Financial Accounting
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Lecture – 43
3.6 Practice problem III

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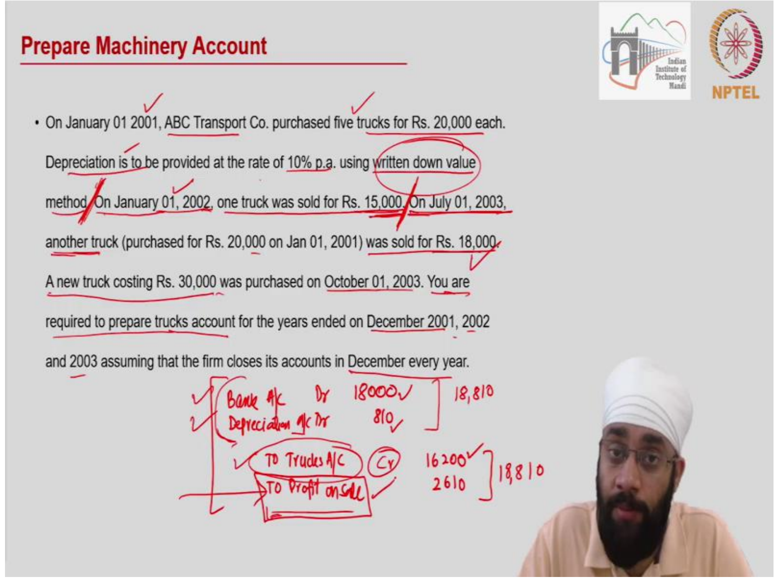

This is Practice Problem III. We have another complex problem that we are going to solve now. This is a transportation company – ABC Transport Corporation. They have purchased five trucks for Rs. 20000 each. Depreciation rate is given to at 10%/annum using a written down value method, and I will explain to you what this means.

Then next year at the beginning, one truck is sold for 15000; in the middle of the following year another truck has been purchased and sold. Then a new truck has been purchased; so, there is a lot of sale and purchase of this asset, and the asset is divided into multiple units- five units of asset or vehicles here. Also, some units are being sold while some units are being added. You are required to prepare trucks account for the years ending in December 2001, 2002 and 2003. So, we have to prepare the account for 3 years, and accounts are ending in December, so that is another thing which is different from the previous examples. The calendar year is the financial year and we have to prepare accounts for 3 year – 2001, 2002 and 2003. We need to be clear about when the asset is being purchased, when it is being sold and what are the book values. So, let us create that timeline to be sure of what is happening.

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2001 January is when things are beginning. Let me say January 1, 2001, this is the first year when the trucks are being purchased. So, you purchase trucks: purchase of assets, I should say trucks rather, because we have the specific name of the asset, and we should always write that name. Purchase of five trucks, let me write 5 here and 20,000 each. So, the total amount comes out to be 100,000.

Next transaction is depreciation to be provided at 10% on January 1st, 2002 which means the first year is ending here. So, let me put a slash here: this is the end of the first year, and we need to provide depreciation at this point in time. December 31st - on this day in the first year, we have to charge depreciation at the rate 10 percent.

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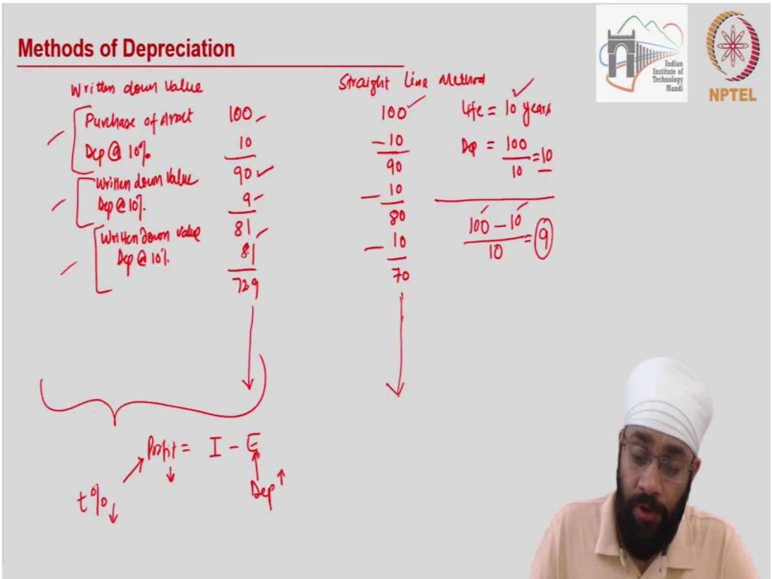

The question is what is a written down value method? There are two methods of depreciation. One is the written down value method, and the other one is the straight line method. Let us say you purchase an asset which costs you 100 in both the cases. The depreciation is going to be charged in the first case at the rate of 10 percent on this value, and you have 90 as the new book value or which can be called written down value. Now, the new depreciation at the rate 10 percent is going to be charged on this written down value. Therefore, the depreciation 10 percent is 9 and you have another written down value. And all of this is happening in the first period, second, and then again. You can have depreciation at the rate 10 percent i.e., 8.1 and 72.9 becomes your written down value, so this is called the written down value method. You look at the latest book value in the accounting period, the beginning of the accounting period that you are considering, this is a written down value method. As you go down you would see that the value of the asset will never become equal to 0; it will keep on reducing, it will become very close to 0 if the life of the asset is expected to be very long. This is the first method.

The second method is that you charge depreciation not on the written down value method, but in a different way. And the way is to also estimate what is the life of the asset. Life of the asset here is let us say 10 years, therefore depreciation is going to be equal to the cost of the asset divided by the life of the asset. So, 10 is the depreciation every year. Here you have written down value, but now the depreciation is going to be 10; so, the written down value is 80, depreciation is again 10. This is different in the sense that the amount of depreciation is going to be different, and you ascertain the amount of depreciation at one go and then there is no

change. In such case, the amount the value of the asset the book value of the asset is going to become 0, after 10 years, after the life of the asset. There is another variation which is possible here, which could be let us say at the end of the 10 years the asset can be sold off at some price. So, out of the 100 rupees which is the cost of the asset, you will be able to recover 10 rupees at the end of the 10 years. Therefore, the depreciation should be calculated not on 100, but on 90 only. Therefore, you divide it by 10 and the depreciation is 9. This is another slight variation if there is expected to be a scrap value. Scrap value simply means even if the asset is not functioning, you could sell it to the scrap dealers you know by the kg and make this much amount. So, these are the two methods; the written down value method is what is used in accounting; income tax authorities recommend this method. Now, why do income tax authorities recommend this, because the depreciation is an expense to be shown in the income statement and you could manipulate your profits by using different depreciation methods. For uniformity, for consistency, the income tax authorities recognize that when you have to calculate the profit to be paid, the tax to be paid on profit. So, the calculation of profit is equal to incomes minus expenses and expenses include depreciation and tax is paid as a percentage of profit, so tax percentage. Therefore, you could show a higher amount of depreciation which could be the case in the straight-line method and then show lower profits and hence pay lower taxes, so they say to use only written down value method. Also, the rate of depreciation varies from assets to assets and there are accounting standards, there are rules which prescribe that the rate of depreciation- say on furniture, on fixtures, on electronic equipment, and so on. Those things apart, I hope now you have understood the concept of written down value method of depreciation.

So, let us get back. The depreciation at the end of 2001 is going to be 10 percent, so 10,000 and the new book value- the written down value of 5 trucks- is going to be 90000, on 2002 January. I should have kept it cleaner, but maybe I could do this. On January 1st 2002, one truck was sold for 15000. Now one truck has been sold on January right on this date; we found the book value on this date and now another truck is being sold, so sale of one truck for 15000. Whenever an asset is being sold, there is going to be some profit or some loss. I am going to create a new column: to amount for one of the trucks, truck 1, let us say, which is being sold. So, this truck was purchased for 20000 and the depreciation at the rate 10 percent was provided, so 10 percent depreciation on this would have been 2000, so this 10000 includes the 2000 on this one truck. And the value of this truck on January 1st 2002 is 18000 and this truck is being sold at 15000. Therefore, there is clearly a loss of 3000 because the book value of the asset is

18000 and you are selling it at 15000 only. Now, after this truck has been sold, the new balance has to be calculated out of the 5 trucks. You have only 4 trucks, so that adjustment will need to be made and we will do that: lets move forward. On July 1st 2003, another truck was purchased. 2003 is next year, so let us close for this year on December 31st and then we can go to the next year. Again, December 31st the depreciation has to be charged but it has to be charged on only 4 trucks. If depreciation has to be charged on 4 trucks we have to figure out what the amount is, so I am going to write balance. The balance here is 80000. You charge depreciation on this value: 72000. The depreciation on 4 trucks worth 72000, at the rate of 10 percent is going to be 7200. So, this column is now discontinued, because you are left with only 4 trucks. Let me close it here. This gives you the value of the asset in 2003 January 1st, on the very first day or the last day of the previous year. Now, the book value is going to be equal to how much this comes out to be 4, 6, 64, 65, 72 that is correct. So, 64800 is the book value of the 4 trucks that you have with you.

Now, let us look at the next transaction. On July 1st 2003, another truck was sold for 18000. I am going to write: July 1st sale of one truck. Now, again I have to figure out the book value of this one truck which was purchased at the beginning of the whole thing for 20000. So, I am going to go to another column and say truck 2, this is the second truck which is being sold; let me say the second sale case. So, I purchased a truck for 20000 here and then I charged depreciation, the value was 18000, and then for this year I charged depreciation as well which was 10 percent, this is 1800. Now, this gives me 16200 as the book value of the truck at the beginning of this year. The sale of the truck is happening in July, which means there is 6 months for which truck has been used, so there will be depreciation for 6 months for sure. So, we have to charge depreciation here. Let me just create space for that. Instead of saying sale, we have to first say depreciation for 6 months; and this is only on the truck being sold, on 1 unit. For 6 months the depreciation is going to be 5 percent as 10 percent is the rate. Let me first calculate 10 percent which is 1620 and then half of that is going to be 810. So, this is the depreciation on 1 truck which is being sold in the middle of the year, so we are charging 10 percent depreciation; 10 percent depreciation for 6 months, half the year. On July 1st you sell at what price? The price at which it is being sold is 18000. Clearly there is a profit, because the value of the truck was 16,200 minus 810. So, there is a profit that will occur at the sale of this truck here. So, this transaction is done, let us look at the next transaction.

A new truck was bought on October 1st 2003. So, we are running in 2003 and now there will be October 1st. October 1st new truck is being bought; so, October, November and December; 3 months are left in the same year and a new truck is being purchased, so purchase of 1 truck. Now, I have to also calculate the balance here after the second sale. Let me just do that also. Now the balance is 3 trucks, 2 trucks have been sold. So, I have 60,000 for which the 3 trucks must have been bought and depreciation at 10 percent means 6000 and you have 54000 as the value of these 3 remaining trucks. And then you charge depreciation at 5400 on these trucks, which gives you a book value of now 48600. Now, this is the book value of the 3 trucks which you are left with. Now, these two transactions are happening in the middle of the year, nothing happens to this balance here. A new truck is being purchased; I am going to add a new truck. Let me say new truck 1 is being bought for how much? 30000 amount; I am going to write against this column here, 30000 in October. Next step, you are required to close the accounts in the 3 years and 1, 2 and 3; and say what is the balance at the end of the 3 years. 4 trucks balances is as follows; we have to again get a balance. The balance is now 4 trucks at the end of 2003, so on December 31st you have to charge depreciation. So, the question is how much depreciation to be charged? Depreciation to be charged at 10 percent on how many trucks? So, you are going to charge depreciation on these. You will have 4860 as the depreciation on the 3 trucks for the full year and for the new truck that has been bought at 30000, you will charge depreciation at the rate 10 percent only for 3 months; because you have used it only for 3 months. So, that means, 30000 multiplied by 10 percent multiplied by 3 by 12. So, basically you are saying 3000 divided by 4, so 750 is the depreciation on this number here, so 750. So, total depreciation being charged during the 2003 financial year is equal to 4860 plus 750. So, this is the total depreciation being charged during this year.

The balance in the truck account is going to be equal to 48000 plus 30000 minus this 56000 and we could do it separately as well. So, 43740 and here you have a 29250; so these are the closing balances of 3, 3 trucks; 4 trucks and you can add these two and get the value of all the four trucks as well. This is a bit complex. I hope you get a hang of it; you can repeat the video, re-watch it and see how things are happening. But this is a story. What I wanted to convey to you was assets can be purchased in the middle of the year, assets can be sold you know quarterly as well, on any day effectively and accordingly the depreciation has to be charged on those assets, also you have to figure out profit or loss happening on the sale of the asset as well. Using these working notes we are now going to prepare the truck account. So, let us move forward; this should say trucks account.

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We are preparing trucks account debit side and credit side; we are going to start in 2001. In 2001 you purchased 5 trucks. The transaction is going to be Trucks A/c (Dr.), To cash or To bank, let us assume bank. So, Trucks A/c (Dr.), To Bank A/c on January 1st. 100000 is the value of the trucks which have been bought.

At the end of the year, you charge depreciation 10000, on December 31st, 2001, I am going to charge depreciation by depreciation and I am not writing the journal entry, because I know depreciation debit, to truck is how we do the transaction. So, this is 10000 as charged as depreciation, so the new book value is 90000; on the same day I am going to close this account for this year and write By balance carried down and the value is 90000. I am going to total this here, so 100000 and close it in the conventional way ;there you go.

Now we have prepared trucks account for the first year which is 2001 and we have a balance in the trucks account which is 90000. Now, we are going to carry this balance forward. We are going to bring this balance forward in the year 2002. On January 1st we will write To Balance brought down, so we are bringing this balance down, 90000. Again, this c/d, b/d these are conventional terms; they mean carried down and brought down. So, the new updated balance, the latest book value of the trucks is 90000 and these are 5 trucks. The next transaction is on January 1st when you are selling a truck for 15,000. So, on January 1st, 2002 I am going to write By bank, because that is the transaction; Bank A/c (Dr.), To Truck; that is how the sale of the truck is recorded and the money that you are getting is 15000 and there is a loss of 3000

on this truck. What is the journal entry for when there is a loss? I will write the journal entry here, when you sell the truck the journal entry would be Bank A/c (Dr.), you get the money 15000-the truck goes out. So, you will write To trucks A/c. But the value of the truck is 18000; debit has to be equal to credit. So, there seems to be a deficit of 3000, you could not recover the remaining 3000; so, this is loss on sale of trucks account. In the trucks account I go to the credit side and write By Bank and By Loss on Sale. 3000 is the loss on sale account. This is on January 1st as well, on the same date when the sale of truck is being done. So, one truck has been written off now, we are done here. And let us go to December 31st, depreciation to be charged on 4 trucks is 7200. So, December 31st you have by depreciation. Depreciation is being charged on the remaining trucks; remaining 4 trucks this is equal to 7200. So, the value of the trucks now that you have is 64800, so 64800 should come out to be the balance in the account, so this should be by balance carried down. When you do these numbers 90000, 90000 and you deduct from 90000 the total sum of this, then you reach 64800. Since, I already had the calculations in my working table; I just picked this number from there. So, this is 18000, 25200 and if you add 25200 to 64800 you get 90000. So, basically this is a balancing figure is what I am saying.

The next year starts January 1st, 2003. We bring the balance forward; To balance b/d, the balance is 64800. In July, you have the sale of another truck. So, I go to the account write 2003 July 1st. 6 months have gone by, till June, and on the very next day, a sale of asset is being done. I am going to write By Bank A/c. This is a sale of asset for 18000. So, 18000 rupees received, and on the asset which is being sold, depreciation for 6 months is being charged, which is 810. I am going to write By depreciation - this is depreciation on 1 truck which is being sold on July 1st- only 6 months of depreciation 810. And the book value of this one truck was 16200, and the depreciation was 810 for the 6-month period. Therefore, the value of the truck on July 1st is equal to 16200 minus 810, this gives me 15390 as the value of the truck; you sold it for 18000. So, the profit you are making, you are selling it; selling the truck at a higher price than its actual price. Therefore, you are making a profit equal to 18000 minus 15390. So, this is the amount of profit that you make. Let me just double check this, that is correct; so 2610 is the profit that you make on the sale of this truck.

Now, we have to write a journal entry for this, because this is a bit complex and need to be able to explain this to you. So, I am going to go to this slide and write the journal entry. When you sell the asset the cash comes into your bank account, so Bank A/c (Dr.) 18000. And there is

depreciation on this asset for 6-month; depreciation A/c (Dr.) 810. The truck goes out, so To Trucks A/c, the asset account, the value of the truck was 16200 here at the beginning of 2003. It went down by 810; and then you made 18000 at the top of it. Therefore, it leads us to a profit of 2610, so that profit will be 2610 written here, because all incomes and gains all profits are going to be credited. I am going to write To Profit on Sale and this also introduces you to a new type of transaction, where there is profit on sale rather than a loss on sale. If there was a loss on sale, we would have written it on the debit side. However, here you have a profit on sale. And just to verify; all debits must have an equal credit, the total of the debit side is 18810 and the total here is 810, 18810, all debits must have an equal credit. Since this is the journal entry, the question is how are we going to post this in the ledger account? We are preparing trucks account. We are going to go to the credit side in the trucks account and post both of these first of all. So, 18000 and 810 have already been posted on the credit side. Now, there is a new treatment for the profit. If there was a loss, we show it on the credit side only, but there is a profit, there is an additional money that is being made. So, suddenly this side is being inflated and we have to inform the viewer of the financial statement that there has been a profit. We do that by way of showing the profit on the opposite side. To profit on sale just like we had loss on sale on the credit side; we are putting profit on the opposite side. So, intuitively that is the way to do it, however, if you look at the journal entry you are preparing trucks account and you are posting both the entries on the credit side. However, till now we have not made a profit on sale entry being done on the opposite side. So, this is kind of an exception or a new kind of treatment that you have to do, when you have profit on the sale of an asset. 2610 is the profit on the sale of the asset and you write it on the opposite side in order to balance these to account for this additional money that you are making. So, what is happening really is the value of the truck is 16000 lower than 18000; so, there is some additional money being made here. On the opposite side you have to show that the value of the asset was not high, but the value has increased, because we have sold it at a higher price and a profit has been received in return.

Let us move on to the next entry which is going to be the purchase of this truck on October 1st for 30000. Same here, October 1st, I am going to write To Bank A/c, because that is the transaction for purchase, 30000. And finally, you have depreciation which is being charged on December 31st. Depreciation is going to be charged on both the new truck being purchased and the previous group of trucks that you have which is equal to 3. And we have done those calculations, so the depreciation is 4870 plus 750; these are the two amounts of depreciation, so total depreciation is 5610. At this point in time, December 31st, we are going to figure out

the balance in the trucks account. Now, the balance in the trucks account according to this is 4370 plus this amount, but we can also do the calculations here. Let me use this space. So, all you have to do is sum these up 14800 plus 2610 plus 30000, so the total is 97410. And you have to sum this up in order to take it out from the total on the other side. So, you have 18000 plus 810 plus 5610 which gives you 24420. Now, 24420 needs to be taken out of 97410 which gives you a balance of 72990; this is the balance left in the trucks account. So, by balance carried down on December 31st, the total is 97410 and you close this account. If you want to verify this, you could go to the previous slide here and you can sum these two numbers up. When you sum up 43740 and 29250 the amount that you get is 72990, so let me just write that here as well. So, this is the remaining value of the four trucks. So, these are 3 trucks, this is the 4th truck; this also sums up to 72990 right. So, accordingly we have 72990 which can be figured out using this process as well; that is how any asset account is going to be prepared; there will be transaction of purchase and sale.

You could, of course, take it further to 2004 January 1st and say, to balance brought down and the new balance is 72990 and we have 4 trucks in the account, and it can continue. It is going to continue, because business is expected to continue for a long period of time, trucks are going to be purchased, trucks are going to be sold as well; there will be profits, there will be losses, there will be depreciation. That is a detailed, deep dive into preparing a trucks account, preparing an assets account. That is it for this practice problem. I hope this clarified a number of new concepts that we have not discussed earlier. I will see you in the next video.