# **Financial Accounting and Management**

# <u>Unit 3</u>

#### **Financial Management**

Financial Management means planning, organizing, directing, and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise.

Financial management focuses on ratios, equities, and debts. It is useful for portfolio management, distribution of dividend, capital raising, hedging, and looking after fluctuations in foreign currency and product cycles.

Financial management is the process of planning funds, organizing available funds, and controlling financial activities to achieve the goal of an organization. It includes three important decisions which are investment decisions, financing decision and dividend decision for a specified period of time. Investment decision includes working capital decision and capital budgeting decision. Financing decision involves identifying sources of financing, determining the duration and cost of financing, and managing investment return.

#### **Scope/ Elements of Financial Management**

- 1. Investment decisions- Investment decisions include investment in fixed assets (called as capital budgeting). Investment in current assets is also a part of investment decisions called as working capital decisions.
- 2. Financial decisions They relate to the raising of finance from various resources which will depend upon decision on type of source, period of financing, cost of financing and the returns thereby.
- 3. Dividend decision The finance manager has to take decision with regards to the net profit distribution. Net profits are generally divided into two:
  - a. Dividend for shareholders- Dividend and the rate of it has to be decided.
  - b. Retained profits- Amount of retained profits has to be finalized which will depend upon expansion and diversification plans of the enterprise.

#### **Objectives of Financial Management**

The financial management is generally concerned with procurement, allocation and control of financial resources of a concern. The objectives can be-

- 1. To ensure regular and adequate supply of funds to the concern.
- 2. To ensure adequate returns to the shareholders which will depend upon the earning capacity, market price of the share, expectations of the shareholders.
- 3. To ensure optimum funds utilization. Once the funds are procured, they should be utilized in maximum possible way at least cost.
- 4. To ensure safety on investment, i.e., funds should be invested in safe ventures so that adequate rate of return can be achieved.
- 5. To plan a sound capital structure-There should be sound and fair composition of capital so that a balance is maintained between debt and equity capital.

#### **Functions of Financial Management**

- 1. Estimation of capital requirements: A finance manager has to make estimation with regards to capital requirements of the company. This will depend upon expected costs and profits and future programmes and policies of a concern. Estimations have to be made in an adequate manner which increases earning capacity of enterprise.
- 2. **Determination of capital composition:** Once the estimation has been made, the capital structure has to be decided. This involves short- term and long- term debt equity analysis. This will depend upon the proportion of equity capital a company is possessing and additional funds which have to be raised from outside parties.
- 3. Choice of sources of funds: For additional funds to be procured, a company has many choices like:
  - a. Issue of shares and debentures
  - b. Loans to be taken from banks and financial institutions
  - c. Public deposits to be drawn like in form of bonds.
- 4. **Investment of funds:** The finance manager has to decide to allocate funds into profitable ventures so that there is safety on investment and regular returns is possible.
- 5. **Disposal of surplus:** The net profits decision has to be made by the finance manager. This can be done in two ways:
  - a. Dividend declaration- It includes identifying the rate of dividends and other benefits like bonus.
  - b. Retained profits- The volume has to be decided which will depend upon expansional, innovational, diversification plans of the company.
- 6. **Management of cash:** Finance manager has to make decisions with regards to cash management. Cash is required for many purposes like payment of wages and salaries, payment of electricity and water bills, payment to creditors, meeting current liabilities, maintenance of enough stock, purchase of raw materials, etc.
- 7. **Financial controls:** The finance manager has not only to plan, procure and utilize the funds but he also has to exercise control over finances. This can be done through many techniques like ratio analysis, financial forecasting, cost and profit control, etc.

## **Importance of Financial Management**

The importance of financial management is vital to an organization. It is a pathway to attain goals and objectives. The financial manager measures organizational efficiency through proper allocation, acquisition, and management. It improves operational efficiency by providing a timely supply of fund. The following noticeable importance is found from financial management:

- Provides guidance in financial planning.
- Assist in acquiring funds from different sources.
- Helps in investing the appropriate amount of funds.
- Increase organizational efficiency.
- Reduces delay production.
- Cut down financial costs.
- Reduces cost of fund.
- Ensures proper use of fund.
- Helps business firm to take financial decisions.

- Makes a guideline of earning maximum profits incurring minimum cost.
- Increase shareholder's wealth.
- Control the financial aspects of the business.
- Provide information through financial reporting.
- Makes the employees aware of saving funds.

#### **Finance Functions**

#### **Investment Decisions**

One of the most important finance functions is to intelligently allocate capital to long term assets. This activity is also known as capital budgeting. It is important to allocate capital in those long-term assets so as to get maximum yield in future. Following are the two aspects of investment decision:

- a. Evaluation of new investment in terms of profitability
- b. Comparison of cut off rate against new investment and prevailing investment.

Since the future is uncertain therefore there are difficulties in calculation of expected return. Along with uncertainty comes the risk factor which has to be taken into consideration. This risk factor plays a very significant role in calculating the expected return of the prospective investment. Therefore, while considering investment proposal, it is important to take into consideration both expected return and the risk involved.

Investment decision not only involves allocating capital to long term assets but also involves decisions of using funds which are obtained by selling those assets which become less profitable and less productive. It wise decisions to decompose depreciated assets which are not adding value and utilize those funds in securing other beneficial assets. An opportunity cost of capital needs to be calculating while dissolving such assets. The correct cut off rate is calculated by using this opportunity cost of the required rate of return (RRR).

## **Financial Decisions**

Financial decision is yet another important function which a financial manger must perform. It is important to make wise decisions about when, where and how should a business acquire funds. Funds can be acquired through many ways and channels. Broadly speaking a correct ratio of an equity and debt has to be maintained. This mix of equity capital and debt is known as a firm's capital structure.

A firm tends to benefit most when the market value of a company's share maximizes this not only is a sign of growth for the firm but also maximizes shareholders wealth. On the other hand the use of debt affects the risk and return of a shareholder. It is more risky though it may increase the return on equity funds.

A sound financial structure is said to be one which aims at maximizing shareholders return with minimum risk. In such a scenario the market value of the firm will maximize and hence an optimum capital structure would be achieved. Other than equity and debt there are several other tools which are used in deciding a firm capital structure.

# **Dividend Decision**

Earning profit or a positive return is a common aim of all the businesses. But the key function a financial manger performs in case of profitability is to decide whether to distribute all the profits to the shareholder or retain all the profits or distribute part of the profits to the shareholder and retain the other half in the business.

It's the financial manager's responsibility to decide a optimum dividend policy which maximizes the market value of the firm. Hence an optimum dividend payout ratio is calculated. It is a common practice to pay regular dividends in case of profitability Another way is to issue bonus shares to existing shareholders.

## Liquidity Decision

It is very important to maintain a liquidity position of a firm to avoid insolvency. Firm's profitability, liquidity and risk all are associated with the investment in current assets. In order to maintain a trade-off between profitability and liquidity it is important to invest sufficient funds in current assets. But since current assets do not earn anything for business therefore a proper calculation must be done before investing in current assets.

#### Long Term Finance – Its meaning and purpose

A business requires funds to purchase fixed assets like land and building, plant and machinery, furniture etc. These assets may be regarded as the foundation of a business. The capital required for these assets is called **fixed capital**. A part of the working capital is also of a permanent nature. Funds required for this part of the working capital and for fixed capital is called long term finance.

## **Purpose of Long-Term Finance:**

- 1. **To Finance fixed assets:** Business requires fixed assets like machines, Building, furniture etc. Finance required to buy these assets is for a long period, because such assets can be used for a long period and are not for resale.
- 2. To finance the permanent part of working capital: Business is a continuing activity. It must have a certain amount of working capital which would be needed again and again. This part of working capital is of a fixed or permanent nature. This requirement is also met from long term funds.
- 3. To finance growth and expansion of business: Expansion of business requires investment of a huge amount of capital permanently or for a long period.

## Factors Determining Long-Term Financing Requirements:

- 1. Nature of Business
- 2. Nature of Goods Purchased
- 3. Technology Used

## **Sources of Long-Term Finance**

- 1. Shares
- 2. Debentures
- 3. Public Deposits
- 4. Retained Earnings

- 5. Term Loans from Banks
- 6. Loans From Financial Institutions

## <u>Shares</u>

Issue of shares is the main source of long term finance. Shares are issued by joint stock companies to the public. A company divides its capital into units of a definite face value, say of Rs. 10 each or Rs. 100 each. Each unit is called a share. A person holding shares is called a shareholder.

# **Characteristics of Shares:**

- 1. It is a unit of capital of the company.
- 2. Each share is of a definite face value.
- 3. A share certificate is issued to a shareholder indicating the number of shares and the amount.
- 4. Each share has a distinct number.
- 5. The face value of a share indicates the interest of a person in the company and the extent of his liability.
- 6. Shares are transferable units.

# **Debentures**

Whenever a company wants to borrow a large amount of fund for a long but fixed period, it can borrow from the general public by issuing loan certificates called Debentures. The total amount to be borrowed is divided into units of fixed amount say of Rs.100 each. These units are called Debentures. These are offered to the public to subscribe in the same manner as is done in the case of shares. A debenture is issued under the common seal of the company. It is a written acknowledgement of money borrowed. It specifies the terms and conditions, such as rate of interest, time repayment, security offered, etc.

## **Characteristics of Debenture:**

- 1. Debenture holders are the creditors of the company. They are entitled to periodic payment of interest at a fixed rate.
- 2. Debentures are repayable after a fixed period of time, say five years or seven years as per agreed terms.
- 3. Debenture holders do not carry voting rights.
- 4. Ordinarily, debentures are secured. In case the company fails to pay interest on debentures or repay the principal amount, the debenture holders can recover it from the sale of the assets of the company.

## Public Deposits

It is a very old source of finance in India. When modern banks were not there, people used to deposit their savings with business concerns of good repute. Even today it is a very popular and convenient method of raising medium term finance. The period for which business undertakings accept public deposits ranges between six months to three years.

## **Features of Public Deposits**

1. These deposits are not secured.

- 2. They are available for a period ranging between 6 months and 3 years.
- 3. They carry fixed rate of interest.
- 4. They do not require complicated legal formalities as are required in the case of shares or debentures.

#### **Retained Earnings**

Like an individual, companies also set aside a part of their profits to meet future requirements of capital. Companies keep these savings in various accounts such as General Reserve, Debenture Redemption Reserve and Dividend Equalisation Reserve etc. These reserves can be used to meet long term financial requirements.

The portion of the profits which is not distributed among the shareholders but is retained and is used in business is called retained earnings or ploughing back of profits. As per Indian Companies Act., companies are required to transfer a part of their profits in reserves. The amount so kept in reserve may be used to buy fixed assets. This is called internal financing.

## **Capitalisation**

Capitalization is one of the most important parts of financial decision, which is related to the total amount of capital employed in the business concern.

Understanding the concept of capitalization leads to solve many problems in the field of financial management. Because there is a confusion among the capital, capitalization and capital structure.

The term capital refers to the total investment of the company in terms of money, and assets. It is also called as total wealth of the company. When the company is going to invest large amount of finance into the business, it is called as capital. Capital is the initial and integral part of new and existing business concern. The capital requirements of the business concern may be classified into two categories: (a) Fixed capital (b) Working capital.

#### **Meaning of Capitalization**

Capitalization refers to the process of determining the quantum of funds that a firm needs to run its business. Capitalization is only the par value of share capital and debenture, and it does not include reserve and surplus.

According to Guthman and Dougall, "capitalization is the sum of the par value of stocks and bonds outstanding".

"Capitalization is the balance sheet value of stocks and bonds outstands". — Bonneville and Dewey.

According to Arhur. S. Dewing, "capitalization is the sum total of the par value of all shares".

## **Types of Capitalization**

- Over Capitalization
- Under Capitalization
- Water Capitalization

#### **Over Capitalization**

Over capitalization refers to the company which possesses an excess of capital in relation to its activity level and requirements. In simple means, over capitalization is more capital than actually required and the funds are not properly used.

According to Bonneville, Dewey and Kelly, over capitalization means, "when a business is unable to earn fair rate on its outstanding securities".

#### **Causes of Over Capitalization**

- Over issue of capital by the company.
- Borrowing large amount of capital at a higher rate of interest.
- Providing inadequate depreciation to the fixed assets.
- Excessive payment for acquisition of goodwill.
- High rate of taxation.
- Under estimation of capitalization rate.

#### Effects of Over Capitalization

- Reduce the rate of earning capacity of the shares.
- Difficulties in obtaining necessary capital to the business concern.
- It leads to fall in the market price of the shares.
- It creates problems on re-organization.
- It leads under or misutilization of available resources.

#### **Remedies for Over Capitalization**

- Efficient management can reduce over capitalization.
- Reorganization of equity share capital.
- Reduction of debt capital.

#### **Under Capitalization**

Under capitalization is the opposite concept of over capitalization and it will occur when the company's actual capitalization is lower than the capitalization as warranted by its earning capacity. Under capitalization is the so-called inadequate capital.

Under capitalization can be defined by Gerstenberg, "a corporation may be undercapitalized when the rate of profit is exceptionally high in the same industry".

Hoagland defined under capitalization as "an excess of true assets value over the aggregate of stocks and bonds outstanding".

#### **Causes of Under Capitalization**

- Under estimation of capital requirements.
- Under estimation of initial and future earnings.
- Maintaining high standards of efficiency.
- Conservative dividend policy.
- Desire of control and trading on equity.

# **Effects of Under Capitalization**

- It leads to manipulate the market value of shares.
- It increases the marketability of the shares.
- It may lead to more government control and higher taxation.
- Consumers feel that they are exploited by the company.
- It leads to high competition.

## **Remedies of Under Capitalization**

- Under capitalization can be compensated with the help of fresh issue of shares.
- Increasing the par value of share may help to reduce under capitalization.
- Under capitalization may be corrected by the issue of bonus shares to the existing shareholders.
- Reducing the dividend per share by way of splitting up of shares.

# Watered Capitalization

If the stock or capital of the company is not mentioned by assets of equivalent value, it is called as watered stock. In simple words, watered capital means that the realizable value of assets of the company is less than its book value.

According to Hoagland's definition, "A stock is said to be watered when its true value is less than its book value."

# **Causes of Watered Capital**

- Acquiring the assets of the company at high price.
- Adopting ineffective depreciation policy.
- Worthless intangible assets are purchased at higher price.

## **Capital Structure**

The term 'structure' means the arrangement of the various parts. So capital structure means the arrangement of capital from different sources so that the long-term funds needed for the business are raised.

Thus, capital structure refers to the proportions or combinations of equity share capital, preference share capital, debentures, long-term loans, retained earnings and other long-term sources of funds in the total amount of capital which a firm should raise to run its business.

## **Importance of Capital Structure**

- 1. **Increase in value of the firm:** A sound capital structure of a company helps to increase the market price of shares and securities which, in turn, lead to increase in the value of the firm.
- 2. Utilisation of available funds: A good capital structure enables a business enterprise to utilise the available funds fully. A properly designed capital structure ensures the determination of the financial requirements of the firm and raise the funds in such proportions from various sources for their best possible utilisation.
- 3. **Maximisation of return:** A sound capital structure enables management to increase the profits of a company in the form of higher return to the equity shareholders i.e., increase

in earnings per share. This can be done by the mechanism of trading on equity i.e., it refers to increase in the proportion of debt capital in the capital structure which is the cheapest source of capital. If the rate of return on capital employed (i.e., shareholders' fund + long-term borrowings) exceeds the fixed rate of interest paid to debt-holders, the company is said to be trading on equity.

- 4. **Minimisation of cost of capital:** A sound capital structure of any business enterprise maximises shareholders' wealth through minimisation of the overall cost of capital. This can also be done by incorporating long-term debt capital in the capital structure as the cost of debt capital is lower than the cost of equity or preference share capital since the interest on debt is tax deductible.
- 5. **Solvency or liquidity position:** A sound capital structure never allows a business enterprise to go for too much raising of debt capital because, at the time of poor earning, the solvency is disturbed for compulsory payment of interest to the debt supplier.
- 6. Flexibility: A sound capital structure provides a room for expansion or reduction of debt capital so that, according to changing conditions, adjustment of capital can be made.
- 7. Undisturbed controlling: A good capital structure does not allow the equity shareholders control on business to be diluted.

# Factors Determining Capital Structure:

- 1. **Risk of cash insolvency:** Risk of cash insolvency arises due to failure to pay fixed interest liabilities. Generally, the higher proportion of debt in capital structure compels the company to pay higher rate of interest on debt irrespective of the fact that the fund is available or not. The non-payment of interest charges and principal amount in time call for liquidation of the company.
- 2. **Risk in variation of earnings:** The higher the debt content in the capital structure of a company, the higher will be the risk of variation in the expected earnings available to equity shareholders. If return on investment on total capital employed (i.e., shareholders' fund plus long-term debt) exceeds the interest rate, the shareholders get a higher return. On the other hand, if interest rate exceeds return on investment, the shareholders may not get any return at all.
- 3. **Cost of capital:** Cost of capital means cost of raising the capital from different sources of funds. It is the price paid for using the capital. A business enterprise should generate enough revenue to meet its cost of capital and finance its future growth. The finance manager should consider the cost of each source of fund while designing the capital structure of a company.
- 4. **Control:** The consideration of retaining control of the business is an important factor in capital structure decisions. If the existing equity shareholders do not like to dilute the control, they may prefer debt capital to equity capital, as former has no voting rights.
- 5. **Trading on equity:** The use of fixed interest-bearing securities along with owner's equity as sources of finance is known as trading on equity. It is an arrangement by which the company aims at increasing the return on equity shares by the use of fixed interest-bearing securities (i.e., debenture, preference shares etc.).
- 6. **Government policies:** Capital structure is influenced by Government policies, rules and regulations of SEBI and lending policies of financial institutions which change the

financial pattern of the company totally. Monetary and fiscal policies of the Government will also affect the capital structure decisions.

- 7. Size of the company: Availability of funds is greatly influenced by the size of company. A small company finds it difficult to raise debt capital. The terms of debentures and long-term loans are less favourable to such enterprises. Small companies have to depend more on the equity shares and retained earnings. On the other hand, large companies issue various types of securities despite the fact that they pay less interest because investors consider large companies less risky.
- 8. **Needs of the investors:** While deciding capital structure the financial conditions and psychology of different types of investors will have to be kept in mind. For example, a poor or middle-class investor may only be able to invest in equity or preference shares which are usually of small denominations, only a financially sound investor can afford to invest in debentures of higher denominations. A cautious investor who wants his capital to grow will prefer equity shares.
- 9. **Flexibility:** The capital structures of a company should be such that it can raise funds as and when required. Flexibility provides room for expansion, both in terms of lower impact on cost and with no significant rise in risk profile.
- 10. **Period of finance:** The period for which finance is needed also influences the capital structure. When funds are needed for long-term (say 10 years), it should be raised by issuing debentures or preference shares. Funds should be raised by the issue of equity shares when it is needed permanently.
- 11. **Nature of business:** It has great influence in the capital structure of the business, companies having stable and certain earnings prefer debentures or preference shares and companies having no assured income depends on internal resources.
- 12. Legal requirements: The finance manager should comply with the legal provisions while designing the capital structure of a company.

#### **Cost of Capital**

The cost of capital is the company's cost of using funds provided by creditors and shareholders. A company's cost of capital is the cost of its long-term sources of funds: debt, preferred equity, and common equity.

Ezra Solomon defines "Cost of capital is the minimum required rate of earnings or cutoff rate of capital expenditure".

According to Mittal and Agarwal "the cost of capital is the minimum rate of return which a company is expected to earn from a proposed project so as to make no reduction in the earning per share to equity shareholders and its market price".

According to Khan and Jain, cost of capital means "the minimum rate of return that a firm must earn on its investment for the market value of the firm to remain unchanged".

## Significance of Cost of Capital:

1. **Maximisation of the Value of the Firm:** For the purpose of maximisation of value of the firm, a firm tries to minimise the average cost of capital. There should be judicious mix of debt and equity in the capital structure of a firm so that the business does not to bear undue financial risk.

- 2. **Capital Budgeting Decisions:** Proper estimate of cost of capital is important for a firm in taking capital budgeting decisions. Generally, cost of capital is the discount rate used in evaluating the desirability of the investment project. In the internal rate of return method, the project will be accepted if it has a rate of return greater than the cost of capital. In calculating the net present value of the expected future cash flows from the project, the cost of capital is used as the rate of discounting. Therefore, cost of capital acts as a standard for allocating the firm's investible funds in the most optimum manner. For this reason, cost of capital is also referred to as cutoff rate, target rate, hurdle rate, minimum required rate of return etc.
- 3. **Decisions Regarding Leasing:** Estimation of cost of capital is necessary in taking leasing decisions of business concern.
- 4. **Management of Working Capital:** In management of working capital the cost of capital may be used to calculate the cost of carrying investment in receivables and to evaluate alternative policies regarding receivables. It is also used in inventory management also.
- 5. **Dividend Decisions:** Cost of capital is significant factor in taking dividend decisions. The dividend policy of a firm should be formulated according to the nature of the firm—whether it is a growth firm, normal firm or declining firm.
- 6. **Determination of Capital Structure:** Cost of capital influences the capital structure of a firm. In designing optimum capital structure that is the proportion of debt and equity, due importance is given to the overall or weighted average cost of capital of the firm. The objective of the firm should be to choose such a mix of debt and equity so that the overall cost of capital is minimised.
- 7. **Evaluation of Financial Performance:** The concept of cost of capital can be used to evaluate the financial performance of top management. This can be done by comparing the actual profitability of the investment project undertaken by the firm with the overall cost of capital.

## **Explicit and Implicit Costs:**

## **Explicit Cost:**

Explicit costs are those costs which are met by cash payments for employing various factors of production. The producer actually pays money to produce his goods and services. A direct or explicit cost is the material, labour, expenses, overheads, selling and distribution, administrative cost related to production of a commodity. It is accurate in nature. An explicit cost can be easily traceable. An explicit cost is defined as follows:

# "An explicit cost is a direct expense that is paid in money to others or creditors during the production of goods."

## Implicit Cost:

Implicit costs are those costs which the firm lets go or sacrifices in order to hire an alternative factor of production. These costs are opportunity costs of the factors of production. Implicit cost is also called as imputed cost. Here cash outflow does not happen. An implicit cost is defined as under:

# "An implicit cost is the factor of production sacrificed by the producer for an alternative factor production. The opportunity foregone is the implicit cost."

#### **Measurement of Cost of Capital**

It refers to the cost of each specific sources of finance like:

- Cost of equity
- Cost of debt

#### **Cost of Equity**

Cost of equity capital is the rate at which investors discount the expected dividends of the firm to determine its share value.

Conceptually the cost of equity capital ( $K_e$ ) defined as the "Minimum rate of return that a firm must earn on the equity financed portion of an investment project in order to leave unchanged the market price of the shares".

Cost of equity can be calculated from the following approach:

- Dividend price (D/P) approach
- Dividend price plus growth (D/P + g) approach
- Earning price (E/P) approach
- Realized yield approach.

The cost of equity capital will be that rate of expected dividend which will maintain the present market price of equity shares.

Dividend price approach can be measured with the help of the following formula:

$$K_e = \frac{D}{N_p}$$

Where,

 $K_e = Cost of equity capital$ 

D = Dividend per equity share

 $N_p$  = Net proceeds of an equity share

#### **Dividend Price Plus Growth Approach**

The cost of equity is calculated on the basis of the expected dividend rate per share plus growth in dividend. It can be measured with the help of the following formula:

$$K_{e} = \frac{D}{N_{p}} + g$$

Where,

 $K_e = Cost of equity capital$ 

D = Dividend per equity share

g = Growth in expected dividend

 $N_p$  = Net proceeds of an equity share

#### **Earning Price Approach**

Cost of equity determines the market price of the shares. It is based on the future earnings prospects of the equity. The formula for calculating the cost of equity according to this approach is as follows:

$$K_e = \frac{E}{N_p}$$

Where,

 $K_e = Cost of equity capital$ 

E = Earnings per share

 $N_p = Net proceeds of an equity share$ 

#### Cost of Debt

Cost of debt is the after tax cost of long-term funds through borrowing. Debt may be issued at par, at premium or at discount and also it may be perpetual or redeemable.

#### **Debt Issued at Par**

Debt issued at par means; debt is issued at the face value of the debt. It may be calculated with the help of the following formula:

$$\mathrm{K}_{\mathrm{d}} = (1 - \mathrm{t}) \, \mathrm{R}$$

Where,

 $K_d = Cost of debt capital$ 

t = Tax rate

R = Debenture interest rate

#### **Debt Issued at Premium or Discount**

If the debt is issued at premium or discount, the cost of debt is calculated with the help of the following formula:

$$K_{d} = \frac{I}{N_{p}} (1 - t)$$

Where,

 $K_d = Cost of debt capital$ 

I = Annual interest payable

 $N_p = Net proceeds of debenture$ 

t = Tax rate