase the raw material at 4000. I have paid 500 for freight, so the cost of raw material was 4500. I have incurred 10000 on it to convert it into finished goods. So, 4500 plus 10000 the cost of finished goods

inventory will become 14500. So, here the definition as per international accounting standard 2.10 is given. So, cost of inventory is to include number 1 the cost of purchase which is pretty commonsense what you pay for, but you should not forget to include taxes transportation and handling charges on all the purchases. But you will have to reduce the cost of the discount which you avail that is why it is cost of purchase net of trade discount.

Secondly it will include the cost of conversion especially when you are manufacturing a finished good you buy raw material and you converted it into finished goods. So, those cost of conversion are to be added now, you may remember that the costs are of 2 types. You have some weighable costs some fixed costs both this costs are to be added. So, second item is cost of conversion. Third item; if we have incurred any extra cost which are required to bring the item to present location and condition location we have already discussed let us say transportation or condition.

(Refer Slide Time: 40:32)



Inventory Valuation

Inventories should be valued at cost or net realisable value whichever is lower. (AS-2/ IAS 2.9)
This is based on view that no asset should be carried at a value which is in excess of the value realisable by its sale or use.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai **29**


So, you might have done some finishing or you might have applied some attractive packing which increases the cost of item that will also be added. That is why all this 3 components cost of purchase, the cost of conversion and other related cost these 3 comprise of what is known as cost of inventory as per international accounting standard 2.10. Now, what is inventory? And how will you value we have already seen how to calculate the cost, but it is not necessary that inventories always valued at cost. We were

just discussing that we have a raw material of 4000 we incurred 500 on the same, so 4500 plus 10000. So, 14500 was the cost of finished goods which I have produced. Unfortunately the market value of that item is only 13000. Now, should I value the inventory at 14000 500 or at 13000 the answer is I should value it only at 13000. Because I am going to sell it at only 13000 that is why I cannot show it at 14500 though I might have incurred the cost. Suppose you take another example let us say I have manufactured a raw material by incurring 14500 it has been I mean it is a good process the output is highly valued, so it has a market value of 20000.


So, now, I have a cost of 14500 the market value is 20. So, inventory will be valued at how much 14500 or 20? Again the answer is I should value it at cost only now, I cannot take the market value of 20. So, the rule is inventory should be valued at cost or net realizable value whichever is lower. This is as per accounting standard 2 or as per IAS 2.9. If you remember we have discussed the concept of conservatism. So, what conservatism says is if you have made any profit do not account for it unless it is realized. So, if my cost is 14500 market value is 20 there is a hidden of it, but I will not record it, because it is yet to be realized. However, if losses are incurred there should be immediately provided. So, if my cost is 14500 and market value has gone down to 13. So, there is a loss of 1500 I will not wait till it is realized as soon as I know the loss I will immediately reduce the value of my inventory from 14 500 to 13. That is why the rule is inventory should be valued at cost or net realizable value whichever is less.

(Refer Slide Time: 43:05)

Inventory Valuation

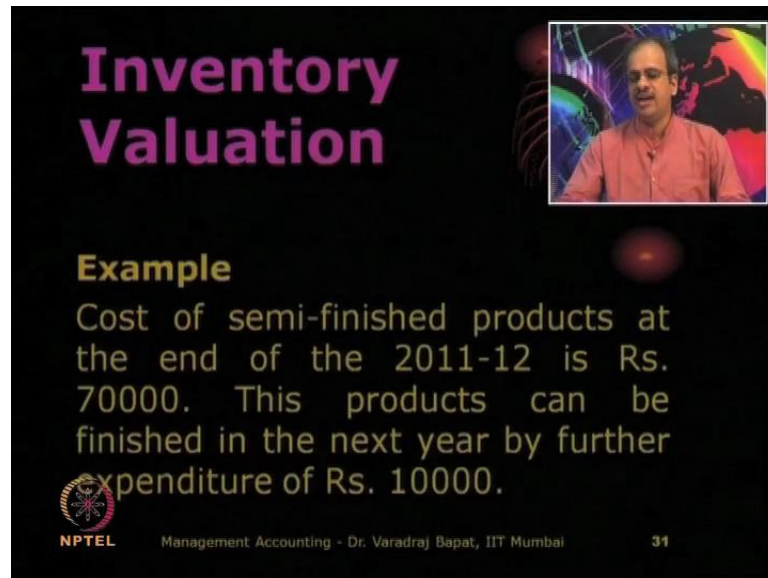


Net realisable value is the estimated selling price in the ordinary course of business less the estimated cost of completion and estimated cost necessary to make sale.

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 30

So, I think there is a clarity now what do you mean by net realizable value? Loosely speaking we can say that the market value is net realizable value. But there is a slight difference net realizable value is an estimated selling price in the ordinary course of business. So, it is basically a market price, but minus the estimated cost of completion and estimation necessary to make the sale. So, in our example we were saying that the cost is 14500 the market value is 13000, but suppose to sell it I have to incur some commission. So, when I sell the product at 13 actually I have to pay 1000 rupees to the seller as a sales commission and I actually realize only 12. So, in that case the market value will be taken at 12 and not at 13, so market value in the way is 13 but, market value minus commission net realizable value is 10. So, net realizable value is nothing but, market value minus the relevant cost which are necessary for sell.

(Refer Slide Time: 44:15)



Inventory Valuation

Example

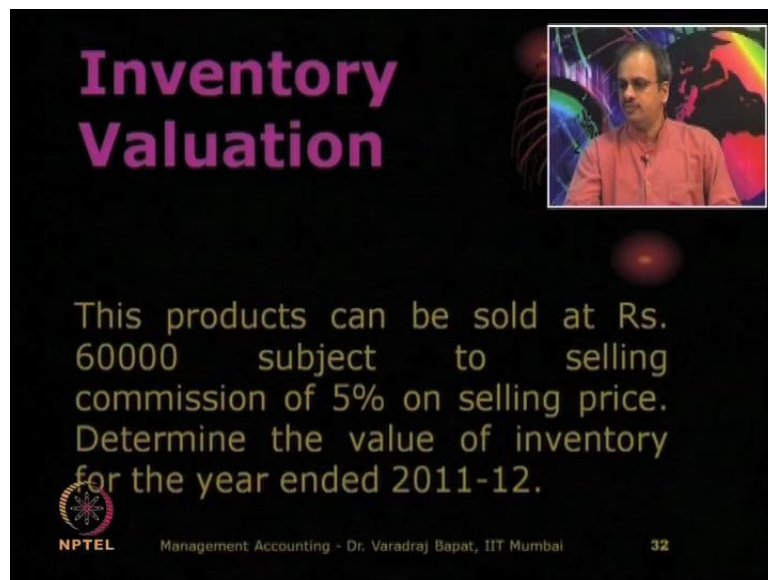
Cost of semi-finished products at the end of the 2011-12 is Rs. 70000. This products can be finished in the next year by further expenditure of Rs. 10000.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai **31**

The slide features a dark background with the title 'Inventory Valuation' in large, bold, pink letters. Below it, the word 'Example' is written in yellow. The main text is in a light green font. A small inset video of a man in a pink shirt is in the top right corner. The NPTEL logo and course information are at the bottom.

Now let us take 1 simple example. So, if you have some semi-finished goods in hand let us say for year ended March 11 12. The cost of semi-finished product is 70000 and this product can be finished by incurring further cost of 10000 in coming year.

(Refer Slide Time: 44:42)



Inventory Valuation

This products can be sold at Rs. 60000 subject to selling commission of 5% on selling price. Determine the value of inventory for the year ended 2011-12.

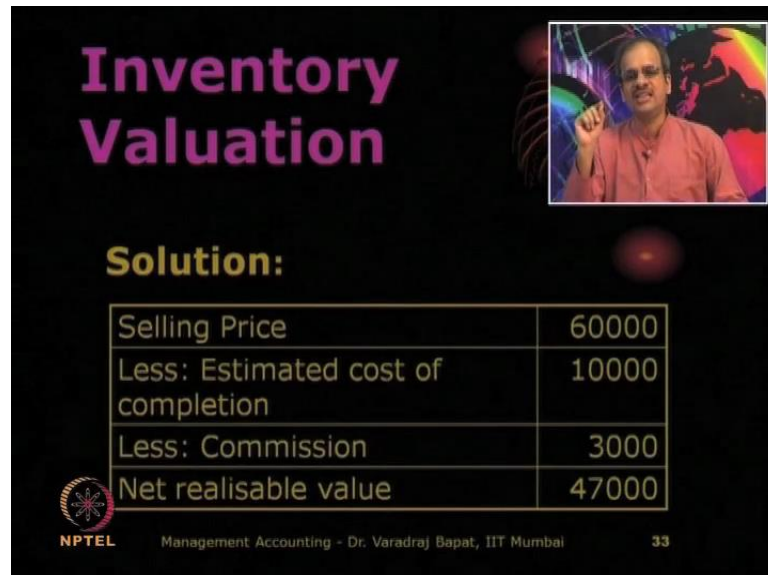
NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai **32**

The slide features a dark background with the title 'Inventory Valuation' in large, bold, pink letters. Below it, the text is in a light green font. A small inset video of a man in a pink shirt is in the top right corner. The NPTEL logo and course information are at the bottom.

So, how much should be the value of inventory? About the market value it is given that this product can be sold at 60000 subject to selling commission of 5 percent on the selling price. So, determine the value of inventory let us look at it again. So, you have the

data of both now cost as well as market prices. So, think over what will be the value of inventory?

(Refer Slide Time: 45:28)



Inventory Valuation

Solution:

Selling Price	60000
Less: Estimated cost of completion	10000
Less: Commission	3000
Net realisable value	47000


NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 33

So, what is a rule of valuation? Rule of valuation is cost or net realizable value whichever is less. So, let us try to calculate first cost and net realizable value, so how much is a net realizable value? It is given in the problem that the selling price is 60, but I have to incur 10000 rupees as a extra cost to complete the product. So, 60 minus 10 minus i also have to pay commission of 5 percent on the selling price. So, 60 less 10 less 3 my net realizable value comes to 47.

(Refer Slide Time: 45:58)

Inventory Valuation

NRV : Rs. 47000
Cost : Rs. 70000
Therefore, value of inventory
(Lower of cost and NRV): 47000

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 34


1

And as you know my cost is as high as 70. So, N R V of 47 versus the cost of 70. As a rule I will take the lower of the 2.

(Refer Slide Time: 46:11)

Techniques of Inventory Valuation

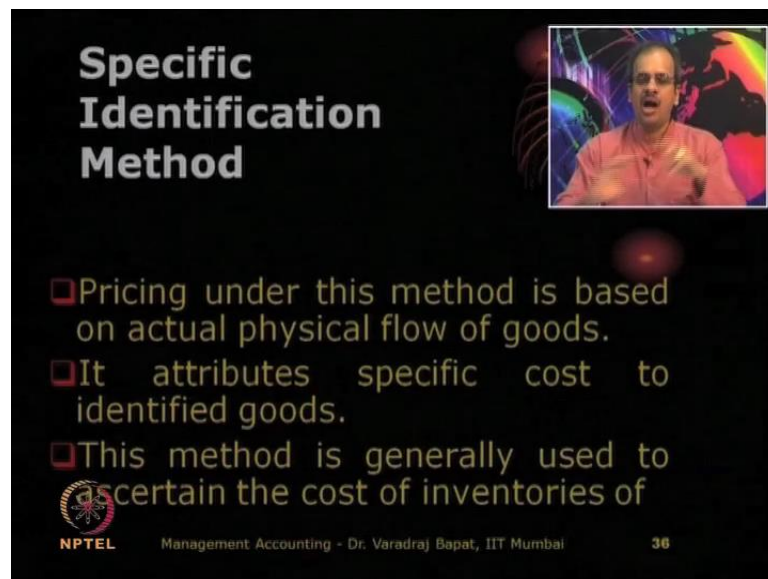
- Specific identification method
- First in First Out (FIFO)
- Last in First Out (LIFO)
- Weighted Average Price
- Adjusted selling price

 NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 35

So, valuation of inventory becomes 47500. Now, let us also try to understand some techniques of inventory valuation. Now, what happens is in the cases which we were discussing we had only 1 item, but actually in business 100 of units of the same item keep on coming at a different debts So, some raw material same raw materials let us say the raw material x it is purchased on second of January it is again purchased on fourth of

January it is again purchased on sixth of January all of this purchases are different rates. Now, the problem is which of this should be taken at the as a value as on the valuation date as on the balance sheet. So, there are the varieties of methods as you can see here 1 is specific identification method there is a first in first out or FIFO method last in first out weighted average price adjusted selling price and so on.

(Refer Slide Time: 47:20)



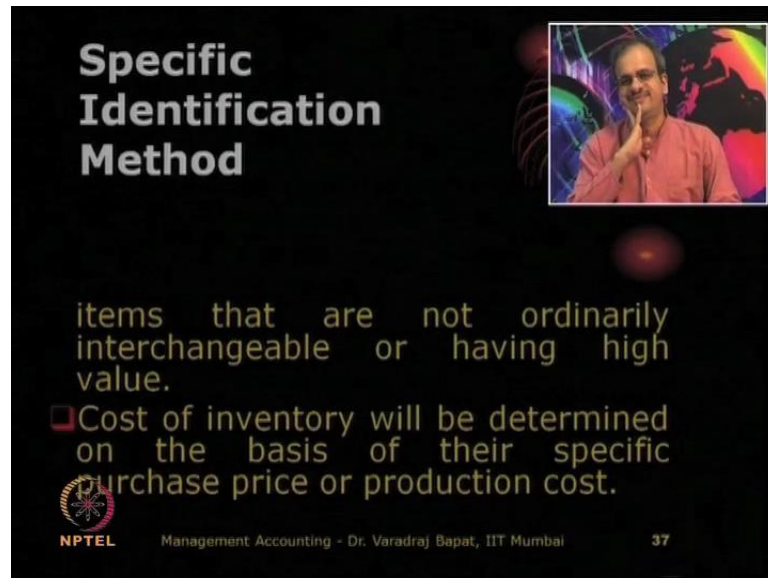
Specific Identification Method

- ❑ Pricing under this method is based on actual physical flow of goods.
- ❑ It attributes specific cost to identified goods.
- ❑ This method is generally used to ascertain the cost of inventories of

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 36

So, in specific identification method you exactly know which item has gone out. So, each item is specifically identifiable then it is possible to attribute the cost of that item to that specific item. So, this method is the simplest and most systematic, because you exactly know the item and you allocate the cost of that item only to that item.

(Refer Slide Time: 47:46)



Specific Identification Method

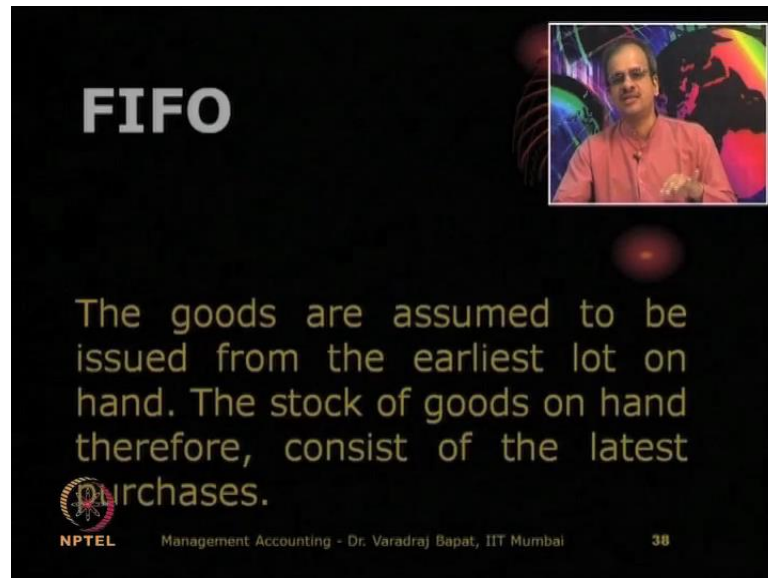
items that are not ordinarily interchangeable or having high value.

- Cost of inventory will be determined on the basis of their specific purchase price or production cost.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 37

However, in practice it is not possible for all the items, because many items may be interchangeable. Now, can you tell me for which items for example, we can use specific identification? Just imagine the go downs of different types of industries which some can use specific identification some cannot use can you just think over which can use which cannot use. Let us say you are a dealer in vehicles. So, each vehicle has a registration number. So, you specifically there is also a chances number. So, you specifically know a vehicle it is a costly item also. So, each vehicle can be specifically identified you can use specific identification method same way for which item you can use specific identification. There are specialized items let us say in a in case of say designer clothes each item of clothing which is made is a very special and costly item each item is different from other items. So, it is possible to use specific identification and where you cannot use that is the case where items are interchangeable. Let us say you are dealing in vegetables. So, you buy potatoes.

(Refer Slide Time: 49:48)



FIFO

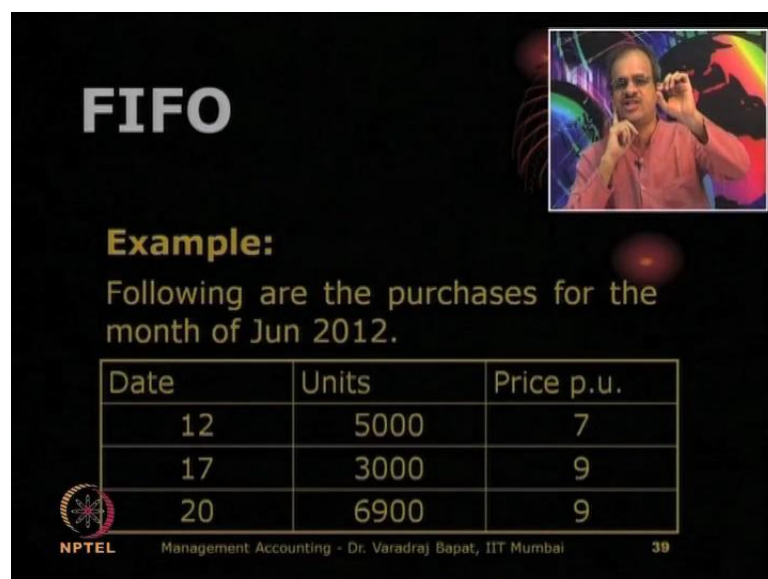
The goods are assumed to be issued from the earliest lot on hand. The stock of goods on hand therefore, consist of the latest purchases.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai **38**

This slide features a dark background with a small inset video of a man in a pink shirt. The text is in a light, sans-serif font. A small circular logo is visible in the bottom left corner.

So, you buy 100 and 1000 of potatoes from different sources all potatoes are interchangeable. You cannot have any particular type for each potato same way for items like FMCG. Let us say soaps, let us say eatables you may be buying large number So, it is not possible to identify each item has come at what time and so on. That is why though specific identification method is a very suitable method it cannot be used for all the items. So, there are some other methods there is a method popularly known as FIFO or first in first out method is a very logical method. So, what is assumed is if you have number of items coming in the first item which is received is issued out first.

(Refer Slide Time: 50:16)



FIFO

Example:
Following are the purchases for the month of Jun 2012.

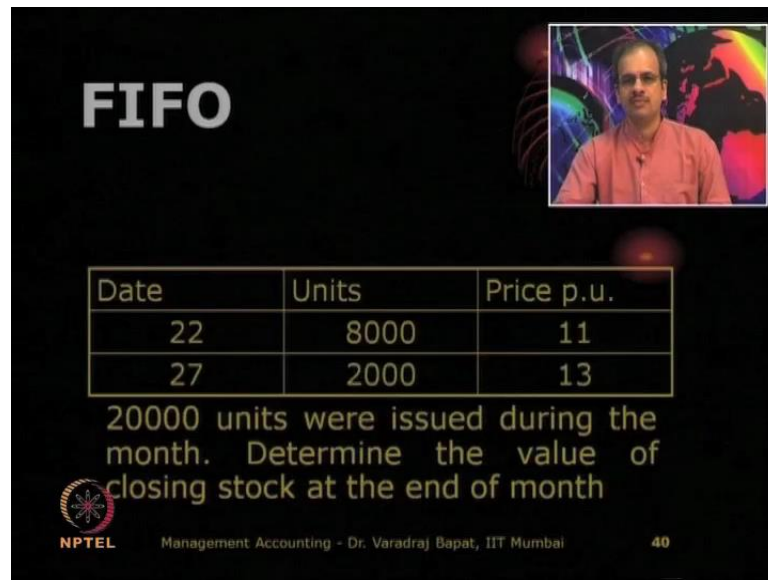
Date	Units	Price p.u.
12	5000	7
17	3000	9
20	6900	9

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai **39**

This slide features a dark background with a small inset video of a man in a pink shirt. The text is in a light, sans-serif font. A small circular logo is visible in the bottom left corner.

So, naturally what you have in hand consist of the latest received items. Let us see an example here, so this is a list of purchases which are made in the month of June 2012, so you know the date unit and prices.

(Refer Slide Time: 50:24)



FIFO

Date	Units	Price p.u.
22	8000	11
27	2000	13


20000 units were issued during the month. Determine the value of closing stock at the end of month

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 40

So, 5 items 5 times the item same item 5 times purchases all units are identical. So, you have 12 17 20 22 and 27 5 times the purchases are made. And during the year or during the month 20000 units are issued, so you are asked to determine the value of stock how will you value? First thing you have to do is first calculate how much is a total purchase in the month?

(Refer Slide Time: 50:59)

FIFO




The closing stock is 4900 units and would consist of:-
 2000 units purchased on 27th and
 2900 units purchased on 22nd as
 per FIFO method

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 41

So, you will realize that total material coming in is 24900 of each 20 is issued. So, you have 4900 units of closing stock as you know the rule is first in is first out. So, the purchases of 12 17 and 20 have already been issued what is in stock is from the purchases of 22 and 27. So, first we will know that whatever is from 27 that is 2000 they are all there with us and out of the purchases of 22 2900 units are there. So, you are clear So, I know that I have 4900 units first the last item that is 2000 units at rupees thirteen and then remaining that is 2900 units at rupees 11.

(Refer Slide Time: 51:55)

FIFO



2000 X 13=	26000
2900 X 11=	31900
Value of Closing Stock	57900

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 42

So, valuation you can see here 2000 into 13, so 26000 and 2900 into 11, so 31900.

(Refer Slide Time: 52:02)

LIFO

Under this method good issued are valued at price paid for the latest lot of the goods. In other words stock of goods on hand will be valued at a price paid for earliest lots. LIFO method is based on an irrational assumption that entering last in stores are consumed first.

NPTEL Management Accounting - Dr. Varadraj Bapat, IIT Mumbai 43

So, value of closing stock is 57900. So, this is about the first method first in first out there are also other methods like LIFO, weighted average, moving average and so on. We will see them in the next session.

Thank you so much.