Welcome students to this session. I will be covering the subject of financial management paper II. The title of my unit is cost of capital and its measurement. The module name is measuring cost of capital, cost of debt capital, and preference capital, The outline of the module is concept of debt capital and computation of its cost, concept of preference capital and computation of its cost. The learning outcomes explains the concept of debt capital and cost computation of the two types of debt capital at the same time there is explanation of the concept of preference capital and the cost computation of the two types of preference capital.

Every company raises funds from external sources. These other specific sources of finance. This module covers two specific sources of finance, cost of debt or debentures and the cost of preference shares. This module covers two types of debentures irredeemable debentures and redeemable debentures. And we will be studying the computation of before tax and after tax of these debentures.

Similarly, preference shares are also divided into irredeemable preference shares and redeemable preference shares. The first specific source of finance of which will be learning is debentures or debt. Debentures are creditors of the company. They have given loan capital to the company so the amount has to be returned back to the company. Debentures carry a fixed rate of interest. Rate is fixed and the date is fixed. This interest has to be compulsory paid. Whether the company earns profit or not.

Similarly, debentures also have priority in the payment of interest and priority in the repayment of capital before the preference shareholders and equity shareholders who are paid their share of dividends last in

case of winding up of the business.

Under debentures will be studying the cost of irredeemable debt or perpetual debt. As the name suggests perpetual debt means or debenture receives interest every year, but the principal amount is not redeemed during the lifetime of the debt. The cost of debt is the rate of interest that is payable on the debt. Perpetual date or irredeemable debt can be issued at par that is, nominal value or face value or

at a premium that is at a value higher than the power value or at a discount that is a value lower than the par value. Calculation can be done before tax or after tax. This is a formula of perpetual debt before tax.

$KD \equiv I$,

NP

where Kd is a cost of debt., I is the rate of interest or the interest amount and NP is a net proceeds that is the amount that you receive at the time of issue of debt after adjusting for premium or discount.

Let's take this problem.

A limited has issued 9% the debentures, at nine percent is the rate of interest on debentures. The face value or par value is rupees one lakh and these debentures are issued a 10% premium. The flotation cost is 2%. Compute the cost of debt capital In order to solve this problem we know the formula KD is equals I upon NP. Let us calculate the components of the numerator and the denominator. So I is equal to 9% on one lakh that is equal to rupees 9000. NP that is net proceeds equal to issue price plus a premium amount minus of floatation costs. So one lakh plus 10% on one lakh minus 2% on one lakh, which gives you 1,08,000. Remember that interest/ premium, discount and floatation cost all these percentages have to be calculated on the face value or the par value. Thus, we when we put the data on the numerator and the denominator. We get the answer of Kd, that is, cost of that 8.3%.

This is a formula for perpetual debt after tax. The formula remains the same only in the numerator. You have to add in bracket 1 -- T where Kd, Interest and NP remains the same.

Let us take a second problem. In this problem it is issued at rupees 50,000 face value debentures at the rate of 8%, at 5% discount. The tax rate is given as 50%. Compute the cost of debt capital.

So, we have to calculate the components in the formula. So, I is equal to 8% on 50,000 which is equal to rupees 4000. NP is equals to issue price minus discount. So, 50,000 -- 5% on 50,000. So, the final answer is 47,500. Tax is 50% that you write in decimal at 0.5. When we put this data together the final answer comes to 4.21%.

Redeemable debt is a debenture/ debt where the principal amount is redeemed or repaid during as after the end of the maturity period. So, every year these debentures receive interest. Only when the debentures mature will they will get their principal amount back. The cost of debt is the rate of interest that is payable on the debt. These debentures can also be issued at par, premium or discount. They can be redeemed at par, premium or discount so we will have problems with various permutations and combinations of issue that debenture can be redeemed at par, redeemed at par, redeemed at premium, so on and so forth.

Calculation can be done before tax or after tax. This is the formula of redeemable debt before tax, where KD is equals RV minus NP divided by small n. This is divided by in the denominator we have RV plus NP divided by two. Where the cost of debt is Kd, I is the interest and NP is net proceeds. Here we introduce a new concept. RV. RV is redeemable value and N is the number of years after which the debt will be redeemed. This is the formula of redeemable debt after tax. The formula remains the same, but the new concept introduces tax. That is with along with I interest we write in bracket 1 -- T.

Let us take problem #3. In this problem a company has issued rupees 10 lakhs, 10% redeemabl debentures at a discount of 5%. The floatation cost is rupees 30,000. These debentures are

redeemable. That is, amount will be returned back to them after five years with 5% premium. So, in this problem we have a discount at the time of issue and we have a premium at the time of redemption. Calculate before tax and after tax cost of debt. Assuming a tax rate of 50%. So, in the beginning in the solution, when we calculate for before tax we have to calculate each component of that formula. So, I interest is 10% on 10

lakhs which comes to rupees one lakh. NP is the issue price minus discount minus a floatation costs. So, 10 lakhs minus 5% of one lakh minus ₹30,000. The final answer is 9, 20,000. Redeemable value RV is 10

lakhs plus 5% of 10 lakhs that is rupees 10,50,000 and N is given as five years. Once we get all these five components we put in the data in the formula. This is the formula. This is the data which is put in and

then your final answer comes to 12.79%. So, the cost of their debt is 12.79%. But the same problem has to be calculated after tax with the tax rate of 50%. So, when you could derive the same the formula where I is, we introduced 1 -- T you put in the data and their answer becomes 7.7%.

Preference Capital is a second source of funds. Preference Capital is a share capital which has a preference over the equity share capital regarding payment of dividend. Priority is given to preference shareholders at the time of payment of dividend over and above equity shareholders at the same time preference shareholders also get priority in the repayment of capital in the event of termination of business. In preference shares we will be studying irredeemable preference share capital,

Irredeemable preferential capital is a share capital where the dividend is paid every year to the preference shareholders, but the principal amount is not redeemed during the lifetime of the company.

The cost of Preference capital is the rate of dividend payable to them, and these shares can be issued at par, premium or discount. The cost of irredeemable preference capital.

This is the formula $K\underline{p} = D$

NP

NP = cost of preference capital, D is dividend and NPS is net proceeds.

Let's take problem #4. This company is issuing 100, 10% preference shares of ₹100 each. The cost of the issue is ₹2 per share. Calculate the cost of preference share capital, if these shares are issued at 10% premium. Again, in the solution, we calculate each component of the formula.

So first we have to find the value of the shares because the face value is not directly given, you multiply

10,000 shares with ₹100 per share. You get rupees 10 lakhs. The dividend is 10% on 10 lacs rupees, one lakh. The net proceeds NPS issue price of 10 lakhs plus premium that is 10% on 10 lakhs minus the cost of the issue. So, you multiply 10,000 shares with ₹2 per share. So, this answer NP comes to 10,80,000. Once we get the NP we put in the formula of Kp is equals D upon NP and the final answer is 9.25%.

Redeemable preference share capital of preference shares where the dividend is paid every year to the shareholders, but the principal amount is also redeemed or repaid after the life of the preference share capital. The cost of preference capital is a rate of dividend payable to them. These shares can be issued at par, premium or discount. They can also be redeemed at par, premium or discount just like your redeemable debentures. This is the formula for redeemable preference share capital KP is equals D plus in bracket M V – NP divided by N and in the denominator you write MV-NP divided by 2.KP is a cost of redeemable preference shares, D is dividend per share. Let us proceed after adjusting for premium or discount. MV is the maturity value. And N is a number of years after which the preference capital will be redeemed.

Let us see problem #5 This company is issuing 1,000 7% preference shares of $\gtrless100$ each at a premium of 10%, redeemable after five years at par. Compute the cost of preference share capital in the solution. First you calculate dividend which is 7% on rupees one lakh which is obtained by multiplying 1000 shares with $\gtrless100$ each. So you get Rs.7000 and the maturity value is one lakh. This remains the same because they are redeemed after five years at par. n is the number of years which is 5 years.

You write the formula. Kd and then you get a final answer of 4.76%.

Here are my references.

Thank you.