

UNIT- IV

CAPITAL AND CAPITAL BUDGETING

Introduction

Finance is the prerequisite to commence and vary on business. It is rightly said to be the lifeblood of the business. No growth and expansion of business can take place without sufficient finance. It shows that no business activity is possible without finance. This is why; every business has to make plans regarding acquisition and utilization of funds.

However efficient a firm may be in terms of production as well as marketing if it ignores the proper management of flow of funds it certainly lands in financial crunch and the very survival of the firm would be at a stake.

Definition of capital:

"According to economist, the capital is the value of total available with the business".

"According to an accountant, the capital is the difference between the assets and liability".

"According to finance the capital is the total amount of finance required by the business to conduct its business operations both in the short run and long run".

In general terms which is the amount useful to starts the business and run the business man in to the organization is called as capital.

Significance or Need for capital:

Capital plays a very significance role in the modern production system. It is very difficult to imagine the process the process of production without capital. The business needs for capital are varied. They are:

1. **To promote a business:** Capital is required at the promotion stage. A large variety of expenses have to be incurred on project reports, feasibility studies and reports, preparation and filing of various documents and for meeting various other expenses in connection with the raising of capital from the public.
2. **To conduct business operations smoothly:** Business firms also need capital for the purpose of conducting their business operations such as research and development, advertising, sales promotion, distribution and operating expenses.
3. **To expand and diversity:** The firms require lot of capital for expansion and diversification purposes. This includes development expense such as purchase of sophisticated machinery and equipment and payment towards sophisticated technology.

4. **To meet contingencies:** A firm needs funds to meet contingencies such as a sudden fall in sales, major litigation, natural calamities like fires.
5. **To pay dividends and interrupt:** The firm has to meet its statutory such as income tax and sales tax, excise duty and so on.
6. **To pay dividends and interest:** The business has to make payment towards dividends and interest to share holders and financial institutions respectively.
7. **To replace assets:** The business needs to replace the assets like plant and machinery after certain period of use. For this purpose the firms need funds to make suitable replacement of assets in place of old and worn out assets.
8. **To support welfare programs:** The Company may have to take up social welfare programs such as literacy drive, and health camps. It may have to donate to charitable trusts, educational institutions or public service organizations.
9. **To wind up:** At the time of winding up, the company may need funds to meet the liquidation expenses.

Types of capital

Capital can broadly divided into two types:

- I. Fixed capital
- II. Working capital

- I. **Fixed capital:** Fixed capital is that portion of capital which is invested in acquiring long term assets such as land and buildings, plant and machinery, furniture and fixtures and soon. Fixed capital forms he skeleton of the business. It provides the basic assets as per the business needs. The assets are not generating revenues.

The following are the features of fixed assets:

1. Permanent in nature.
2. Profit generation.
3. Low liquidity.
4. Amount of fixed capital.
5. Utilized for promotion and expansion.

TYPES OF FIXED ASSETS:

- A. **Tangible fixed assets:** These are physical items which can be seen and touched. Most of the common fixed assets are land, buildings, machinery, motor vehicles, furniture etc.
- B. **Intangible fixed assets:** These do not have physical form. They cannot be seen or touched. But these are very valuable to business.
Ex; Goodwill, brand names, trademarks, patents, copy rights etc.

C. Financial fixed assets: These are investments in shares, foreign currency deposits government bonds, shares held by business in other companies

WORKING CAPITAL ANALYSIS

Finance is required for two purpose viz. for it establishment and to carry out the day-to-day operations of a business. Funds are required to purchase the fixed assets such as plant, machinery, land, building, furniture, etc, on long-term basis. Investments in these assets represent that part of firm's capital, which is blocked on a permanent of fixed basis and is called fixed capital. Funds are also needed for short-term purposes such as the purchase of raw materials, payment of wages and other day-to-day expenses, etc. and these funds are known as working capital. In simple words working capital refers that part of the firm's capital, which is required for financing short term or current assets such as cash, marketable securities, debtors and inventories. The investment in these current assets keeps revolving and being constantly converted into cash and which in turn financed to acquire current assets. Thus the working capital is also known as revolving or circulating capital or short-term capital.

Concept of working capital

There are two concepts of working capital:

1. Gross working capital
2. Net working capital

Gross working capital:

In the broader sense, the term working capital refers to the gross working capital. The notion of the gross working capital refers to the capital invested in total current assets of the enterprise. Current assets are those assets, which in the ordinary course of business, can be converted into cash within a short period, normally one accounting year.

Examples of current assets:

1. Cash in hand and bank balance
2. Bills receivables or Accounts Receivables
3. Sundry Debtors (less provision for bad debts)
4. Short-term loans and advances.
5. Inventories of stocks, such as:
 - (a) Raw materials

- (b) Work – in process
- (c) Stores and spares
- (d) Finished goods
- 6. Temporary Investments of surplus funds.
- 7. Prepaid Expenses
- 8. Accrued Incomes etc.

Net working capital:

In a narrow sense, the term working capital refers to the net working capital. Networking capital represents the excess of current assets over current liabilities.

Current liabilities are those liabilities, which are intend to be paid in the ordinary course of business within a short period, normally one accounting year out of the current assets or the income of the business. Net working capital may be positive or negative. When the current assets exceed the current liabilities net working capital is positive and the negative net working capital results when the liabilities are more then the current assets.

Examples of current liabilities:

- 1. Bills payable
- 2. Sundry Creditors or Accounts Payable.
- 3. Accrued or Outstanding Expanses.
- 4. Short term loans, advances and deposits.
- 5. Dividends payable
- 6. Bank overdraft
- 7. Provision for taxation etc.

Classification or kinds of working capital

Working capital may be classified in two ways:

- a. On the basis of concept.
- b. On the basis of time permanency

On the basis of concept, working capital is classified as gross working capital and net working capital is discussed earlier. This classification is important from the point of view of the financial manager. On the basis of time, working capital may be classified as:

1. Permanent or fixed working capital
2. Temporary or variable working capital

1. **Permanent or fixed working capital**: There is always a minimum level of current assets, which is continuously required by the enterprise to carry out its normal business operations and this minimum is known as permanent or fixed working capital. For example, every firm has to maintain a minimum level of raw materials, work in process; finished goods and cash balance to run the business operations smoothly and profitably. This minimum level of current assets is permanently blocked in current assets. As the business grows, the requirement of permanent working capital also increases due to the increases in current assets. The permanent working capital can further be classified into regular working capital and reserve working capital. Regular working capital is the minimum amount of working capital required to ensure circulation of current assets from cash to inventories, from inventories to receivables and from receivable to cash and so on. Reserve working capital is the excess amount over the requirement for regular working capital which may be provided for contingencies that may arise at unstated period such as strikes, rise in prices, depression etc.
2. **Temporary or variable working capital**: Temporary or variable working capital is the amount of working capital, which is required to meet the seasonal demands and some special exigencies. Thus the variable working capital can be further classified into seasonal working capital and special working capital. While seasonal working capital is required to meet certain seasonal demands, the special working capital is that part of working capital which is required to meet special exigencies such as launching of extensive marketing campaigns, for conducting research etc.

Temporary working capital differs from permanent working capital in the sense that it is required for short periods and cannot be permanently employed gainfully in the business. Figures given below illustrate the difference between permanent and temporary working capital.

Importance of working capital

Working capital is referred to be the lifeblood and nerve center of a business. Working capital is as essential to maintain the smooth functioning of a business as blood circulation in a human body. No business can run successfully without an adequate amount of working capital. The main advantages of maintaining adequate amount of working capital are as follows:

1. **Solvency of the business**: Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.
2. **Good will**: Sufficient working capital enables a business concern to make prompt payment and hence helps in creating and maintaining good will.
3. **Easy loans**: A concern having adequate working capital, high solvency and good credit standing can arrange loans from banks and others on easy and favorable terms.
4. **Cash Discounts**: Adequate working capital also enables a concern to avail cash discounts on the purchases and hence it reduces costs.
5. **Regular supply of raw materials**: Sufficient working capital ensures regular supply of raw materials and continuous production.
6. **Regular payments of salaries wages and other day to day commitments**: A company which has ample working capital can make regular payment of salaries, wages and other day to day commitments which raises the morale of its employees, increases their efficiency, reduces wastage and cost and enhances production and profits.
7. **Exploitation of favorable market conditions**: The concerns with adequate working capital only can exploit favorable market conditions such as purchasing its requirements in bulk when the prices are lower.
8. **Ability to face crisis**: Adequate working capital enables a concern to face business crisis in emergencies.
9. **Quick and regular return on Investments**: Every investor wants a quick and regular return on his investment. Sufficiency of working capital enables a concern to pay quick and regular dividends to its investors, as there may not be much pressure to plough back profits. This gains the confidence of its investors and creates a favorable market to raise additional funds in the future.
10. **High morale**: Adequacy of working capital creates an environment of security, confidence, and high morale and creates overall efficiency in a business. Every business concern should have adequate working capital to run its business operations. It should have neither redundant excess working capital nor inadequate shortage of working capital. Both, excess as well as short working capital positions are bad for any business. However, out of the two, it is the inadequacy of working capital which is more dangerous from the point of view of the firm.

The need or objectives of working capital

The need for working capital arises mainly due to the time gap between production and realization of cash. The process of production and sale cannot be done instantaneously and hence the firm needs to hold the current assets to fill-up the time gaps. There are time gaps in purchase of raw materials and production; production and sales; and sales and realization of cash. The working capital is needed mainly for the following purposes:

1. For the purchase of raw materials.
2. To pay wages, salaries and other day-to-day expenses and overhead cost such as fuel, power and office expenses, etc.
3. To meet the selling expenses such as packing, advertising, etc.
4. To provide credit facilities to the customers and
5. To maintain the inventories of raw materials, work-in-progress, stores and spares and finishes stock etc.

Generally, the level of working capital needed depends upon the time gap (known as operating cycle) and the size of operations. Greater the size of the business unit generally, larger will be the requirements of working capital. The amount of working capital needed also goes on increasing with the growth and expansion of business. Similarly, the larger the operating cycle, the larger the requirement for working capital. There are many other factors, which influence the need of working capital in a business, and these are discussed below in the following pages.

Factors determining the working capital requirements

There are a large number of factors such as the nature and size of business, the character of their operations, the length of production cycle, the rate of stock turnover and the state of economic situation etc. that decide requirement of working capital. These factors have different importance and influence on firm differently. In general following factors generally influence the working capital requirements.

1. **Nature or character of business**: The working capital requirements of a firm basically depend upon the nature of its business. Public utility undertakings like electricity, water supply and railways need very limited working capital as their sales are on cash and are engaged in provision of services only. On the other hand, trading firms require more investment in inventories, receivables and cash and such they need large amount of working capital. The manufacturing undertakings also require sizable working capital.

2. **Size of business or scale of operations**: The working capital requirements of a concern are directly influenced by the size of its business, which may be measured in terms of scale of operations. Greater the size of a business unit, generally, larger will be the requirements of working capital. However, in some cases, even a smaller concern may need more working capital due to high overhead charges, inefficient use of available resources and other economic disadvantages of small size.
3. **Production policy**: If the demand for a given product is subject to wide fluctuations due to seasonal variations, the requirements of working capital, in such cases, depend upon the production policy. The production could be kept either steady by accumulating inventories during slack periods with a view to meet high demand during the peak season or the production could be curtailed during the slack season and increased during the peak season. If the policy is to keep the production steady by accumulating inventories it will require higher working capital.
4. **Manufacturing process/Length of production cycle**: In manufacturing business, the requirements of working capital will be in direct proportion to the length of manufacturing process. Longer the process period of manufacture, larger is the amount of working capital required, as the raw materials and other supplies have to be carried for a longer period.
5. **Seasonal variations**: If the raw material availability is seasonal, they have to be bought in bulk during the season to ensure an uninterrupted material for the production. A huge amount is, thus, blocked in the form of material, inventories during such season, which give rise to more working capital requirements. Generally, during the busy season, a firm requires larger working capital than in the slack season.
6. **Working capital cycle**: In a manufacturing concern, the working capital cycle starts with the purchase of raw material and ends with the realization of cash from the sale of finished products. This cycle involves purchase of raw materials and stores, its conversion into stocks of finished goods through work-in progress with progressive increment of labour and service costs, conversion of finished stock into sales, debtors and receivables and ultimately realization of cash. This cycle continues again from cash to purchase of raw materials and so on. In general the longer the operating cycle, the larger the requirement of working capital.
7. **Credit policy**: The credit policy of a concern in its dealings with debtors and creditors influences considerably the requirements of working capital. A concern that purchases its requirements on credit requires lesser amount of working capital compared to the firm, which buys on cash. On the other hand, a concern

allowing credit to its customers shall need larger amount of working capital compared to a firm selling only on cash.

8. **Business cycles:** Business cycle refers to alternate expansion and contraction in general business activity. In a period of boom, i.e., when the business is prosperous, there is a need for larger amount of working capital due to increase in sales. On the contrary, in the times of depression, i.e., when there is a down swing of the cycle, the business contracts, sales decline, difficulties are faced in collection from debtors and firms may have to hold large amount of working capital.
9. **Rate of growth of business:** The working capital requirements of a concern increase with the growth and expansion of its business activities. The retained profits may provide for a part of working capital but the fast growing concerns need larger amount of working capital than the amount of undistributed profits.

METHODS AND SOURCES OF FINANCE

The source of finance would be where the money was obtained from a bank while the mortgage may be obtained from a credit society.

- I. Long-term finance
- II. Medium-term finance
- III. Short-term finance

I. Long-term finance: Long term finance refers to that finance available for a long period say three years and above. The long term methods outlined below are used to purchase fixed assets such as land and buildings etc.

1) Own capital: Irrespective of the form of organization such as sole trader, partnership or a company, the owners of the business have to invest their own finance to start with. Money invested by the owners, partners or promoters is permanent and will stay with the business throughout the life of the business.

2) Share capital: Normally in the case of company, the capital is raised by issue of shares. The shareholder is entitled to dividend in case the company makes profits. The share capital can be of two types:

- a) Preference share capital
- b) Equity share capital

a) Preference share capital: The preference shares are the shares issued by the company to the prospective shareholders at a fixed rate of dividend. A preference shareholder enjoys two rights over equity shareholders. They are: 1. Right to receive fixed rate of dividend and 2. Right to return of capital. Preference shareholders do not have any voting right in the annual general meetings of the company.

b) Equity shares: Capital raised through issue of equity share is called as ordinary share. Equity shares are the shares issued by the company to the prospective shareholders with voting. They are the real owners of the company.

3. **Retained profits:** the retained profits are the profits remaining after all the claims. They form a very significant source of finance. Retained profits from good source of working capital.
4. **Long term loans:** These are specialized financial institutions offering long term loans provided the business proposal is feasible. The promoters should be able to offer assets of the business as security to avail of this source.
5. **Debentures:** Debenture is a certificate acknowledging the money lends by the debenture holder to the company at a fixed rate of interest. The debentures are of different types based on the terms and conditions.
6. **Government grants and loans:** Government may provide long term finance directly to the business houses or by indirectly subscribing to the shares of the companies. The government gives loans only if the project satisfies certain conditions.

II. Medium term finance: Medium term finance refers to such sources of finance where the repayment is normally over one year and less than three years. This is normally utilized to buy or loose motor vehicles, computer requirement etc... They are:

- 1) **Bank loans:** Bank loans are extended at a rate of interest
- 2) **Leasing or Renting:** When there is a need of fixed assets, the asset need not be purchased. It can be taken on lease or rent for specified number of years.
- 3) **Venture capital:** This form of finance is available only for limited companies. Venture capital is normally provided in such projects where there is relatively a higher degree of risk. For such projects, finance through the conventional sources may not be available. Many banks offer such finance through their merchant banking divisions.

III. Short term finance: Short term finance is that finance which is available for a period of less than one year. The following are the sources of short term finances:

- 1) **Commercial paper(CP):** It is a new money market instrument introduced in India in recent times. Cp's are issued usually in large denominators by the leading, nationally reputed, highly rated and credit worthy, large manufacturing and finance companies in the public and private sectors.
- 2) **Bank overdraft:** This is a special arrangement with the banker where the customer can draw more than what he has in his savings/current account subject to a maximum limit. Interest is charged on a day-to-day basis on the actual amount overdrawn. This source is utilized to meet the temporary shortage of funds.
- 3) **Trade credit:** This is short term credit facility extended by the creditors to the debtors. Normally, it is common for the traders to buy the materials and other supplies from the suppliers on credit basis. After selling the stocks, the traders pay the cash and buy fresh stocks again on credit.
- 4) **Advance from customers:** It is customary to collect full or part of the order amount from the useful to meet the working capital needs.

5) Internal funds: Internal funds are generated by the firm itself by way of secret reserves, depreciation provisions, taxation provisions, retained profits and so on and these can be utilized to meet the urgencies.

CAPITAL BUDGETING

Capital Budgeting: Capital budgeting is the process of making investment decision in long-term assets or courses of action. Capital expenditure incurred today is expected to bring its benefits over a period of time. These expenditures are related to the acquisition & improvement of fixed assets.

Capital budgeting is the planning of expenditure and the benefit, which spread over a number of years. It is the process of deciding whether or not to invest in a particular project, as the investment possibilities may not be rewarding. The manager has to choose a project, which gives a rate of return, which is more than the cost of financing the project. For this the manager has to evaluate the worth of the projects in-terms of cost and benefits. The benefits are the expected cash inflows from the project, which are discounted against a standard, generally the cost of capital.

Capital Budgeting Process:

The capital budgeting process involves generation of investment, proposal estimation of cash-flows for the proposals, evaluation of cash-flows, selection of projects based on acceptance criterion and finally the continues revaluation of investment after their acceptance the steps involved in capital budgeting process are as follows.

1. Project generation
2. Project evaluation
3. Project selection
4. Project execution

1. Project generation: In the project generation, the company has to identify the proposal to be undertaken depending upon its future plans of activity. After identification of the proposals they can be grouped according to the following categories:

- a. **Replacement of equipment:** In this case the existing outdated equipment and machinery may be replaced by purchasing new and modern equipment.
- b. **Expansion:** The Company can go for increasing additional capacity in the existing product line by purchasing additional equipment.

- c. Diversification: The Company can diversify its product line by way of producing various products and entering into different markets. For this purpose, It has to acquire the fixed assets to enable producing new products.
- d. Research and Development: Where the company can go for installation of research and development suing by incurring heavy expenditure with a view to innovate new methods of production new products etc.,

2. Project evaluation: In involves two steps.

- a. Estimation of benefits and costs: These must be measured in terms of cash flows. Benefits to be received are measured in terms of cash flows. Benefits to be received are measured in terms of cash in flows, and costs to be incurred are measured in terms of cash flows.
- b. Selection of an appropriate criterion to judge the desirability of the project.

3. Project selection: There is no standard administrative procedure for approving the investment decisions. The screening and selection procedure would differ from firm to firm. Due to lot of importance of capital budgeting decision, the final approval of the project may generally rest on the top management of the company. However the proposals are scrutinized at multiple levels. Some times top management may delegate authority to approve certain types of investment proposals. The top management may do so by limiting the amount of cash out lay. Prescribing the selection criteria and holding the lower management levels accountable for the results.

4. Project Execution: In the project execution the top management or the project execution committee is responsible for effective utilization of funds allocated for the projects. It must see that the funds are spent in accordance with the appropriation made in the capital budgeting plan. The funds for the purpose of the project execution must be spent only after obtaining the approval of the finance controller. Further to have an effective cont. It is necessary to prepare monthly budget reports to show clearly the total amount appropriated, amount spent and to amount unspent.

Capital budgeting Techniques:

The capital budgeting appraisal methods are techniques of evaluation of investment proposal will help the company to decide upon the desirability of an investment

proposal depending upon their; relative income generating capacity and rank them in order of their desirability. These methods provide the company a set of norms on the basis of which either it has to accept or reject the investment proposal. The most widely accepted techniques used in estimating the cost-returns of investment projects can be grouped under two categories.

1. Traditional methods
2. Discounted Cash flow methods

1. Traditional methods

These methods are based on the principles to determine the desirability of an investment project on the basis of its useful life and expected returns. These methods depend upon the accounting information available from the books of accounts of the company. These will not take into account the concept of 'time value of money', which is a significant factor to determine the desirability of a project in terms of present value.

A. Pay-back period method: It is the most popular and widely recognized traditional method of evaluating the investment proposals. It can be defined, as 'the number of years required to recover the original cash out lay invested in a project'.

According to Weston & Brigham, "The pay back period is the number of years it takes the firm to recover its original investment by net returns before depreciation, but after taxes".

According to James. C. Vanhorne, "The payback period is the number of years required to recover initial cash investment.

The pay back period is also called payout or payoff period. This period is calculated by dividing the cost of the project by the annual earnings after tax but before depreciation under this method the projects are ranked on the basis of the length of the payback period. A project with the shortest payback period will be given the highest rank and taken as the best investment. The shorter the payback period, the less risky the investment is the formula for payback period is

$$\text{Pay-back period} = \frac{\text{Cash outlay (or) original cost of project}}{\text{Annual cash inflow}}$$

Merits:

1. It is one of the earliest methods of evaluating the investment projects.
2. It is simple to understand and to compute.
3. It does not involve any cost for computation of the payback period
4. It is one of the widely used methods in small scale industry sector
5. It can be computed on the basis of accounting information available from the books.

Demerits:

1. This method fails to take into account the cash flows received by the company after the pay back period.
2. It doesn't take into account the interest factor involved in an investment outlay.
3. It doesn't take into account the interest factor involved in an investment outlay.
4. It is not consistent with the objective of maximizing the market value of the company's share.
5. It fails to consider the pattern of cash inflows i. e., the magnitude and timing of cash in flows.

B. Accounting (or) Average rate of return method (ARR):

It is an accounting method, which uses the accounting information repeated by the financial statements to measure the probability of an investment proposal. It can be determine by dividing the average income after taxes by the average investment i.e., the average book value after depreciation.

According to 'Soloman', accounting rate of return on an investment can be calculated as the ratio of accounting net income to the initial investment, i.e.,

$$ARR = \frac{\text{Average net income after taxes}}{\text{Average Investment}} \times 100$$

$$\text{Average net income after taxes} = \frac{\text{Total Income after Taxes}}{\text{No. Of Years}}$$

$$\text{Average investment} = \frac{\text{Total Investment}}{\text{-----}}$$

On the basis of this method, the company can select all those projects whose ARR is higher than the minimum rate established by the company. It can reject the projects with an ARR lower than the expected rate of return. This method can also help the management to rank the proposal on the basis of ARR. A highest rank will be given to a project with highest ARR, whereas a lowest rank to a project with lowest ARR.

Merits:

1. It is very simple to understand and calculate.
2. It can be readily computed with the help of the available accounting data.
3. It uses the entire stream of earnings to calculate the ARR.

Demerits:

1. It is not based on cash flows generated by a project.
2. This method does not consider the objective of wealth maximization.
3. It ignores the length of the project's useful life.
4. It does not take into account the fact that the profits can be re-invested.

II: Discounted cash flow methods:

The traditional method does not take into consideration the time value of money. They give equal weightage to the present and future flow of incomes. The DCF methods are based on the concept that a rupee earned today is more worth than a rupee earned tomorrow. These methods take into consideration the profitability and also the time value of money.

A. Net present value method (NPV)

The NPV takes into consideration the time value of money. The cash flows of different years are valued differently and made comparable in terms of present values for this the net cash inflows of various periods are discounted using the required rate of return which is predetermined.

According to Ezra Solomon, "It is a present value of future returns, discounted at the required rate of return minus the present value of the cost of the investment."

NPV is the difference between the present value of cash inflows of a project and the initial cost of the project.

According to the NPV technique, only one project will be selected whose NPV is positive or above zero. If a project(s) NPV is less than 'Zero'. It gives negative NPV hence. It must be rejected. If there are more than one project with positive NPV's the project is selected whose NPV is the highest.

The formula for NPV is

NPV = Present value of cash inflows – investment.

$$\text{NPV} = \frac{C_1}{(1+K)} + \frac{C_2}{(1+K)^2} + \frac{C_3}{(1+K)^3} + \dots + \frac{C_n}{(1+K)^n}$$

Co- investment

C1, C2, C3... Cn = cash inflows in different years.

K = Cost of the Capital (or) Discounting rate

D = Years.

Merits:

1. It recognizes the time value of money.
2. It is based on the entire cash flows generated during the useful life of the asset.
3. It is consistent with the objective of maximization of wealth of the owners.
4. The ranking of projects is independent of the discount rate used for determining the present value.

Demerits:

1. It is difficult to understand and use.
2. The NPV is calculated by using the cost of capital as a discount rate. But the concept of cost of capital is difficult to understand and determine.
3. It does not give solutions when the comparable projects are involved in different amounts of investment.
4. It does not give correct answer to a question whether alternative projects or limited funds are available with unequal lines.

B. Internal Rate of Return Method (IRR)

The IRR for an investment proposal is that discount rate which equates the present value of cash inflows with the present value of cash out flows of an investment. The IRR is also known as cutoff or hurdle rate. It is usually the concern's cost of capital.

According to Weston and Brigham "The internal rate is the interest rate that equates the present value of the expected future receipts to the cost of the investment outlay.

When compared the IRR with the required rate of return (RRR), if the IRR is more than RRR then the project is accepted else rejected. In case of more than one project with IRR more than RRR, the one, which gives the highest IRR, is selected.

The IRR is not a predetermined rate, rather it is to be trial and error method. It implies that one has to start with a discounting rate to calculate the present value of cash inflows. If the obtained present value is higher than the initial cost of the project one has to try with a higher rate. Like wise if the present value of expected cash inflows obtained is lower than the present value of cash flow. Lower rate is to be taken up. The process is continued till the net present value becomes Zero. As this discount rate is determined internally, this method is called internal rate of return method.

$$IRR = L + \frac{P1 - Q}{P1 - P2} \times D$$

L- Lower discount rate

P1 - Present value of cash inflows at lower rate.

P2 - Present value of cash inflows at higher rate.

Q- Actual investment

D- Difference in Discount rates.

Merits:

1. It consider the time value of money
2. It takes into account the cash flows over the entire useful life of the asset.
3. It has a psychological appeal to the user because when the highest rate of return projects are selected, it satisfies the investors in terms of the rate of return an capital
4. It always suggests accepting to projects with maximum rate of return.
5. It is inconformity with the firm's objective of maximum owner's welfare.

Demerits:

1. It is very difficult to understand and use.
2. It involves a very complicated computational work.
3. It may not give unique answer in all situations.

C. Probability Index Method (PI)

The method is also called benefit cost ratio. This method is obtained through a slight modification of the NPV method. In case of NPV the present value of cash outflows are subtracted from the present value of cash inflows to get the profitability index (PI), the present value of cash inflows are divided by the present value of cash outflows, while NPV is an absolute measure, the PI is a relative measure.

If the PI is more than one (>1), the proposal is accepted else rejected. If there are more than one investment proposals with more than one PI the one with the highest PI will be selected. This method is more useful in case of projects with different cash outflows and hence is superior to the NPV method.

The formula for PI is

$$\text{Probability index} = \frac{\text{Present Value of Future Cash Inflow}}{\text{Investment}}$$

Merits:

1. It requires less computational work than IRR method
2. It helps to accept / reject investment proposal on the basis of value of the index.
3. It is useful to rank the proposals on the basis of the highest/lowest value of the index.
4. It is useful to rank the proposals on the basis of the highest/lowest value of the index.
5. It takes into consideration the entire stream of cash flows generated during the useful life of the asset.

Demerits:

1. It is somewhat difficult to understand
2. Some people may feel no limitation for index number due to several limitations involved in their competitions

3. It is very difficult to understand the analytical part of the decision on the basis of probability index.

QUESTIONS

1. What do you understand by working capital cycle and what is its importance.
2. Describe the institutions providing long-term finance.
3. What do you understand by NPV method of appraising long-term investment proposal? Explain with the help of a proposal of your choice.
4. What is ARR and Payback period? Compare and contrast the two methods.
5. What are the components of working capital? Explain each of them/ explain the factors affecting the requirements of working capital.
6. What are the merits & limitations of Pay back period? How does discounting approach overcome the limitation of payback period?
7. Give various examples of capital budgeting decisions classify them into specific kinds.
8. What is the importance of capital budgeting? Explain the basic steps involved in evaluating capital budgeting proposals.
9. What is NPV & IRR Compare and contrast the two methods of evaluating capital budgeting proposals.
10. What are major sources of short-term finance?
11. What is meant by discounting and time value of money? How is it useful in capital budgeting?

QUIZ

1. Financing decision refers as _____ ()
(a) Investment decision (b) Utilization of funds
(c) Acquisition of funds (d) Dividend policy decision
2. Excess of current assets over current liabilities is known as _____ ()
(a) Long run capital (b) Fixed capital
(c) Net working capital (d) Net worth
3. Long term investment of funds is called _____ ()
(a) Working capital (b) Revolving capital

- (c) Debtors (d) Bank over draft
14. What is the formula for Pay Back period? ()
 (a) $\frac{\text{Avg. Investment}}{\text{Avg. earnings}}$ (b) $\frac{\text{Annual earnings}}{\text{Cost of the product}}$
 (c) $\frac{\text{Cost of the project}}{\text{Annual earnings}}$ (d) $\frac{\text{Cash inflow}}{\text{Cash outflow}}$
15. _____ decision relates to the selection of assets in which funds will be invested by a firm. ()
 (a) Finance (b) Dividend
 (c) Investment (d) None
16. _____ method is one of the traditional methods. ()
 (a) Net present value (b) Profitability index
 (c) Pay back period (d) internal rate of return
17. Funds needed for short-term purpose is known as _____. ()
 (a) Fixed capital management (b) Capital Budgeting
 (c) Working capital management (d) Long-term capital management
18. What is the formula for Average Rate of Return (ARR)? ()
 (a) $\frac{\text{Cost of the project}}{\text{Avg. earnings}}$ (b) $\frac{\text{Present value of cash inflow}}{\text{Present value of cash outflow}}$
 (c) $\frac{\text{Avg. earnings}}{\text{Avg. investment}}$ (d) $\frac{\text{Avg. investment}}{\text{Avg. earnings}}$
19. What is the current Liability from the following? ()
 (a) Bills Receivable (b) Closing stock
 (c) Bills payable (d) Cash in hand
20. The Pay Back Period also called as _____. ()
 (a) Current Period (b) Pay reserve method
 (c) Pay off Period (d) None
21. _____ holders have preference over dividends. ()
 (a) Equity share (b) Debenture
 (c) Preference share (d) Ordinary share
22. _____ holders are the real owners of the company. ()
 (a) Debenture (b) Preference share
 (c) Equity share (d) Liability
23. Interest is paid on loan and dividend is paid for _____. ()
 (a) Debenture (b) Public deposits
 (c) Shares (d) Securities

24. _____ are deducted from Current Assets, while calculating Working Capital.

(a) Fixed Assets

(b) Fixed Liabilities

(c) Current Liabilities

(d) Fictitious Assets

()

Note: Answer is "C" for all the above questions.