Introduction to Accounting and Finance for Civil Engineers

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Lecture-29
Introduction to accounting

Good morning, namaskar and welcome to the course once again.

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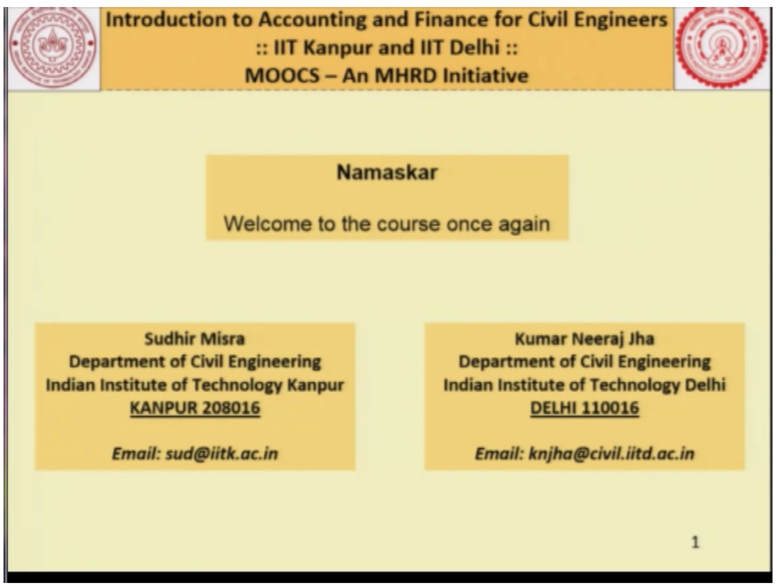

In the previous lecture we discussed how to determine the optimal markup both using Friedman's model as well using Gate's model. In this class we are going to introduce you to the concepts of accounting, in particular we are going to learn what accounting means, what are the various assumptions that we use in accounting and what are the various steps that we take in order to prepare various financial statements such as balance sheet and profit and loss account.

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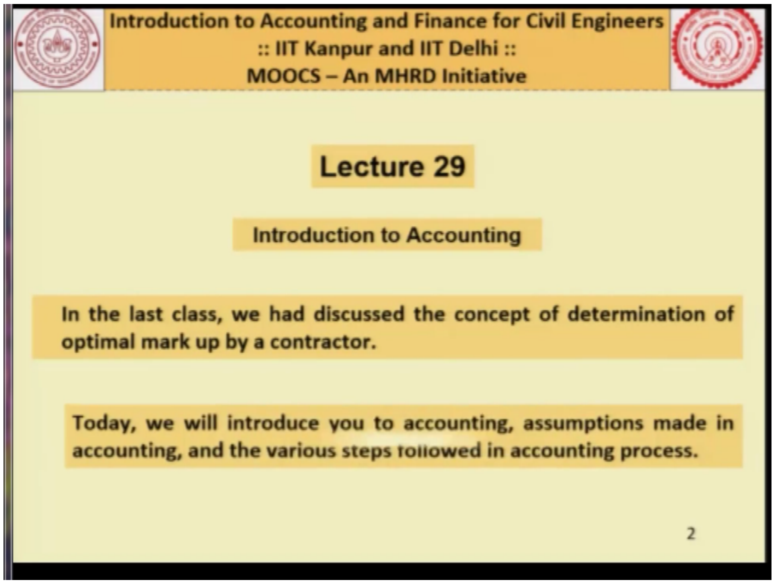

So, as for as the definition of accounting is concern.

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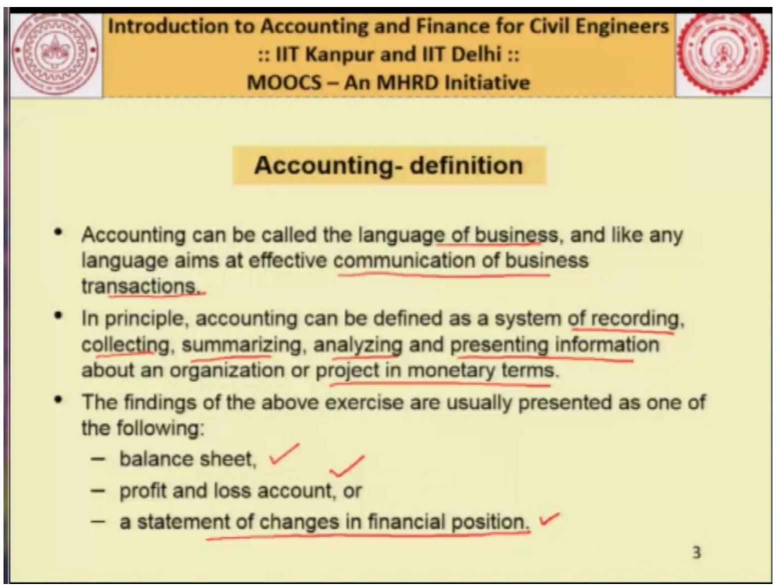

You understand it is a language of business essentially a language of business unlike any language it aims at effective communication of business transactions. When you say transactions it is basically money changing it is hand from 1 person to other person, from 1 entity to other entity. Now you will find that these accounting if you see it is a system of recording, collecting, summarizing, analyzing and presenting information about an organization or project in the form of some monetary transactions.

The findings of these transactions are usually presented in essentially these 3 financial statements balance sheet, profit and loss account and sometimes statement of changes in financial position. So these 3 statements are very important as for as the whole accounting exercise is concern.

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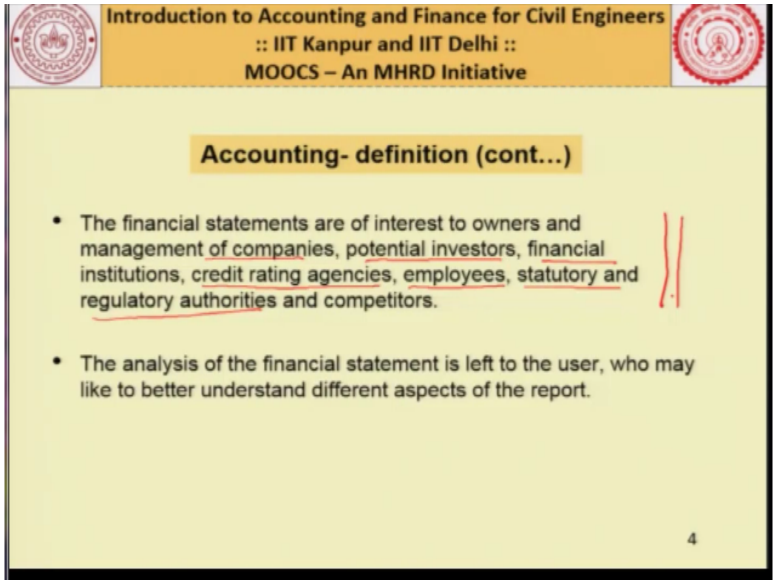

These financial statements are of interest to owners, the top management, the potential investors, financial institutions, credit rating agencies, sometimes even to the employees and statutory and regulatory authorities. So, you will see depending on the perspective of a particular entity these transactions are looked into from different points of view.

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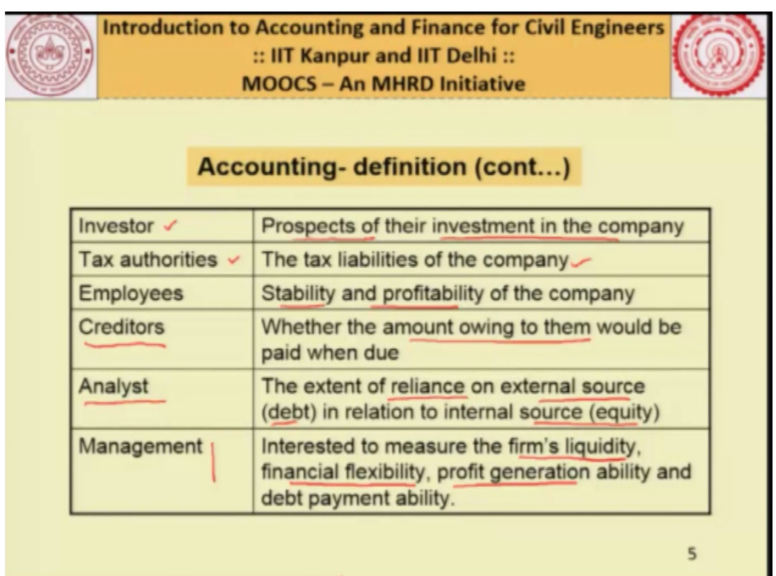

For example if you look at the tax authorities they try to see what is the tax liabilities of a company. If you look at any investor they would like to see the prospects of their investment in the company. What does employee see from the financial statements they see whether the company is stable and profitable or not, what does creditors see from the financial statements they see whether the amount going to them would be paid when in it is due or when they are due.

Analyst on the other hand look at the extent reliance on external source which we call it as debt in relation to the internal source which we call it as equity. Management would be interested in knowing the firms liquidity position, financial flexibility, how much profit it is generating and how much debt it has incurred for the whole of the financial year.

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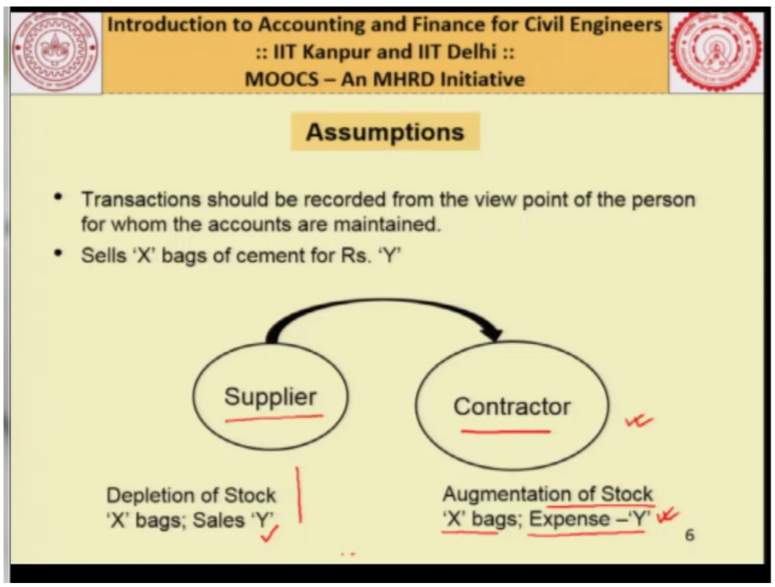

Now we will try to understand the various assumptions that are involved for accounting exercise. The first thing that we have to understand is we have to see we are keeping the account for which entity. So depending on which entity we are keeping the accounts your accounting statements are going to change. For example let us say you have a seller and you have a buyer situation, now when you look at the same transaction from both the perspective.

We will find the recording would be done in a different manner, for example let us say there is a supplier and there is a contractor. Now this supplier is supplying X bags of cement for let us say an amount of Y, now when you look at the account book of supplier it will be shown as depletion of a stock because this X bag has been given to the contractor for a sale amount of Y rupees, when you look at the contractor's account book, they will show that stock has increased from some value to X bags.

And under the expenses they will show this amount Y, so depending on whether you are keeping the account for the seller or for the buyer, the entries are going to be recorded in a slightly different manner. Now there are some more assumption that we need to understand, for example when we do this exercise of accounting we say that rather be assume that the establishment is going to exist forever.

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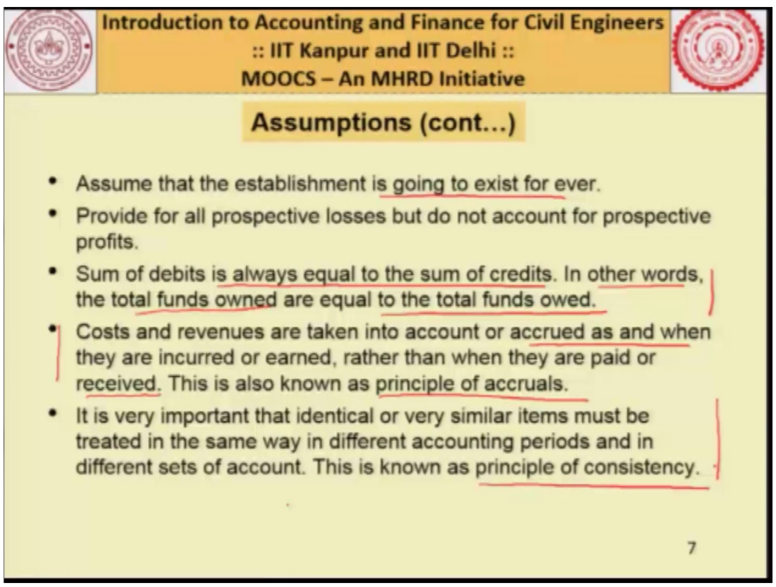

So, it is not that we are considering the companies which are just fly by night operators, we are assuming that the company is into business for long term, they are going to exist forever. So, that is one of the major assumption that we use, then if you look at the assumptions of accounting you will see that when it comes to accounting accountants have in general a pessimistic kind of an approach, when I say pessimistic it means that .

The moment they try to see any loss in future, they will show it at the very beginning but when it comes to the profit until and unless they are 100% sure they are not going to show in the accounts book. So, in that sense they are quite pessimistic, so the moment they see or foresee, the losses they will be the first one to report it but profit will not be recorded until and unless they are 100% sure, so that is another assumption of the accounting.

Now one major assumption is sum of debits is always equal to the sum of credits this we will see in due course. If you say in other words the total funds that the company owns and the fund that it goes both will be equal, so that is what it is written here, total funds own are equal to the total funds owed. Now cost and revenues are taken into account or accrued as and when they are incurred or earned rather than when they are paid or received.

So this is known as the principle of accruals right, then another principle which we know it as principle of consistency is like this, whenever we do some accounting process we have to maintain consistency. So, if you are following a particular convention now we should make sure that in the financial year also it should be recorded in the same manner. So no change in between is allowed, because you will find that in that case your accounting statement might show some kind of inconsistency.

And you may not able to exactly measure or see the difference between the previous year and the current year. So these are some of the assumptions that we use when we prepare our accounting statements.

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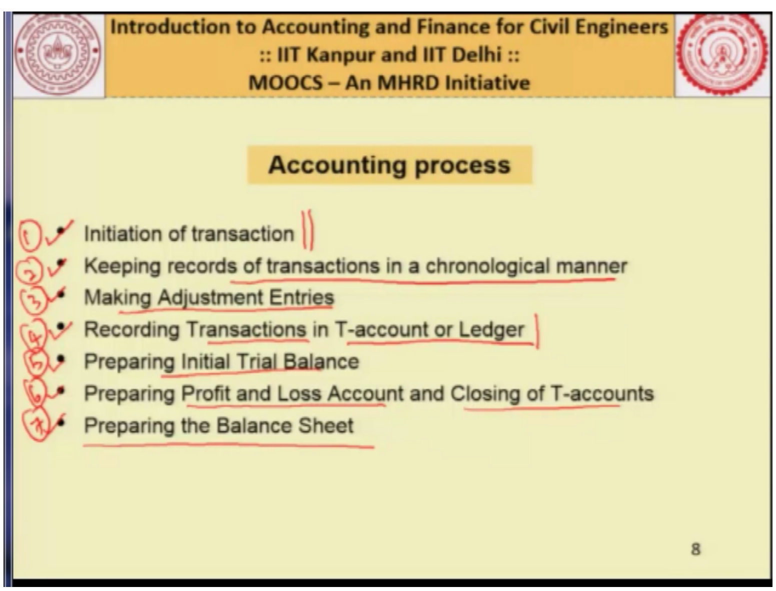

Now when it comes to the accounting process you will find that it is quite systematic process. So there are various stages, various steps in which you have to record the transactions, you have to collect the transaction details, you have to analyze them and then you have to present it. So, that is what accounting is all about, so when you try to describe the various steps you can briefly tell them in 6 or 7 steps.

So the first step is to initiate the transaction or rather initiation of transaction, this is the first step, second step is keeping the records of transactions in a chronological manner. So as and when they occur, then we carry out the adjustment increase, we will see each one of them in detail. Then the transactions are recorded in T-account which is also known as ledger. Then we prepare the initial trail balance, once you have prepared the initial trail balance you take out the revenue and expense item from that.

And you prepare the profit and loss account and you close the T-accounts and finally after doing all these you prepare the balance sheet. So this is step1,step 2, 3, 4, 5, 6 and 7, so you can say these are the 7 steps to arrive at the various financial statements such as the balance sheet and the profit and loss account.

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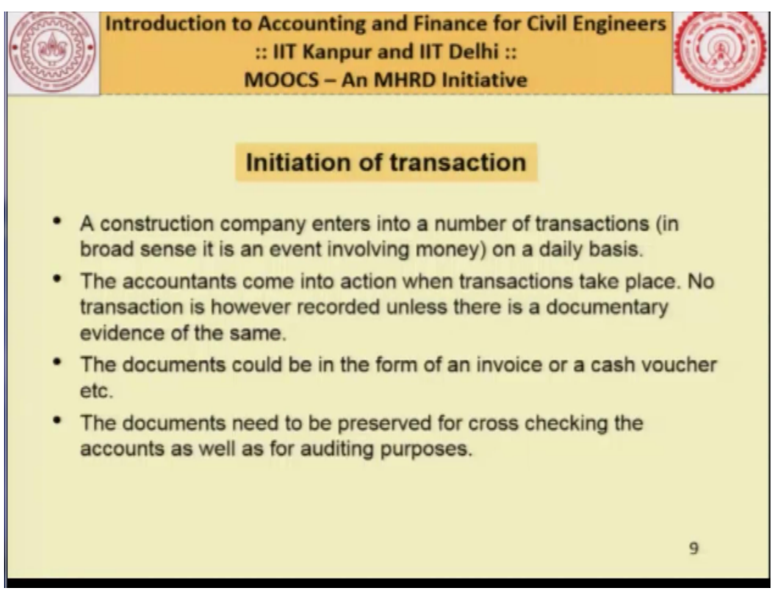

Now when it comes to initiation of transaction you will find that until and unless some documentary evidence exist maybe in the form of a bill, maybe in the form of a invoice, maybe in the form of a challan and accountant will not consider that as a transaction. So, transaction is basically recorded only when some documentary evidence is presented to the accountant and as I told you it could be in the various forms for example the invoices, the challans and so on.

Now these documentary evidences are preserved, so that they can be presented during the (()) (09:38) you know all these accounting statements or accounting transactions are to be audited right. And the auditor has to give a report that ok, these this particular company has recorded the transactions in a manner which is standard in nature as per accounting principles, so this is how you start the first process initiation of transactions.

Now you **you** maybe wondering why accountants insist on these, until unless you write them something they won't say that transactions are taken place. So, that is the reason because they have to present these document at the time of auditing they insist on getting those documents, so this is the first step.

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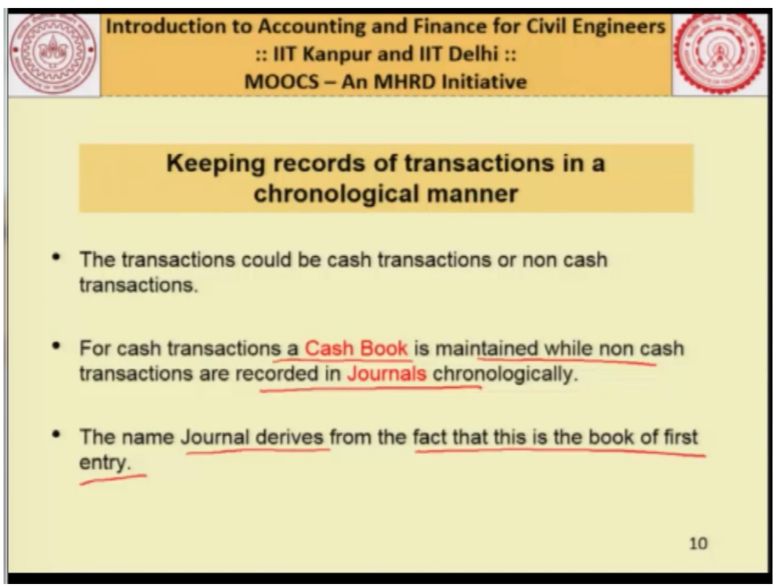

Now you have to keep the records of transactions in a chronological manner, so in a date wise manner, so first day, second day, third day and so on whatever transactions are carried out by the company you will find that any company indulges in a large number of transactions on a daily basis. Now these transactions are recorded and whenever they become substantial they either entered into cashbook or journals right.

These are the 2 primary account books which keep the record of transactions, various transactions. Now if the transaction is pertaining to cash transaction it is put inside the cashbook if it is done on a credit basis it is entered in journals right. Now all the cash related transactions are recorded in cashbook as I told you and all non cash transactions are recorded in journals right. When you say journal basically the name is derives from the fact that this is the book of first entry.

You understand journals record the knowledge which has been created for in a particular era. So anything that is entered for the first time, the accountants give the name of that particular document as journal right. Now when it comes to the cashbook as I told you all your cash related transactions are entered into you safe entered into it. For example you receive some money from your client that will go inside the cashbook.

You paid some money to your supplier that will also be recorded in cashbook, some material has been brought or purchase that will be recorded if it is done involving cash. So all the involvement all the transactions they need do cash is recorded in cashbook.

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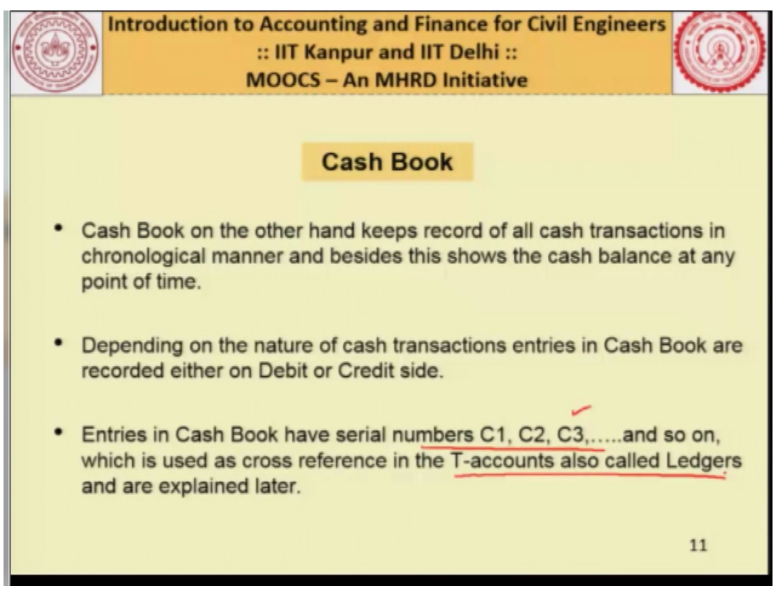

The entries of transactions are recorded in terms of some numbers let us say C1, C2, C3, so C1 represents fast cash transactions, C2 represents second cash transactions and so on. Now sometimes this cashbook is also known as cash ledgers right, when it comes to journal as I told you it records non cash transactions.

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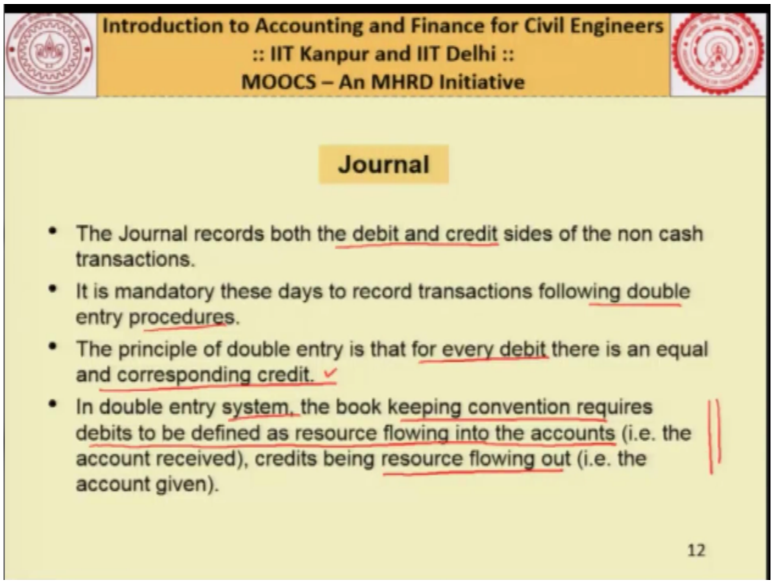

In the journal if you see both the debit and credit sides are there, now it is mandatory these days to record the transactions following double entry process, when you say double entry process it means that for every debit there is an equivalent corresponding credit. We will see how it is to be recorded but for the time being just understand that for every debit there is an equivalent corresponding credit.

Now in the double entry system the book keeping convention requires the debits to be defined as resources flowing into the accounts. So, whatever resources are flowing into the accounts we record it in debit side and whatever resources are flowing out we are showing it in the credit side. So this is the main mantra of recording the non cash related transactions.

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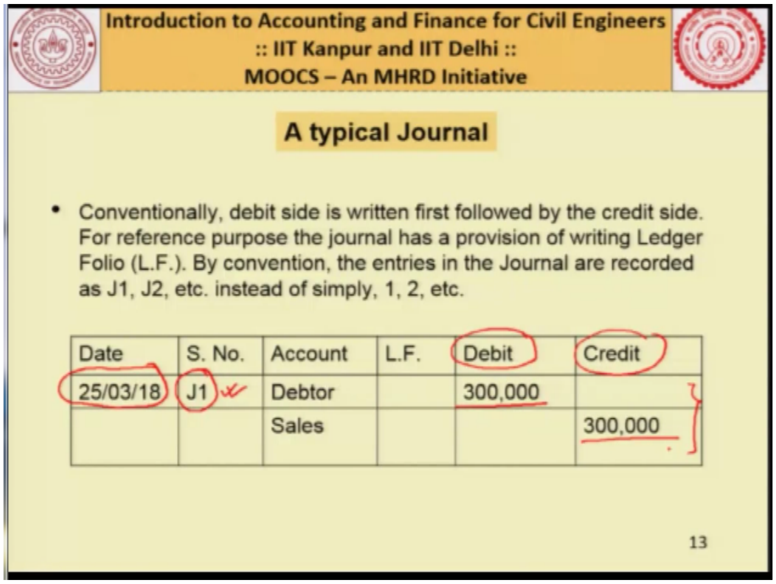

A typical journal would look something like this you can see here we are showing the debit as well as credit both. So, this is the debit column this is the credit column and as I told you for every transaction both the debit entry as well as credit entry is must right. Now sometimes you specify some kind of a identification number for example this is journal 1 entry we are representing it as J1 likewise you will have J2.

So, here you write the date on which this transaction took place, then you identified with some number and then you show what is to be written in debit and what is to be written in credit. You will see the details of these transactions little later.

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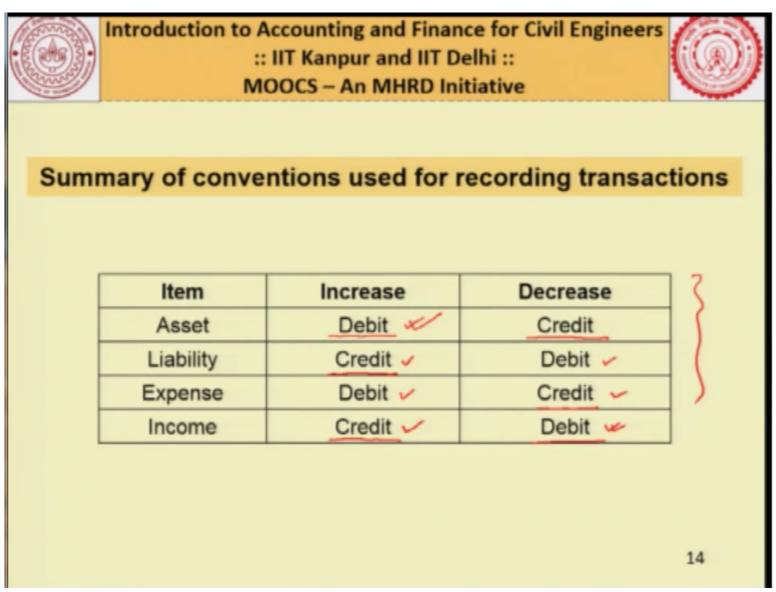

Now while on the topic of recording transactions it will be useful to you to understand the entry conventions. For example if the asset is increasing we are showing it in debit side, on the other hand if the assets are decreasing for the entity we are showing it in the credit side. If the liability is increasing we are showing it in a credit side, if they are decreasing we are showing it on a debit side, increase in expense is shown under debit side, decrease in expense is shown under credit side.

These are the conventions that we use for recording transactions and finally increase in income we are showing it under credit side and decrease in income we are showing it in debit side. So, these things are important you have to remember them.

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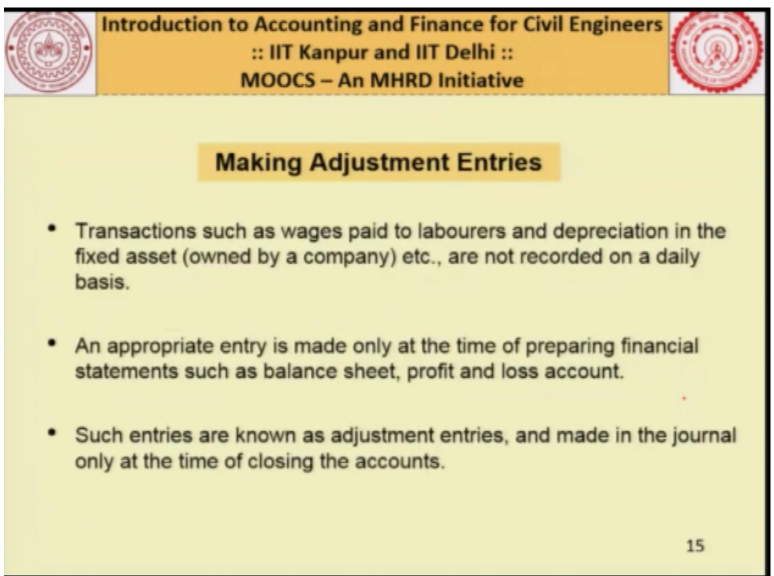

Now the third step after you have recorded the transactions is to make adjustment entries, when I say adjustment entries basically they are the transactions which are occurring continuously, for example you would say you have an asset. Now it is getting depreciated on a daily basis or for that matter every moment the value of the asset is decreasing, you have employed laborers. Now the wages of those laborers are getting accrued continuously.

So every day the worker has work for you some wages are accrued against their names, now if you try to keep account of each of these expenses, the job of accountant would be very very difficult. Because every day you will have 100s of transactions or maybe when 1000s of transactions, so what normally they do these transactions they do not record it on a daily basis, what they do, these transactions they will keep note of only at the time of preparation of balance sheet and profit and loss account.

So if you are not going to prepare these 2 statements on that particular day these transactions are not considered, this is what it means. So, adjustment entries are those entries which are to be recorded at the time of preparation of balance sheet and profit and loss account. And under this your wages comes, your depreciation comes right.

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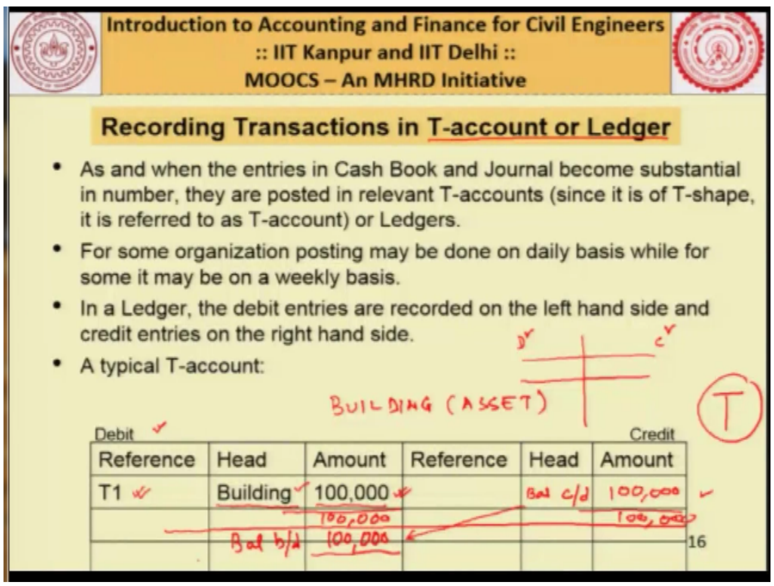

Now the next step is the recording of transactions in T-account or ledger, so once you have identified and recorded a number of transactions then it is the time to transfer them or post them either to T-account or what you call it as ledgers right. As I told you cash related transactions are recorded in cashbook and other journal entries are recorded in different ledgers. So you will have different types of ledgers.

Ledgers for liability, ledgers for assets, ledgers for furniture assets, ledger for building assets , ledger for owner's equity and so on. So for each of these journal entries you have a ledger folio right or T-account, now what happens if the number of transactions are less, then the accountants weight for these number of transactions to grow. Say for example if a company is not doing large number of transactions in that case accountants will not be transferring these entries into these ledgers on a daily basis.

So the way till the time these entries or transactions become substantial and then only they try to post it to various ledgers. So when it comes to T-account a typical T-account would look something like this, the name T has come if you look at this particular slide you can visualize the T-account like this. So this side you write debit which is also known as daters, this side you write it as credit, so this side left side is debit right side is credit.

Now when you look at this it gives you a shape of T and that is they are known as T-account right, so 1 typical T-account is shown here.

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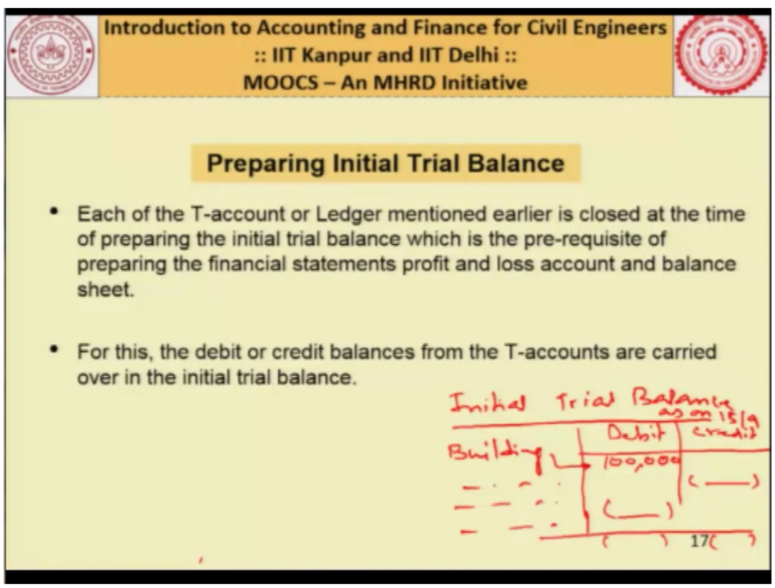

So, on the debit side let us we are writing the reference number of that particular account, say for example the company has purchased building for 100,000 right. So, we are showing it as building 100,000 in debit side, why if you remember the convention the increase in asset is to be written under debit side. If you go back to the table here you can see the increase in asset when you have purchase the building you have increased your building assets from 0 to 100,000.

So it is going towards debit side why because the convention is that increase in asset is to be shown in debit side. So this is how it has been prepared, so you can see this transaction number is T1, head is building and amount is 100,000. Once you have posted all these transactions into various T-accounts, then the next step comes is to prepare the initial trail balance. Basically before preparing this initial trial balance we close the entries of different ledgers or T-accounts.

Say for example if you go back to the previous slide and suppose this is how your building asset account looks like, let us say this is building and in bracket you can write asset right. So, this is the building T-account and this is the entry only one entry let us it is there. The company has purchased building for 100,000 rupees, now I want to close this. So at the time of preparation of balance sheet and profit and loss account we have close various T-accounts.

So closing of T-account I will illustrate you how it is done, so let us say this is the only entry, so I write it like this side draw a line. Now debit side you find 100,000 credit side there is no entry, so what I do I will write here balance carried down and I will write 100,000 here right. And here what I will write I will write balance brought down and this will be equal to 100,000. So what I do I look which side is larger whether the debit side is larger or the credit side is larger.

I will take the difference from the larger to the smaller and the difference I will put it on the other side. Suppose in this case debit side is larger, so I have put the equivalent amount as balance carried down in the credit side. Now since this has been added extra I am also writing here as balance brought down 100,000 before that you can total it. So, this is 100,000 and this is also 100,000, so this is what we are calling it as closing of T-account.

So I gave you an example of closing this building .T-account likewise depending on the different type of T-account you will have to close it at the time of preparing of trail balance, we will see this in detail with the help of one small example. Now this particular value balance brought down will be taken to prepare the initial trial balance. So when you are preparing initial trial balance it would be something like this.

So you will write initial trial balance as of a particular date remember all these balance sheet exercise are basically snapshots of your assets and liabilities at a given point of time. In some other lecture we will see how with every transaction your balance sheet changes it is value you will see even 1 transaction and you have the entire balance sheet changes right. So, that is why it is always important to mention balance sheet as of a particular day.

So, all the time you will write ok initial trial balance as on let us say today is 15 September, so I write it this value or some other value you will write it here. Now here you will write all the closure values what you got from closing the T-account, so you will write building and depending on whether there is debit entry or credit entry coming from the closure of T-account you will enter it here.

So for example for the case of building we are getting this balance brought down under debit side. So I will write under building this 100,000 in the debit side, likewise you will have different accountants and depending on the closure value either the entry would be on the right hand side or on the left hand side. And you will find as a crosscheck measure the total sum of debit here would be equal to the total sum of credit.

If you are not getting these 2 values equal you will have to understand that you made some mistake somewhere and then you have to re-visit your calculations, revisit your entries and make corrections accordingly. Now after this initial trial balance is done what I do I take out all those items which are pertaining to revenue and expenditure.

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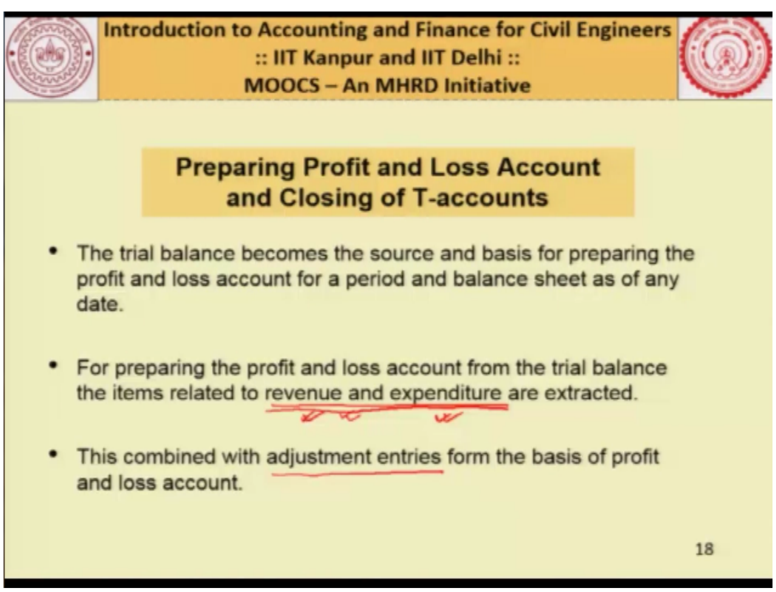

So, from the initial balance sheet I am taking out all those account heads which are pertaining to either revenue or expenditure. Now these 2 account heads will help me in preparing my profit and loss account, now when it comes to profit and loss account it is always for a particular period. So when I say ok profit and loss account from this date to this date right it could be for 3 months, it could be for 6 months, it could be for 1 year.

So you will say profit and loss account for the period this to this, on the other hand when it comes to balance sheet you have giving the date that this is as on this date right. So what we do for preparing the profit and loss account we are taking revenue and expense related items from the initial trial balance and this is combined with the adjustment entries. Now is the time to go into adjustment entries.

For example you will see what kind of depreciation took place, how much wages are accrued. So all these are part of adjustment entries because on day today basis I did not consider them, now is the time to prepare the balance sheet. So, I will see how much is the wages that are accrued for to my workers, what is the total depreciation that I have to account for. Now all these put together I will be able to prepare the profit and loss account. Now once I have done it then I will make a final trail balance right.

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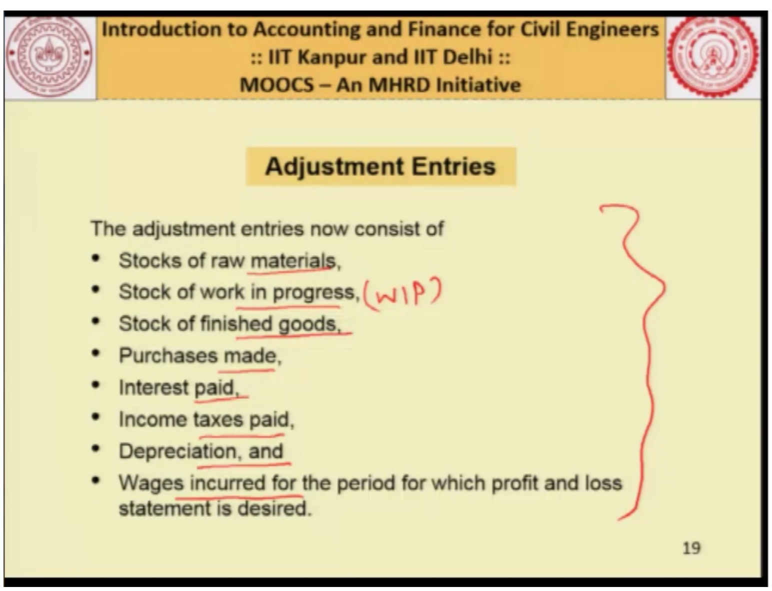

Now if you look at the adjustment entries you will have to also consider the stocks of raw material, stocks of work in progress which we call it as WIP, stock of finished goods, purchases made, interest paid, income taxes paid, depreciation and wages incur. So, all these are part of your adjustment entries, now if you look at each one of them you will see that they are changing continuously, your stocks are changing continuously, your finished goods stock changing continuously, depreciation is changing continuously, dividend**,** interest everything is changing continuously.

So, if the accountant is to take care on a continuous basis imagine their life it would become hell, so that is the reason these items are considered only at the time of preparing of balance sheet and the profit and loss account.

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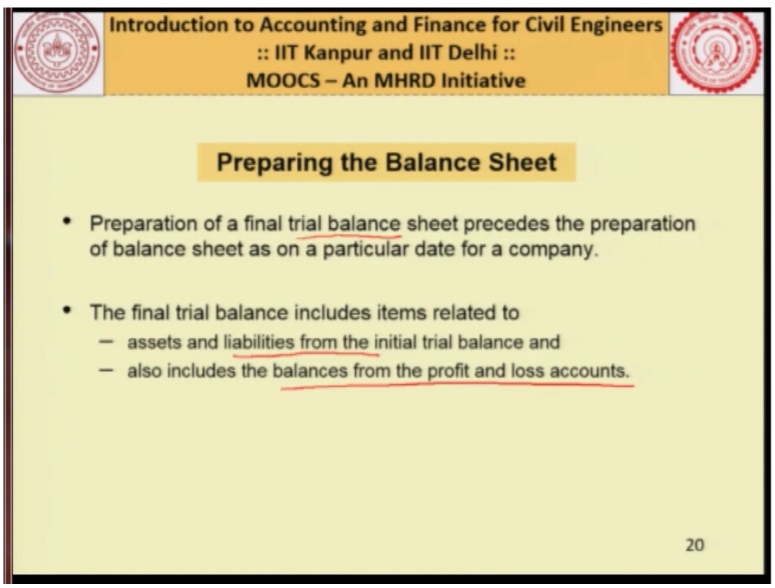

So, once you have taken into consideration the adjustment entries then you prepare the final balance sheet and this is the next step before this final trial balance. In fact final trial balance precedes the preparation of balance sheet and the balance sheet would include all your assets and liabilities and also it will include the balances from the profit and loss accounts. So that would be the last step, so what we found is that if you look the whole accounting process it is quite systematic.

So, you start with the initiation of transactions, you record these transactions in a chronological manner that means in date wise manner. Once these transactions have become substantial you try to post them depending on the nature of transactions, cash transactions you record it in cashbook, non cash transactions you record them in journal. Now these entries are further posted to various T-accounts or ledgers.

Now at the time preparing the balance sheet I look at the various adjustment entries, I prepare the initial trial balance from the initial trial balance I take out all those items pertain to revenue and expense, I prepare the profit and loss account. Now some of these items from profit and loss account will go in preparation of final trial balance, once you have prepare the final trial balance I take out all items pertaining to assets and liabilities and the closure value coming from profit and loss account to derive the final balance sheet.

That is as on particular date, when it comes profit and loss account it is for a period when it comes to balance sheet it is for a particular date. So every transaction that a company interest into you will find it changes it is composition of balance sheet. So in this class I just gave you an overview of accounting process, I discussed various accounting assumptions and I told you what accounting exactly means.

In the subsequent lecture we will tell you how to prepare the balance sheet and the profit and loss account in an informal manner. So that you get an understanding, so we stop at this point.

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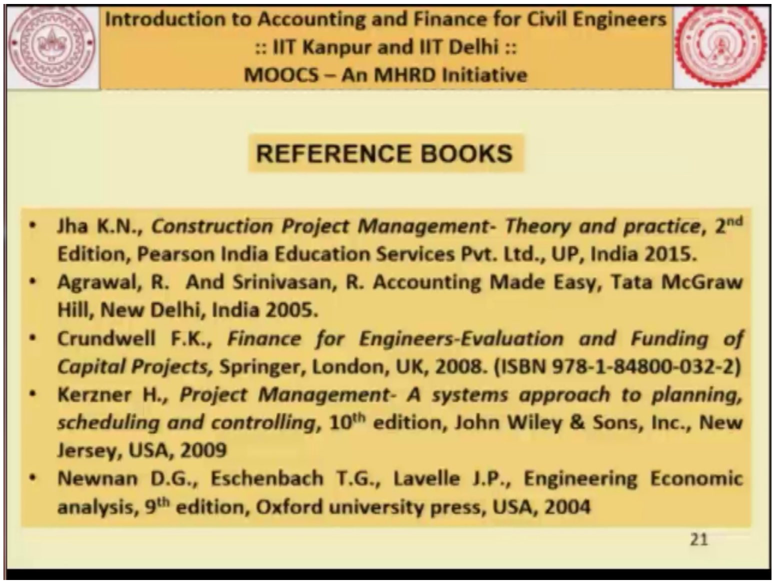

For the references you can go through these textbooks and will see you some other time thank you very much.