KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed University Established Under Section 3 of UGC Act 1956)
Coimbatore - 641021.
(For the candidates admitted from 2017 onwards)
DEPARTMENT OF COMMERCE

17CMP101

Semester – I

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CORPORATE FINANCE

Course Objectives

- To familiarizes students with the various concepts of Financial Management
- To gain sound knowledge in Cost of Capital, Capital Budgeting Techniques and Dividend Policy
- To provide the students knowledge about the Working Capital Management

Learning Outcome

- Course assists students to ascertain factors to be considered before selecting a project, cost involved in procuring various sources of funds and help students to manage working capital optimally

UNIT – I

Scope and Functions of Finance – Role of Financial Manager – Goals of Financial Management – Functions of Controller and Treasurers in India.

UNIT – II

Cost of Capital – Significance – Concepts of Cost of Capital – Cost of Debt Capital, Preference Capital, Equity Capital and Retained Earnings – Weighted Average Cost of Capital.

UNIT – III

Capital Structure – Concept – Capital Structure Theories – Net Income Theory, Net Operating Income Theory – MM's Proportion on Capital Structure – Determinants of Optimal Capital Structure – Financial and Operating Leverage.

UNIT – IV

Capital Budgeting Decisions – Investment Evaluation Criteria – Payback Method – ARR – NPV Method – IRR – Profitability Index – Risk Analysis in Capital Budgeting – Nature of Risk – Conventional and Statistical Technique to handle risk.

UNIT –V

Management of Working Capital – Determinants of Working Capital – Management of Accounts Receivable, Inventory and Cash – Financing of Working Capital – Dividend Theories – Walter's Model – Gordon's Model – MM's Hypothesis – Dividend Policy – Determinants of Dividend Policy.

Note: Theory :80 Marks and Problems : 20 Marks

SUGGESTED READINGS

TEXT BOOK

Maheswari, S.N. (2013). *Financial Management.* New Delhi: Sultan Chand and Sons.

REFERENCE BOOKS

Ramachandran, R. and Dr.R.Srinivasan. (2010). *Financial Management.* Trichy: Sri Ram Publications

Shashi, K. Gupta. (2014). *Financial Management*. Ludhiana: Kalyani Publishers.

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Coimbatore – 641 021.

LECTURE PLAN
DEPARTMENT OF COMMERCE

STAFF NAME : Dr.R.VELMURUGAN
SUBJECT NAME : Corporate Finance **SUBJECT CODE: 17CMP101**
SEMESTER : I **CLASS : I M.COM**

UNIT-I

Sl No.	Lecture Duration (Hour)	Topics to be Covered	Support Materials
1	1	Introduction: Meaning, Definition	T: p.5
2	1	Scope of Financial Management	T: pp.6-8
3	1	Scope of Financial Management	T: pp.6-8
4	1	Functions of Financial Management	R1: pp.1.10-1.13
5	1	Functions of Financial Management	R1: pp.1.10-1.13
6	1	Role of Finance Manager	T: pp. 12-13
7	1	Goals of Financial Management	R1: pp.1.3-1.5
8	1	Functions of Controller and Treasurers in India	R1: pp.1.15-1.17
9	1	Functions of Controller and Treasurers in India	R1: pp.1.15-1.17
10	1	Recapitulation and Important Questions Discussion	
Total No .of Hours for Unit I			**10 Hours**

UNIT-II

Sl No.	Lecture Duration (Hour)	Topics to be Covered	Support Materials
1	1	Cost of Capital- Meaning, Significance, Concepts of Cost of Capital	T: PP. 368-369
2	1	Problems on Irredeemable Debt	R1: pp.7.17-7.20
3	1	Problems on Irredeemable Debt	R1: pp.7.17-7.20
4	1	Problems on Redeemable Debt	R1: pp.7.20-7.28
5	1	Problems on Redeemable Debt	R1: pp.7.20-7.28
6	1	Cost of Preference Capital - Irredeemable Preference Capital	R1: pp.7.31-7.36
7	1	Cost of Preference Capital - Redeemable Preference Capital	R1: pp.7.31-7.36
8	1	Cost of Equity Capital	R1: pp.7.36-7.44
9	1	Cost of Equity Capital	R1: pp.7.36-7.44
10	1	Cost of Retained Earnings	R1: pp.7.51-7.53
11	1	Weighted Average Cost of Capital	R1: pp.7.54-7.56
12	1	Weighted Average Cost of Capital	R1: pp.7.54-7.56
13	1	Recapitulation and Important Questions Discussion	
Total No .of Hours for Unit II			**13 Hours**

UNIT-III

Sl No.	Lecture Duration (Hour)	Topics to be Covered	Support Materials
1	1	Capital Structure – Meaning, Concept	R2: PP. 5.1-5.5
2	1	Theories of Capital Structure – Net Income Approach	R1: pp. 9.42-9.44
3	1	Net Operating Income Approach	R1: pp.9.45-9.46
4	1	MM Approach and Traditional Approach	R1: pp. 9.48-9.54
5	1	MM Approach and Traditional Approach	R1: pp. 9.48-9.54
6	1	Determinants of Capital Structure	T: PP. 70-74
7	1	Earnings Before Interest and Tax (EBIT)	T: PP. 409-416
8	1	Earnings Before Interest and Tax (EBIT)	T: PP. 409-416
9	1	Earnings Per Share (EPS), DPS Analysis	T: PP. 416-421
10	1	Earnings Per Share (EPS), DPS Analysis	T: PP. 416-421
11	1	Recapitulation and Important Questions Discussion	
Total No .of Hours for Unit III			**11 Hours**

UNIT-IV

Sl No.	Lecture Duration (Hour)	Topics to be Covered	Support Materials
1	1	Capital Budgeting – Meaning, Significance of Capital Budgeting	R1: PP. 5.1-5.2
2	1	Payback Method	R1: PP. 5.24-5.33
3	1	Payback Method	R1: PP. 5.24-5.33
4	1	Net Present Value	R1: PP. 5.33-5.40
5	1	Net Present Value	R1: PP. 5.33-5.40
6	1	Accounting Rate of Return	R1: PP. 5.49-5.54
7	1	Accounting Rate of Return	R1: PP. 5.49-5.54
8	1	Internal Rate of Return	R1: PP. 5.60-5.62
9	1	Profitability Index	R1: PP. 5.8-5.9
10	1	Risk Analysis in Capital Budgeting – Nature of Risk. Conventional and Statistical Technique to handle risk	R1: PP. 6.1-6.10
11	1	Conventional and Statistical Technique to handle risk	R1: PP. 6.1-6.10
12	1	Recapitulation and Important Questions Discussion	
Total No .of Hours for Unit IV			**12 Hours**

UNIT-V

Sl No.	Lecture Duration (Hour)	Topics to be Covered	Support Materials
1	1	Working Capital Management: Meaning, Determinants of Working Capital	R1: PP. 13.1-13.2 T: PP. 293-295
2	1	Problems on Working Capital	R1: PP.13.21-13.28
3	1	Receivables Management	T: PP. 326-333
4	1	Problems on Receivable Management	R1:PP.15.13-15.15
5	1	Inventory Management – Meaning, Kinds and Need of Holding Inventories	T: PP. 311-314
6	1	Problems on Inventory Management	R1:PP.16.16-16.22
7	1	Dividend Policy: Factors Determining Dividend Policy	R1:PP. 12.8.12.10
8	1	Walter's Model – Problems	R1: PP.12.20-12.26
9	1	Gordon's Model – Problems	R1: PP. 12.37-12.45
10	1	MM Approach – Problems	R1:PP.12.45-12.48
11	1	Recapitulation and Important Questions Discussion	
12	1	Discussion of Previous ESE Question Paper	
13	1	Discussion of Previous ESE Question Paper	
14	1	Discussion of Previous ESE Question Paper	
Total No .of Hours for Unit V			**14 Hours**
Total No. of Hours			**60 Hours**

TEXT BOOK

T1: Maheswari, S.N. (2013). *Financial Management.* New Delhi: Sultan Chand and Sons.

REFERENCE BOOKS

R1: Ramachandran, R. and Dr.R.Srinivasan. (2010). *Financial Management.* Trichy: Sri Ram Publications

R2: Shashi, K. Gupta. (2014). *Financial Management*. Ludhiana: Kalyani Publishers.

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DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : **I**
SUBJECT CODE: **17CMP101** **CLASS** : **I M.Com.**

UNIT – I

Scope and Functions of Finance – Role of Financial Manager – Goals of Financial Management – Functions of Controller and Treasurers in India.

INTRODUCTION

Business concern needs finance to meet their requirements in the economic world. Any kind of business activity depends on the finance. Hence, it is called as lifeblood of business organization. Whether the business concerns are big or small, they need finance to fulfill their business activities.

In the modern world, all the activities are concerned with the economic activities and very particular to earning profit through any venture or activities. The entire business activities are directly related with making profit. (According to the economics concept of factors of production, rent given to landlord, wage given to labour, interest given to capital and profit given to shareholders or proprietors), a business concern needs finance to meet all the requirements. Hence finance may be called as capital, investment, fund etc., but each term is having different meanings and unique characters. Increasing the profit is the main aim of any kind of economic activity.

FINANCIAL MANAGEMENT – MEANING

Financial Management is concerned with management of finance or finance function. Financial management is a managerial activity which is associated with planning and controlling of companies' financial resources because financial resources are scarce and limited which needs proper planning and control in order to achieve the best result out of the complex situations of risk and uncertainty prevailing in the business world.

FINANCIAL MANAGEMENT – DEFINITION

- Prof. Ezra Solomon, "Financial Management is concerned with the efficient use of an important economic resources, namely economic funds"
- Hoagland, "Financial Management deals with how the corporation obtains the funds and how it uses them"
- Joesph and Massie, "Financial Management is the operational activity of a business, that is responsible for obtaining and effectively utilizing the funds necessary for efficient operations"

SCOPE OF FINANCIAL MANAGEMENT

Financial management is one of the important parts of overall management, which is directly related with various functional departments like personnel, marketing and production. Financial management covers wide area with multidimensional approaches. The following are the important scope of financial management.

1. Financial Management and Economics

Economic concepts like micro and macroeconomics are directly applied with the financial management approaches. Investment decisions, micro and macro environmental factors are closely associated with the functions of financial manager. Financial management also uses the economic equations like money value discount factor, economic order quantity etc. Financial economics is one of the emerging area, which provides immense opportunities to finance, and economical areas.

2. Financial Management and Accounting

Accounting records includes the financial information of the business concern. Hence, we can easily understand the relationship between the financial management and accounting. In the olden periods, both financial management and accounting are treated as a same discipline and then it has been merged as Management Accounting because this part is very much helpful to finance manager to take decisions. But nowadays financial management and accounting discipline are separate and interrelated.

3. Financial Management or Mathematics

Modern approaches of the financial management applied large number of mathematical and statistical tools and techniques. They are also called as econometrics. Economic order quantity, discount factor, time value of money, present value of money, cost of capital, capital structure theories, dividend theories, ratio analysis and working capital analysis are used as mathematical and statistical tools and techniques in the field of financial management.

4. Financial Management and Production Management

Production management is the operational part of the business concern, which helps to multiple the money into profit. Profit of the concern depends upon the

production performance. Production performance needs finance, because production department requires raw material, machinery, wages, operating expenses etc. These expenditures are decided and estimated by the financial department and the finance manager allocates the appropriate finance to production department. The financial manager must be aware of the operational process and finance required for each process of production activities.

5. Financial Management and Marketing

Produced goods are sold in the market with innovative and modern approaches. For this, the marketing department needs finance to meet their requirements. The financial manager or finance department is responsible to allocate the adequate finance to the marketing department. Hence, marketing and financial management are interrelated and depends on each other.

6. Financial Management and Human Resource

Financial management is also related with human resource department, which provides manpower to all the functional areas of the management. Financial manager should carefully evaluate the requirement of manpower to each department and allocate the finance to the human resource department as wages, salary, remuneration, commission, bonus, pension and other monetary benefits to the human resource department. Hence, financial management is directly related with human resource management.

The scope of financial management has undergone changes over the years. Until the middle of this century, its scope was limited to procurement of funds. In the modern times, the financial management includes besides procurement of funds ,the three different kinds of decision as well namely investment, financing and dividend .Scope and importance of financial management includes-

- Estimating the total requirements of funds for a given period.
- Raising funds through various sources, both national and international, keeping in mind the cost effectiveness;
- Investing the funds in both long term as well as short term capital needs;
- Funding day-to-day working capital requirements of business;

- Collecting on time from debtors and paying to creditors on time;
- Managing funds and treasury operations;
- Ensuring a satisfactory return to all the stake holders;
- Paying interest on borrowings;
- Repaying lenders on due dates;
- Maximizing the wealth of the shareholders over the long term;
- Interfacing with the capital markets;
- Awareness to all the latest developments in the financial markets;
- Increasing the firm's competitive financial strength in the market; and
- Adhering to the requirements of corporate governance.

FUNCTIONS OF FINANCIAL MANAGEMENT

1. Determining Financial Needs

The most important function of the financial manager is to ensure the available of adequate financing. Financial needs have to be assessed for different purposes. Money may be required for initial promotional expenses, fixed capital and working capital needs. Promotional expenditure includes expenditure incurred in the process of the company formation. Fixed assets needs depends upon the nature of the business enterprise-whether it is a manufacturing, non-manufacturing or merchandizing enterprise. Current assets needs depend upon the size of working capital required by an enterprise

2. Determining Sources of Funds

The financial manager has to decide the sources of funds. He may issue different types of securities. He may borrow funds from a number of financial institutions and the public. When a firm is new and small and little known in financial circles, the financial manager faces a great challenge in raising funds. Even when he has a choice in selecting the sources of funds, that choice should be exercised with great care and caution

3. Financial Analysis

The financial manager has to interpret different financial statements. He has to use a large number of ratios to analyze the financial status and activities of his firm. He

is required to measure its liquidity, determine its profitability, and assess overall performance in financial terms. This is often a challenging task, because he must understand the importance of each one of the aspects of the firm, and he should be crystal clear in his mind about the purposes for which liquidity, profitability and performance are to be measured

4. Capital Structure

The financial manager has to establish capital structure and ensure the maximum rate of return on investment. The ratio between equity and other liabilities carrying fixed charges has to be defined. In the process, he has to consider the operating and financial leverages of his firm. The operating leverage exists because of operating expenses, while the financial leverage exists because of the amount of debt involved in the firm's capital structure. The financial manager should have adequate knowledge of the different empirical studies on the optimum capital structure and find out whether and to what extent he can apply their findings to the advantage of the firm

5. Cost-volume profit Analysis

This is popularly known as the 'CV Relationship'. For this purpose, fixed costs, variable costs and semi-variable costs have to be analyzed. Fixed costs are more or less constant for varying sales volumes. Variable costs vary according to the sales volume. Semi-variable costs are either fixed or variable in the short run. The financial manager has to ensure that the income of the firm will cover its variable costs. Moreover, a firm will have to generate an adequate income to cover its fixed costs as well. The financial manager has to find out the break-even point that is, the point at which the total costs is matched by total sales or total revenue. He has to try to shift the activity of the firm as far as possible from the breakeven point to ensure the company's survival against seasonal functions.

6. Profit Planning and Control

Profit planning is an important responsibility of the financial manager. Profit is the surplus which accrues to a firm after its total expenses are deducted from its total revenue. It

is necessary to determine profits properly for the measure of the economic viability of a business. The revenue may be from sales or it may be operating revenue, or income from other sources. The expenditure may include manufacturing costs, trading costs, selling costs, general administrative costs and finance costs. Profit planning and control is a dual function which enables a management to determine the cost it has incurred, and revenues it has earned during a particular period and provides shareholders and potential investors with information about the earning strength of the corporation. Profit planning and Control directly influence the declaration of dividend, creation of surpluses, taxation, etc., Break-even analysis and cost volume profit are some of the tools used in profit planning and control

7. Fixed Assets Management

Fixed assets are land, building, machinery and equipment, furniture and intangibles as patents, copyrights, goodwill, etc., The acquisition of fixed costs involves capital expenditure decisions and long-term commitments of funds. These fixed assets are justified to the extent of their utility and / or their productive capacity. Long-term commitment of funds, the decisions governing their purchase, replacement etc., should be taken with great care and caution. Often, these fixed assets are financed by issuing stock, debentures, long-term borrowings and deposits from the public. When it is not worthwhile to purchase fixed assets, the financial manager may lease them and use the assets on a rental basis

8. Project Planning and Evaluation

A substantial portion of the initial capital is the long-term assets of a firm. The error of Judgement in project planning and evaluation should be minimized. Decisions are taken on the basis of feasibility and project reports containing economic, commercial, technical, financial and organizational aspects. The essentiality of a project is ensured by a technical analysis. The economic and commercial analysis studies the demand position for the product. The economy of price, the choice of technology and the availability of the factors favoring a particular industrial site are all considerations which merit attention in a technical analysis. The financial analysis is perhaps the most important and includes

a forecast of the cash inflows and the total outlay which will keep down the cost of capital and maximize the rate of return on investment.

9. Capital Budgeting

Capital budgeting decisions are most crucial for these have long-term implications. These relate to a judicious allocation of capital. Current funds have to be invested in long-term activities in anticipation of an expected flow of future benefits spread over a long period of time. Capital budgeting forecasts returns on proposed long-term investments and compares the profitability of different investments and their cost of capital. It results in capital expenditure investments. The various proposals are ranked on the basis of such criteria as urgency, liquidity, profitability and risk sensitivity. The financial analyzer should be thoroughly familiar with such financial techniques as payback, internal rate of return, discounted cash flow and net present value among others because risk increases when investment is stretched over a long period of time

10. Working Capital Management

Working capital refers to that part of firm's capital which is required for financing short term or current assets such as cash, receivables and inventories. It is essential to maintain proper level of these assets. Financial Manager is required to determine the quantum of such assets

11. Dividend Policies

Dividend policies constitute a crucial area of financial management. While owners are interested in getting the highest divided from a corporation, the Board of Directors may be interested in maintaining its financial health by retaining the surplus to be used when contingencies, if any arise. A firm may try to improve its internal financing so that it may avail itself the benefits of future expansion. However, the interests of a firm and its stockholders are complementary, for the financial management is interested in maximizing the value of the firm and the real interest of the stockholders always lies in the maximization of this value of the firm; and this is the ultimate goal of financial management. The dividend policy of a firm depends on a number of financial

considerations, the most critical among them being profitability. Thus, there are different dividend policy patterns which a firm may choose to adopt, depending upon their suitability for the firm and its stockholders' group.

12. Acquisition and Mergers

Firms may expand externally through co-operative arrangements, by acquiring other concerns or by entering into mergers. Acquisitions consist of either the purchase or lease of a smaller firm by a bigger organization. Merger may be accomplished with a minimum cash outlay, through these involve major problems of valuation and control. The process of valuing a firm and its securities is difficult, complex and prone to errors. The financial manager should, therefore, go through the valuation process very carefully.

ROLE OF FINANCIAL MANAGER

1. Estimating Financial Requirements

The first task of a financial manager is to estimate short-term and long-term financial requirements of his business. For this purpose, he will prepare a financial plan for present as well as for future. The amount required for purchasing fixed assets as well as funds for working capital will have to be ascertained

2. Deciding the Capital Structure

The capital structure refers to the kind and proportion of different securities for raising funds. After deciding about the quantum of funds required, it should be decided which type of securities should be raised. It may be wise to finance fixed assets through long-term debts. Even here if gestation period is longer, then share capital may be most suitable. A decision about kind of securities to be employed and the proportion in which these should be used is an important decision which influences the short-term and long-term financial planning of an enterprise

3. Selecting Source of Finance

After preparing a capital structure, an appropriate source of finance is selected. Various sources, from which finance may be raised, include share capital, debentures, financial institutions, commercial banks, public deposits, etc., If finances are needed for

short periods then banks, public deposits and financial institutions may be appropriate. On the one hand, if long-term finances are required then share capital and debentures may be useful.

4. Selecting Pattern of Investment

When funds have been procured then a decision about investment pattern is to be taken. The selection of an investment pattern is related to the use of funds. The decision-making techniques such as capital budgeting and opportunity cost analysis may be applied in making decision about capital budgeting. While spending on various assets, the principles of safety profitability and liquidity should not be ignored

5. Proper Cash Management

Cash management is also an important task of finance manager. He has to assess various cash needs at different times and then make arrangements for arranging cash

6. Implementing Financial Controls

An efficient system of financial management necessitates the use of various control devices. Financial control devices generally used are:

- Return on Investment
- Budgeting Control
- Break Even Analysis
- Cost Control
- Ratio Analysis
- Cost and Internal Audit

❖ The use of various control techniques by the finance manager will help him in evaluating the performance in various areas and take corrective measures whenever needed

7. Proper Use of Surpluses

The utilization of profits or surpluses is also an important factor in financial management. A judicious use of surpluses is essential for expansion and diversification plans and also in protecting the interests of shareholders.

GOALS OF FINANCIAL MANAGEMENT:

Effective procurement and efficient use of finance lead to proper utilization of the finance by the business concern. It is the essential part of the financial manager. Hence, the financial manager must determine the basic objectives of the financial management. Objectives of Financial Management may be broadly divided into two parts such as:

1. Profit maximization
2. Wealth maximization

1. **Profit Maximization**

Main aim of any kind of economic activity is earning profit. A business concern is also functioning mainly for the purpose of earning profit. Profit is the measuring techniques to understand the business efficiency of the concern. Profit maximization is also the traditional and narrow approach, which aims at, maximizes the profit of the concern. Profit maximization consists of the following important features.

1. Profit maximization is also called as cashing per share maximization. It leads to maximize the business operation for profit maximization.
2. Ultimate aim of the business concern is earning profit, hence, it considers all the possible ways to increase the profitability of the concern
3. Profit is the parameter of measuring the efficiency of the business concern. So it shows the entire position of the business concern.
4. Profit maximization objectives help to reduce the risk of the business.

Favourable Arguments for Profit Maximization

The following important points are in support of the profit maximization objectives of the business concern:

(i) Main aim is earning profit.

(ii) Profit is the parameter of the business operation.

(iii) Profit reduces risk of the business concern.

(iv) Profit is the main source of finance.

(v) Profitability meets the social needs also.

Unfavourable Arguments for Profit Maximization

The following important points are against the objectives of profit maximization:

(i) Profit maximization leads to exploiting workers and consumers.

(ii) Profit maximization creates immoral practices such as corrupt practice, unfair trade practice, etc.

(iii) Profit maximization objectives leads to inequalities among the stake holders such as customers, suppliers, public shareholders, etc.

Drawbacks of Profit Maximization

Profit maximization objective consists of certain drawback also:

(i) **It is vague:** In this objective, profit is not defined precisely or correctly. It creates some unnecessary opinion regarding earning habits of the business concern.

(ii) **It ignores the time value of money:** Profit maximization does not consider the time value of money or the net present value of the cash inflow. It leads certain differences between the actual cash inflow and net present cash flow during a particular period.

(iii) **It ignores risk:** Profit maximization does not consider risk of the business concern. Risks may be internal or external which will affect the overall operation of the business concern.

2. Wealth Maximization

Wealth maximization is one of the modern approaches, which involves latest innovations and improvements in the field of the business concern. The term wealth means shareholder wealth or the wealth of the persons those who are involved in the business concern. Wealth maximization is also known as value maximization or net present worth maximization. This objective is a universally accepted concept in the field of business.

Favourable Arguments for Wealth Maximization

1. Wealth maximization is superior to the profit maximization because the main aim of the business concern under this concept is to improve the value or wealth of the shareholders.

2. Wealth maximization considers the comparison of the value to cost associated with the business concern. Total value detected from the total cost incurred for the business operation. It provides extract value of the business concern.
3. Wealth maximization considers both time and risk of the business concern.
4. Wealth maximization provides efficient allocation of resources.
5. It ensures the economic interest of the society.

Unfavourable Arguments for Wealth Maximization

(i) Wealth maximization leads to prescriptive idea of the business concern but it may not be suitable to present day business activities.

(ii) Wealth maximization is nothing, it is also profit maximization, and it is the indirect name of the profit maximization.

(iii) Wealth maximization creates ownership-management controversy.

(iv) Management alone enjoy certain benefits.

(v) The ultimate aim of the wealth maximization objectives is to maximize the profit.

(vi) Wealth maximization can be activated only with the help of the profitable position of the business concern.

Financial Management as the name suggests is management of finance. It deals with planning and mobilization of funds required by the firm. Managing of finance is nothing but managing of money. Every activity of an organization is reflected in its financial statements.

Financial Management deals with activities which have financial implications.

It includes-

- Profit maximization and wealth /value maximization
- Achieving a higher growth rate.
- Attaining a large market share.
- Promoting employee welfare
- Increasing customer satisfaction.
- Improve community life.

Among these, a conflict included in profit maximization and wealth /value maximization objective i.e. - The primary objective of a business is to earn profit, hence

the objective of financial management is also **profit maximization**. If profit is given undue importance, a number of problems can arise, such as-

- It does not take into account the time pattern of returns.
- It fails to take into account the social consideration to workers, customers etc.
- The term profit is vague – it conveys a different meaning to different people .e.g. total profit, rate of profit etc.

In **wealth maximization** business firm maximize its market value ,it implies that business decision should seek to increase the net present value of the economic profit of the firm .It is the duty of the finance manager to see that the share holders get good return on the share (EPS -Earning per Share). Hence, the value of the share should increase in the stock market. The wealth maximization objective is generally in accord with the interest of the various groups such as owners, employees etc.

Owing to limitation (timing, social consideration etc.) in profit maximization, in today's real world situations which is uncertain and multi-period in nature, wealth maximization is a better objective .Where the time period is short and degree of uncertainty is not great, wealth maximization and profit maximization amount to essentially the same.

FUNCTIONS OF TREASURER

1. Provision of Finance

The major responsibility of the treasurer is to provide adequate and timely finance. He has to forecast the short-term and long-term financial needs and arrange for meeting those needs by issue of securities, arrangements with banks, etc.,

2. Investor Relations

- Creating and maintaining a market for the securities of the firm
- Maintaining cordial relations with the investors
- Rendering efficient service to investors – shareholders, debenture holders etc.,

3. Receivables Management

It is concerned with granting of credit and collection of dues from debtors in time.

4. Cash Management

It is crucial function. The treasurer has to maintain optimum cash balance to meet the payment obligations without difficulty.

5. Investments

In order to ensure efficient utilization, the finance manager has to arrange for investment of surplus cash. Monitoring of the investments and realization of the investments – as and when required – are also his function.

6. Insurance

It is concerned with arrangements for adequate insurance coverage whenever required.

FUNCTIONS OF CONTROLLER

1. Planning and Control

It includes planning and administration of control programmes such as budgeting, reporting systems, profit planning etc.,

2. Reporting and Interpretation

Timely information is required for decision making and control. The function of the controller is to establish a sound financial reporting system to meet the informational requirements.

3. Tax Administration

Tax administration relates to compliance with various tax laws, payment of taxes, filing of returns, tax planning, etc.,

4. Reporting to Government

The controller is responsible for providing information required by the government on various financial matters.

5. Protection of Assets

The controller has to design and implement appropriate systems like internal control and internal audit for the protection of the firm's assets.

6. Economic Appraisal

The controller appraises the macro-economic environment. He advises the management regarding the outlook of the economy effect of economic and social forces on the business.

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POSSIBLE QUESTIONS – UNIT I

PART A (1 MARK)
ONLINE QUESTIONS

PART B (2 MARKS)

1. Define Financial Management
2. What do you mean by profit maximization?
3. Briefly explain on Wealth Maximization.
4. Briefly narrate on (i) Treasurer (ii) Controller
5. What do you mean by Receivables Management?
6. What do you understand by Cash Management?
7. What do you mean by Project Planning?
8. Briefly explain on Cost Volume Profit Analysis.
9. Define Capital Structure.
10. What do you mean by financial analysis?

PART C (6 MARKS)

1. Explain the objectives of financial management.
2. Discuss in detail, the functions of financial management.
3. Explicate in detail the functions of Treasurer.
4. Discuss in detail the role of financial manager.
5. Explain in detail the Scope of financial management.
6. Describe in detail on aims of financial management.
7. Elucidate in detail on functions of financial management.

8. Explicate in detail on areas where financial management may be applied.
9. Describe in detail the purpose of studying financial management.
10. Explain in detail on duties of financial manager.
11. Elucidate in detail on various goals of financial management.
12. Describe in detail on various functions of Company Controller and Treasurer.

QUESTION PAPER PATTERN

Internal	**: 50 Marks**
Multiple Choice Questions	: 20 X1 = 20 Marks
Descriptive type Questions	: 3 X 2 = 6 Marks
Descriptive type Questions	: 3 X 8 = 24 Marks

External	**: 60 Marks**
Multiple Choice Questions	: 20 X1 = 20 Marks
Descriptive type Questions	: 5 X 2 = 10 Marks
Descriptive type Questions	: 5 X 6 = 30 Marks

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF COMMERCE
CORPORATE FINANCE (17CMP101/17CCP101)
UNIT I ONE MARK QUESTIONS

Financial management is part of ____	Business Management	Management Accounting	Cost Accounting	Structural Management	Business Management
Financial management also referred to as ____	corporate finance	Soletrader Finance	Co-operative Finance	All the Above	corporate finance
The appropriate objective of an enterprise is _____	Maximization of sales	Maximization of owners wealth	Maximization of profit	Maximization of production	Maximization of owners wealth
Which of the following is never consistent with the objective of maximising shareholder wealth?	Increase sales	Corporate social reponsibility	Paying dividend	Satisficing	Increase sales
---------- is the life blood of an enterprises	Finance	Production	Sales	Purchases	Finance
Management of all matters related to an organisations finance is called	Cash Inflow and Cash Outflow	Allocation of Resources	Financial Management	Paying Dividend	Financial Management
The process of raising, providing and administering the funds used in a corporate enterprise is termed as ----------	Coporate Finance	Partnership Finance	Sole Trader Finance	Co-operative Finance	Coporate Finance
---------- refers to that part of the management activity which is concerned with planning and controlling of firms financial	Financial Management	Human Resource Management	Management accounting	Auditing	Financial Management
---------- focus all the financial activities in an organization.	Finance Function	Marketing Function	Production Function	Personnel Function	Finance Function
Early in the history of finances an important issue was	Liquidity	Capital structure	Technolgoy	Financial Options	Liquidity
According to traditional approach of finance function deals with only ----------	Procurement of Funds	Utilization of Funds	Private deposit	Public Deposit	Procurement of Funds
According to modern approach, the finance function deals with ----------	Investment	Utilization of Funds	Finance Decision	Capital decision	Utilization of Funds
The most important goal of financial management is ____	Profit Maximization	Matching Income and Expenditure	Wealth Maximization	Using business assets effectively	Wealth Maximization
Financial management is ---------- process	Dynamic	Rigid	Continuous	Discontinuous	Continuous
Which one not fall in the scope of financial management?	Determining Financial Needs	Determining source of funds	Cost Reduction	Capital Structure	Cost Reduction
Which are the sources of funds?	Issue of Shares	Issue of Debentures	Borrowing from Bank	All of the above	All of the above
The decision function of financial management can be broken down into the ____ decisions.	Financing and Investment	Financing and Dividend	Investment, financing and dividend	Financing decision only	Investment, financing and dividend
The focal point of financial management in a firm is:	No of products produced	Earning Profits	Create Value for Shareholders	Minimise tax	Create Value for Shareholders
The primary objective of financial management is ----------	Profit Maximization	Wealth Maximization	Both	Current Assets	Wealth Maximization
Financial management is least concern for	Financial Forecasting	Allocation of Resouces	Establishing Assets Management	Gross Profit Ratio	Gross Profit Ratio
What is ignored in profit maximisation?	Wealth	Net value	Time Value of Money	Historical Cost	Time Value of Money
Raising more capital than required denotes situation of___	Overdraft	Excess of Capital	Over Liquidity	Tangible	Excess of Capital
The higher the stock price per share the ---------- will be the stockholders wealth.	Greater	Lower	Profit before tax	Profit after Depreciation and Taxes	Greater
CVP stands for----------	Cost Volume Profit	Cost value profit	Cost Volume Programme	Change Volume Profit	Cost Volume Profit
Break Even Point = _____	Maximum profit	Maximum loss	Atleast Profit	No Profit and No loss	No Profit and No loss
---------- refers to decision concerning financial matters of a business firm	Financial Decision	Investment Decision	Production Decision	Marketing Decision	Financial Decision
_____ and _____ are the two versions of goals of the financial management of the f	Profit maximisation, Wealth maximization	Production maximisation, Sales maximisation	Sales maximisation, Profit maximization	Value maximisation, Wealth maximisation	Profit maximisation, Wealth maximization
The ---------- investment decision is known as capital budgeting	Short Term	Long Term	Medium Term	Long term as well as short term profits	Long Term
The ---------- investment decision is referred to the working capital requirement	Short Term	Long Term	Medium Term	Quick term	Short Term
---------- is the process of making investment decisions in capital expenditure	Capital Budgeting	Working Capital Management	Cost of Capital	Leverage	Capital Budgeting
The term ---------- refers to the part of profit of a company which si distributed by it among its shareholders.	Interest	Dividend	Share	Ownership	Dividend
Planning refer to----------	Forecasting	Event	Happened	Activity	Forecasting
Financial forecasting and planning are the function of ----------	Production Manager	Financial Manager	Marketing Manager	Personnel Manager.	Financial Manager
Planning is ----------	Secondary function	Primary function	Intermidiary function	End function	Primary function
Financial Planning deals with:	Preparation of Financial Statements,	Planning for capital issue	Preparing budget	Financial statement and capital issues	Preparing budget
The following are examples of intangible assets except:	Machinery	Trade marks	Patents	Technical expertise	Machinery
Which one is not included in ideal financial plan?	Rigid	Flexible	Foresight	Simplicity	Rigid
Principles of sound finanical planning doest not include	Clear cut objective	Simple	More depend on outsider funds	Flexible	More depend on outsider funds
Long term finance requires to purchase---------- assets	Fixed	Tangible	Intangible	Variable	Fixed
Which is not include in role of financial manager?	Estimating Financial Requirements	Deciding the Capital Structure	Selecting Source of Finance	Earning profit	Earning profit
Which one is not considered as Financial control device?	Budgetary control	Return on investment	Performance appraisal	Cost control	Performance appraisal
The appropriate objective of an enterprise is ----------	Maximization of sales.	Maximization of owners wealth	Maximization of profit	Maximization of production	Maximization of owners wealth
Financial forecasting and planning are ----------function financial manager	First	Second	Third	End	First
Which one least functions of finanical management?	Forecasting	Acquiring funds	Earning profit	Investing funds	Earning profit
The job of a finance manager is confined to,___	Raising of funds	Management of cash	Investment , finance and cash decisions	Raising of employees	Raising of funds and their effective utilization
Financial decisions involve	Investment , finance and dividend decisions	Investment , finance and sales decisions	Investment , finance and cash decisions	Investment , finance and marketing decisions	Investment , finance and dividend decisions
Investment decisions classified into ----------	Two	Three	Four	Five	Two
Higher is the risk higher is the ----------	Return	Risk	Cost	Sales	Return
The financial management is reponsible for the----------function of the concern.	Marketing	Accounting	Finance Decision	Managerial	Finance
If an investor invests his money on purchase of debenture ha can get ----------	Dividend	Interest	Fee	Rent	Interest
---------- can be defined in terms of variability of returns	Return	Risk	Decision	Profit	Risk
Financial goals may be stated as maximizing _____	Long term profits	Short term profits	Minimizing risks	Long term as well as short term profits	Long term as well as short term profits
The primary aim of finance function is to _____for the business as are required from time to time.	Proper utilization of fund	Increasing profitability	Maximizing firms value	Acquiring sufficient fund	Acquiring sufficient fund
_____ relates to the determination of total amount of assets to be held in the firm.	Financing decision	Investment decision	Dividend decision	Capital decision	Investment decision
_____ is concerned with the quantum of profits to be distributed among share holders.	Dividend decision	Capital decision	Investment decision	Financing decision	Dividend decision
_____ is concerned with the best overall mix of financing for the firm.	Investment decision	Financing decision	Dividend decision	Capital decision	Financing decision
The first step in the financial management process_____	Financial planning and controlling	Risk and return	Financing decision	Analysis	Financial planning and controlling
The broad activities of financial management are ----------	Financial analysis	Avoidance of risk	Prevention of risk	Retention of risk	Financial analysis
In finance, "short-term" means	Less than three months	Less than six months	Less than one year	Less than five years	Less than one year
Finance is aimed at ----------	Value maximization	Service maximization	Deflation risk	Monetary value risk	Value maximization

	Investment decision making	Dividend decision	Investment decision making
	Marketing management	working capital management	Investment decision
	Investment decision making	Dividend decision	0
	Investment decision making	Dividend decision	0
	Capital structure	Capital budgeting	Capital budgeting
	reversible	Unimportant	Irreversible
	Rate of return	Pay back period	Pay back period
	Accounting rate of return	Rate of return	0
	EBIT/EBT	Initial Investment/annual cash inflow	Initial Investment/annual cash inflow
	5 1/2 yrs	7 yrs	0
	7 yrs	6 yrs	0
	NPV method	Internal rate of return method	0
	Accounting rate of return	Rate of return	0
	Profitability and time value of money	Cash inflow	Profitability and time value of money
	Net present value	Net profit value	Net present value
	NPV	Internal rate of return	Internal rate of return
	Required rate of return	tax effect	Rate of Cash discount
	merger	Replacement of asset	Stock level
	interest on Borrowings	last dividend paid	Cash flows
	NPV	Pay back period	0
	Internal realized return	Investment rate of return	Internal rate of return
	Profitability index	Internal rate of return	Internal rate of return
	Pay back period	Profitability index	Profitability index
	accounting rate of return	profitability index	profitability index
	cash outflow/ cash inflow	present value of cash inflow/ present value of cash outflow	present value of cash inflow/ present value of cash outflow
	Profit before tax	Profit after depreciation and taxes	0
	Capital Budgeting	Working Capital	0
	Cost of Capital	Working Capital	Cost of Capital
	Working Capital	Cost of Capital	Cost of Capital
	Working Capital	Capital Structure	0
	Working Capital	Capital Structure	0
	dividend	borrowing	Required rate of return

Capital Budgeting	Working Capital	0
Historical Cost	Implicit Cost	Historical Cost
Historical Cost	Implicit Cost	0
Historical Cost	Implicit Cost	0
Composite cost	Historical Cost	Composite cost
Debenture	Retained Earnings	Retained Earnings
Historical Cost	Composite cost	Composite cost
loans	Preference shares	Equity shares
Cost of Equity Capital	Weighted average cost of Capital	Weighted average cost of Capital
Historical Cost	Implicit Cost	0
Historical Cost	Implicit Cost	0
Historical Cost	Implicit Cost	0
Average Cost	Implicit Cost	Average Cost
k_o	k_{ac}	k_w
Historical Cost	Implicit Cost	0
Marginal Cost	Implicit Cost	Marginal Cost
Cost of Preference Capital	Marginal Cost	0
Investment/Interest	Earnings/ Net Interest	0
Cost of debt	Cost of Retained Earnings	Cost of debt
New Debt	Retained Earnings	New Equity shares
Dividend / Net Proceeds	EBIT / Net Proceeds	Dividend / Net Proceeds
Risk free rate of interest	both a and b	After Tax basis
Share capital	Bonds and debentures	All sources
Average IRR of the Projects of the firm	Minimum Rate of Return that the firm should earn.	Minimum Rate of Return that the firm should earn.
Average cost of borrowing	Net profit ratio	Weighted Average cost of capital
Dividend / Market Price	EBIT / 100	Dividend / Market Price
Dividend / Mkt. Price	EBIT /100	0
Financial Leverage	Working Capital Leverage	Financial Leverage
Contribution / Sales	EBT / EBIT	0
Contribution / Sales	EBT / EBIT	0
EBT / EBIT	Contribution / Sales	0
Production Risk	Credit Risk	Business risk
Production Risk	Credit Risk	Financial Risk
Multiplication	Division	Multiplication
Sales – Explicit Cost	Sales – Variable Cost	Sales – Variable Cost
More debentures are issued than equity	More preference shares are issued than equity capital	More debentures are issued than equity capital
Equity capital and fixed interest securities	Debentures and preference capital	Equity capital and fixed interest securities
Sales and EBT	Sales and EPS	EBIT and EBT
Transaction between the company and its	Restricted transaction on equity shares and stock exchange	0
Return on equity capital	The return on borrowed capital exceeds the return on equity	0
Equal debt and equity	High debt or low debt	High debt
variable cost	Sales	Fixed cost of production
variable cost	Sales	Interest cost
High FL , Low OL	High OL and Low FL	High OL and Low FL
EPS=1	EPS=0	EBIT=Zero
Combined Leverage	Operating or Financial leverage	Openrating Leverage
Combined Leverage	Operating or Financial leverage	financial leverage
Operating leverage	Combined leverage	Administrative leverage
Combined Leverage	fixed assets	financial leverage
Operating leverage	break even point	earning per share
Administrative leverage	Combined leverage	Operating leverage
CL= OL * FL	CL= OL/FL	CL= OL * FL
Lower Debt	Lower Equity	Higher Debt
Fixed cost	Variable cost	Fixed cost
Equity share capital	Face value of Equity shares	No. of Equity Shares
FL is zero	OL is Zero	FL is one
Net profit and earnings	Gross and net profit	0
modern approach	walter approach	0
Unclaimed dividends	Transferring a part of profit to reserve	0
Equity and preference capital	Debenture preference and equity capital	Debenture preference and equity capital
Financial and trading on equity	Operating and working capital leverage	0
lease	Bailment	lease
Salaries paid	Advertisement cost	0
depreciation	preliminary expenses	preliminary expenses
yearly premium to insure the truck	cost of repairs of the truck	0
Outstanding expenses	Depreciation	Equity
Depreciation	Outstanding expenses	Paid up share capital
during modernization	During diversification	0
earning is the base to raise the finance	Dividend is the base to raise the finance	equity is the base to raise the finance
Debtors wealth	Stock	Equity
during modernization	During promotion	0
earning is the base to raise the finance	Dividend is the base to raise the finance	earning is the base to raise the finance
Share capital	Equity capital	0
capital budgeting	auditing	0
MM approach	Traditional approach	Net income approach
interest	Long term loan	Equity shares
Debt is irrelavant	Low Debt is better	High Debt better
$V_D = V_F + V_E$	$V_F = V_E - V_E$	$V_F = V_E + V_D$
decrease volatility return	Increas return on capital employed and net equity	Increase return on Capital Employed
CL= OL * FL	FL=EBT / EBIT	FL=EBIT/OP
may be irrelevant	irrelevant	irrelevant
combined leverage	Capital Structure	0
MM approach	Traditional approach	Net income approach
MM approach	Traditional approach	Traditional approach
modern approach	walter approach	0
WACC	None	None
Decreasing k_0	Increasing k_0	Arbitrage Process
ke is constant	k_d & k_0 are constant	ke is constant
capital budgeting	cost of capital	0
Reserve	Loan	management of current assets
cash discount policy	Sales price	Sales price
Stock Level	Ageing Schedule	Ageing Schedule
Equal Order Quantity	Economic One Quantity	Economic Order Quantity
Bills receivables	Debtors	0
Lock box system	Flexible budget	0

Gross working capital	fixed asset	Gross working capital	
Receipts and payments method	Financial statement		0
Accounts payable management	Corporate Goverances	Inventory Management	
High morale	All of the above	All of the above	
To find internal source of funds	To find external source of funds		0
deposits in the bank	Current assets		0
Furniture	Work in Progress	Furniture	
Current Assets* Current Liabilities	Current Assets/Current Liabilities	Current Assets- Current Liabilities	
Medium	Average	Positive	
Current Assets equal Current Liabilities	Current assets average current liabilities		0
Both a & b	WC= CA		0
Current liabilities positions	Prpfitability position		0
Environment changes	Political changes	Policy changes	
Inventory	working capital		0
All Better Control	All better Cost		0
More working capital	Increase fixed assets	More working capital	
Very Essential Desirable	Vital Essential Dot	Vital Essential Desirable	
Fixed asset	Current assets		0
cash	Receivables	Cash	
Reorder level	Optitum order size	Optitum order size	
import duty	Selling costs	Selling costs	
Debtors	Creditors	Debtors	
$\sqrt{2AO/}$	2A÷OC	$\sqrt{2AO/}$	
expenditure in the usual course of business	Expenditure to acquire capital	Expenditure to acquire capital	
Overdraft	Loan		0
Average Age of Directors	Average age of all employees	Debtors and Days outstanding	
aging schedule	Days sales outstanding	fund flow analysis	
Debtors collection	Inventory Management	Debtors collection	
Total interest cost	Safety stock level	Total ordering cost	
Periodic Inventory system	updating of inventory records	Higher Safety Stock	
equity shares	Share premium		0
Gross working capital	Permanent working capital	Gross working capital	
Working capital cycle	Gross operating cycle	Net operating cycle	
Liquidity decision	Finance decision	Liquidity decision	
Temporary Working Capital	All of these	Gross Working capital	
Both a and b	Net Working Capital	Net Working Capital	
Credit sales.	A new personal computer for the office.	A new personal computer for the office.	
Nil	Infinitive	Nil	
packaging	purchasing.	purchasing.	
Average Age of Directors,	Average Age of Average all employees	Debtors and DaysOutstanding,	
Low value, high risk	Low value, low risk.	Low value, low risk.	
Fixed working capital	Seasonal working capital	Gross Working Capital	
Seasonal working capital	Working capital Turnover	Working capital Turnover	
Working cost	Working change	Working capital	
Outstanding expenses	debenture	debenture	
Stock	bills receivable	current assets	
All Better Control	All better Cost		0
fixed liability	fixed asset		0
furniture	debtors	debtors	
prepaid expenses	loan		0
fixed liability	fixed asset		0
Issue of shares	Settlement of Discount	inventory conversion period	
fixed liability	fixed asset		0
master budget	production budget		0
both	none	both	
current liabilties	current assets minus current liabilities	current assets minus current liabilities	
current assets minus inventories.	current assets.	current assets minus current liabilities.	

Traditional approach	Modern approach	MM approach	
Investment decision	Management decision		0
Investment decision	Management decision		0
low risk	medium risk	no risk	
MM approach	Traditional approach	MM approach	
Gorden approach	Modern approach	Gorden approach	
Risk	Income		0
Risk	Cost of capital	Cost of capital	
Short life	Medium	Short life	
Age of the company	All of these	All of these	
Societies act	Registration act		0
Dividend	Profit	Dividend	
Dividend	Profit	Dividend	
Irregular dividend	Unstable dividend		0
Expectation per share	Expectation Per security.		0
Dividend per security	Determinants per security		0
Irregular dividend	Unstable dividend		0
profit dividend	liquidation dividend		0
dividend	income.	dividend	
Successful business operations	Certainty of earnings		0
Stable dividend	Irregular dividend		0
Regular dividend	Unstable dividend		0
property dividend	stock dividend		0
property dividend	stock dividend		0
property dividend	stock dividend	property dividend	
property dividend	stock dividend	stock dividend	
bond dividend	stock dividend	bond dividend	
constant dividend per share	all of these.		0
constant dividend per share	all of these	all of these	
Profitability	turnover		0
excess dividend	additional dividend other than prescribed		0
shareholders wealth	Employees wealth	shareholders wealth	
other than cash	stock	other than cash	
interest	dividend		0
Cash	Bank	Cash	
debentures	none		0
promoters shares	Stock spilit	Stock spilit	

Market price	Constant price		Perfect capital market
constant	Regular		0
income after taxes/ no of debentures	shares / income		0
.Liberal	less		.Liberal
constant	no dividend		0
Lower	no dividend		Lower
15%	17%		0
25%	12%		12%
$k_e > r$	$k_e = 0$		$k_e > r$
100% payout	50% payout		0% payout
Retained Earnings	Paid up capital		Retained Earnings
Financial Restructuring	Dividend in Kind		Financial Restructuring
Informational Content	Debt service capacity		Informational Content
Bonus issue	cash		Share split
Increase or Decrease Dividend policy	Stable dividend policy		Stable dividend policy
Fixed dividend policy	Stable dividend policy		Stable dividend policy
debenture holders'	bond holders		shareholders
Neutralise	Increase or decrease		Increases
share policy	sale policy		Dividend policy
	-1	-2	0
lower rate dividend plicy	High dividend plicy		Stable dividend policy
investments	property		investments
heavy fixed burden of interest	shortage of liquid resources		More profit
Profitability	turnover		0

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed University Established Under Section 3 of UGC Act 1956)
Coimbatore - 641021.
(For the candidates admitted from 2017 onwards)

DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : **I**
SUBJECT CODE: **17CMP101** **CLASS** : **I M.Com.**

UNIT – II

Cost of Capital – Significance – Concepts of Cost of Capital – Cost of Debt Capital, Preference Capital, Equity Capital and Retained Earnings – Weighted Average Cost of Capital.

INTRODUCTION

Cost of capital is an integral part of investment decision as it is used to measure the worth of investment proposal provided by the business concern. It is used as a discount rate in determining the present value of future cash flows associated with capital projects. Cost of capital is also called as cut-off rate, target rate, hurdle rate and required rate of return. When the firms are using different sources of finance, the finance manager must take careful decision with regard to the cost of capital; because it is closely associated with the value of the firm and the earning capacity of the firm.

Cost of Capital is the rate that must be earned in order to satisfy the required rate of return of the firm's investors. It can also be defined as the rate of return on investments at which the price of a firm's equity share will remain unchanged. Each type of capital used by the firm (debt, preference shares and equity) should be incorporated into the cost of capital, with the relative importance of a particular source being based on the percentage of the financing provided by each source of capital. Using of the cost a single source of capital as the hurdle rate is tempting to management, particularly when an investment is financed entirely by debt. However, doing so is a mistake in logic and can cause problems.

MEANING OF COST OF CAPITAL

Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. Cost of capital is the required rate of return on its investments which belongs to equity, debt and retained earnings. If a firm fails to earn return at the expected rate, the market value of the shares will fall and it will result in the reduction of overall wealth of the shareholders.

DEFINITIONS

The following important definitions are commonly used to understand the meaning and concept of the cost of capital.

- According to the definition of **John J. Hampton** " Cost of capital is the rate of return the firm required from investment in order to increase the value of the firm in the marketplace".

- According to the definition of **Solomon Ezra,** "Cost of capital is the minimum required rate of earnings or the cut-off rate of capital expenditure".
- According to the definition of James C. Van Horne, Cost of capital is "A cut-off rate for the allocation of capital to investment of projects. It is the rate of return on a project that will leave unchanged the market price of the stock".
- According to the definition of William and Donaldson, "Cost of capital may be defined as the rate that must be earned on the net proceeds to provide the cost elements of the burden at the time they are due".

SIGNIFICANCE OF COST OF CAPITAL

Computation of cost of capital is a very important part of the financial management to decide the capital structure of the business concern.

1. Importance to Capital Budgeting Decision

Capital budget decision largely depends on the cost of capital of each source. According to net present value method, present value of cash inflow must be more than the present value of cash outflow. Hence, cost of capital is used to capital budgeting decision.

2. Importance to Structure Decision

Capital structure is the mix or proportion of the different kinds of long term securities. A firm uses particular type of sources if the cost of capital is suitable. Hence, cost of capital helps to take decision regarding structure**.**

3. Importance to Evolution of Financial Performance

Cost of capital is one of the important determine which affects the capital budgeting, capital structure and value of the firm. Hence, it helps to evaluate the financial performance of the firm.

4. Importance to Other Financial Decisions

Apart from the above points, cost of capital is also used in some other areas such as, market value of share, earning capacity of securities etc. hence; it plays a major part in the financial management.

CONCEPTS OF COST OF CAPITAL

Cost of capital may be classified into the following types on the basis of nature and usage:

1. Future Cost and Historical Cost

Future cost of capital refers to the expected cost of funds to be raised to finance aproject. In contrast, historical cost represents cost incurred in the past in acquiring funds. In financial decisions future cost of capital is relatively more relevant and significant. While evaluating viability of a project, the finance manager compares expected earnings from the project with expected cost of funds to finance the project .Like wise, in taking financing decisions, attempt of the finance manager is to minimize future cost of capital and not the costs already defrayed. This does not imply that historical cost is not relevant at all. In fact, it may serve as a guideline in predicting future costs and in evaluating the past performance of the company.

2. Component Cost and Composite Cost

A company may contemplate to raise desired amount of funds by means of different sources including debentures, preferred stock, and common stocks. These sources constitute components of funds. Each of these components of funds involves cost to the company. Cost of each component of funds is designated as component or specific cost of capital. When these component costs are combined to determine the overall cost of capital, it is regarded as composite cost of capital, combined cost of capital or weighted cost of capital, the composite cost of capital, thus, represents the average of the costs of each sources of funds employed by the company. For capital budgeting decision, composite cost of capital is relatively more relevant even though the firm may finance one proposal with only one source of funds and another proposal with another source. This is for the fact that it is the overall mix of financing over time which is materially significant in valuing firm as an ongoing overall entity.

3. Average Cost and Marginal Cost

Average cast represents the weighted average of the costs of each source of funds employed by the enterprise, the weights being the relative share of each source of funds in the capita! structure. Marginal cost of capital, by contrast refers to incremental cost

associated with new funds raised by the firm. Average cost is the average of the component marginal costs, while the marginal cost is the specific concept used to comprise additional cost of raising new funds. In financial decisions the marginal cost concept is most significant.

4. Explicit Cost and Implicit Cost

Cost of capital can be either explicit cost or implicit. The explicit cost of any source of capital is the discount rate that equates the present value of the cash inflows that are incremental to the taking of the financing opportunity with the present value of its incremental cash outlay. Thus, the explicit cost of capital is the internal rate of return of the cash flows of financing opportunity. A series of each flows are associated with a method of financing. At the time of acquisition of capital, cash inflow occurs followed by the subsequent cash outflows in the form, of interest payment, repayment of principal money or payment of dividends. Thus, if a company issues 10 per cent perpetual debentures worth Rs. 10,00,000, there will be cash inflow to the firm of the order of 10,00,00. This will be followed by the annual cash outflow of Rs. 1,00,000. The rate of discount, that equates the present value of cash inflows with the present value of cash outflows, would be the explicit cost of capital.

The technique of determination of the explicit cost of capital is similar to the one used to ascertain IRR, with one difference, in the case of computation of the IRR, the cash outflows occur at the beginning followed by subsequent cash inflows while in the computation of the IRR, the cash outflows occur at the beginning followed by subsequent cash inflows, while in the computation of explicit cost of capital, cash inflow takes place at the beginning followed by a series of cash inflow subsequently.

The explicit cost of an interest bearing debt will be the discount rate that equates the present value of the contractual future payments of interest and principal with the net amount of cash received today. The explicit cost of capital of a gift is minus 100 percent, since no cash outflow will occur in future. Similarly, explicit cost of retained earnings which involve no future flows to or from the firm is minus 100 per cent. This should not tempt one to infer that the retained earnings is cost free. As we shall discuss in the subsequent paragraphs, retained earnings do cost the firm. The cost of retained earnings

is the opportunity cost of earning on investment elsewhere or in the company itself. Opportunity cost is technically termed as implicit cost of capital. It is the rate of return on other investments available to the firm or the shareholders in addition to that currently being considered. Thus, the implicit cost of capital may be defined as the rate of return associated with the best investment opportunity for the firm and its Shareholders that will be foregone if the project presently under consideration by the firm were accepted. In this connection it may be mentioned that explicit costs arise when the firm raises funds for financing the project. It is in this sense that retained earnings have implicit cost. Other forms of capital also have implicit costs once they are invested, Thus in a sense, explicit costs may also be viewed as opportunity costs. This implies that a project should be rejected if it has a negative present value when its cash flows are discounted by the explicit cost of capital.

It is clear thus that the cost of capital is the rate of return a firm must earn on its investments for the market value of the firm to remain unchanged. Acceptance of projects with a rate of return below the cost of capital will decrease the value of the firm; acceptance of projects with a rate of return above the cost of capital will increase the value of the firm. The objective of the financial manager is to maximize the wealth of the firm's owners. Using the cost of capital as a basis for accepting or rejecting investments is consistent with this goal.

COMPUTATION OF COST OF SPECIFIC SOURCES

COST OF DEBT

a) Cost of Irredeemable Debt

- Irredeemable debt is debt which is not redeemable during the life time of the company

Before Tax Cost of Debt = Interest / Net Proceeds (NP)

a) When debt is issued at par: NP = Face Value – Issue Expense

b) When debt is issued at a Premium: NP = Face Value + Premium – Issue Expenses

c) When debt is issued at a discount: NP = Face Value – Discount – Issue Expenses

After Tax Cost of Debt

- In the computation of income tax, interest is allowed as a deduction. Hence, a firm saves tax on interest paid. As a result, after tax cost is lower than the before tax cost of debt

After Tax Cost of Debt = Interest – Tax Savings / Net Proceeds

Net Proceeds = Net Amount Realized

b) Cost of Redeemable Debt

- Redeemable debt refers to debt which is to be redeemed after the stipulated period.

Before Tax Cost of Redeemable Debt = Annual Cost Before Tax / Average Value of Debt

Annual Cost Before Tax

Interest Per Annum

Add: Issue Expenses, amortized p.a.

Add: Discount on issue, amortized p.a.

Add: Premium on Redemption, amortized p.a.

Less: Premium on Issue, amortized p.a.

Annual Cost Before Tax

- To calculate annual cost, the issue expenses, discount on issue, premium on redemption and premium on issue are amortized over (spread over) the tenure of the debt.

Average Value of Debt

- Average Value of Debt is the average of net proceeds (NP) and redemption value (RV) of debt
- AV = NP + RV / 2

After Tax Cost of Redeemable Debt

After Tax Cost of Debt = Annual Cost After Tax / Average Value of Debt

Annual Cost After Tax = Annual Cost Before Tax – Tax Savings

Average Value of Debt = NP + RV / 2

COST OF PREFERENCE SHARE CAPITAL

- A fixed rate of dividend is payable on preference shares. The dividend is payable at the discretion of directors. Yet, preference dividend is regularly paid by companies when they earn profit.

Cost of Irredeemable Preference Capital

- The cost of preference capital which is perpetual is calculated by the following formula:

Cost of Preference Capital = Annual Divided / Net Proceeds

Where,

Annual Dividend = Annual preference dividend payable

Net Proceeds = Net amount realized from the issue of preference shares

a) When preference shares are issued at par:

Net Proceeds = Face Value – Issue Expenses

b) When preference shares are issued at a Premium

Net Proceeds = Face Value +Premium – Issue Expenses

c) When preference shares are issued at a Discount

Net Proceeds = Face Value –Discount – Issue Expenses

- Preference dividend is not allowed as a deduction in the computation of income tax. Hence, before tax cost and after tax cost are the same

Cost of Redeemable Preference Share Capital

- Preference shares which are to be redeemed after the expiry of the stipulated period are known as redeemable preference shares

Cost of Redeemable Preference Shares = Annual Cost / Average Value of RPS

Annual Cost

Preference Dividend p.a

Add: Issue Expenses, amortized p.a.

Add: Discount on Issue, amortized p.a.

Add: Premium on Redemption, amortized p.a.

Less: Premium on Issue, amortized p.a.

Annual Cost

Average Value of RPS

- Average value is the average of net proceeds (NP) on the issue and the redemption value (RV)

Average Value = NP + RV / 2

Net Proceeds = Net amount realized from the issue of preference shares

a) When preference shares are issued at par:

Net Proceeds = Face Value – Issue Expenses

b) When preference shares are issued at a Premium

Net Proceeds = Face Value +Premium – Issue Expenses

c) When preference shares are issued at a Discount

Net Proceeds = Face Value –Discount – Issue Expenses

COST OF EQUITY CAPITAL

- It is not legally binding on a company to pay dividend on equity shares even if it earns profits. Further, the rate of equity dividend is not fixed while the rate of preference dividend and interest on debt are fixed. Hence, it is sometimes argued that the equity capital is cost free. This view is not correct. The share holders invest in equity shares with the expectation of receiving dividends. The market price of equity shares also depends on the return expected by shareholders.
- Therefore, the cost of equity capital is the minimum rate of return that must be earned to maintain the market price of the share unchanged.

Dividend Price Method (or) Dividend Yield Method

- According to this method, cost of equity capital is the discount rate at which the present value of expected future dividends per share is equal to the net proceeds (or current market price) per share

Cost of Equity Capital = D/NP (or) D/MP

Where,

D = Expected Dividend Per Share

NP = Net Proceeds Per Share (in case of new issue)

MP = Market Price Per Share (in case of existing shares)

Net Proceeds

- When a company issues new shares it incurs floatation cost such as fees to investment bankers, brokerage, underwriting commission and commission to agents. So, the net proceeds per share is considered to calculate the cost equity capital
- In the case of existing equity shares, market price is considered
- The dividend /price method recognizes the importance of dividends. But it ignores retained earnings which have an impact on the market price. The D/P method also ignores growth in dividends, capital gains and future earnings. The method is suitable only when the company has stable earnings and a stable dividend policy over a reasonable length of time.

Dividend Price + Growth Method

- Under this method, cost of equity capital is determined on the basis of dividend yield and the growth rate in dividends
- Cost of Equity Capital = D/NP + g (or) D/MP+ g

Where,

D = Expected Dividend Per Share

NP = Net Proceeds Per Share (in case of new issue)

MP = Market Price Per Share (in case of existing shares)

G = Growth rate in dividends

- The D/P + g method recognizes the importance of dividends as well the growth in dividends. But, the method assumes that dividends grow at a constant rate. In reality, it is not true

Earnings Price Method

- Earnings price method is also called earnings model. It considers earnings as more appropriate than dividends in computing the cost of equity capital. The cost of equity

is the rate at which total present value of expected future EPS is equal to the market price per share.

- Cost of Equity Capital = EPS/NP (or) EPS/MP

Where,

EPS = Earnings Per Share

NP = Net Proceeds Per Share (in case of new issue)

MP = Market Price Per Share (in case of existing shares)

- The E/P Method takes into account the retained earnings. But it is criticized on the ground that the E/P ratio does not reflect the expectations of shareholders.
- Earnings Model is suitable when
  - The EPS is expected to remain constant
  - The payout is 100 per cent (all the profits are distributed as dividends)
  - The firm does not employ any debt

COST OF RETAINED EARNINGS

- All the profits earned by a company are not distributed as dividends to shareholders. Generally, companies retain a portion of the earnings for use in business. This is called as retained earnings.
- The company does not have to pay any dividend on the retained earnings. Hence, it is sometimes argued that retained earnings do not have any cost. This view is not correct. If the amount retained by the company had been distributed to the shareholders, they would have invested the amount elsewhere and earned some return. As the earnings have been retained by the company the shareholders have foregone the return. Therefore, retained earnings do have a cost. The cost of retained earnings is the return foregone by the shareholders. It is thus, the opportunity cost of dividend foregone by the shareholders.
- It is to be noted that the shareholders cannot invest the entire dividend income. They have to pay income tax on dividends. Further, they have to pay brokerage for the purchase of securities. Therefore, adjustments are made for tax and brokerage in the computation of cost of retained earnings.

Cost of Retained Earnings may be ascertained as follows:

a) Cost of Equity Capital (Ke)
b) Less: Tax on Cost of Equity
c) Less: Brokerage (% on a-b)

Cost of Retained Earnings (Kr)

Weighted Average Cost of Capital

- Weighted Average Cost of Capital is very important in financial decision making. WACC is the weighted average of the costs of different sources of finance. It is also known as composite cost of capital or overall cost of capital

Steps for the calculation of WACC

- After tax cost is relevant in financial decision making. Therefore, the after tax cost of each of the source (x) of finance is ascertained
- The proportion of each of the source in the total capital (w) is determined. The proportions are used as weights for finding out WACC
- The cost of each source (x) is multiplied by the appropriate weight (x) X (w)
- The total of the weighted cost of each source is the weighted average cost of capital

Book Value Weights Vs Market Value Weights

- In order to calculate the WACC, the proportion of each source of finance in the total capital is used as weights. To determine the weights, book value or market value may be used. Theoretically, market value weights are superior as they reflect the expectations of investors. But in practice, book value weights are widely used. The reasons are:

- Book values are readily available
- It is difficult to use market values because of their fluctuations
- Firms use only book values in designing their capital structure
- Equity share capital gets more importance if market values are used.

REDEEMABLE DEBT

Issued at Par and Redeemable at Par

A firm issue debentures of Rs. 100000 and realizes Rs. 98000 after allowing 2% commission to brokers. The debentures carry an interest rate of 10%. The debentures are due for maturity at the end of the 10^{th} year. Calculate the effective cost of debt before tax.

Before tax Cost of Debt = Annual Cost Before Tax / Average Value of Debt X 100

Annual Cost Before Tax

Interest at 10% on 100000	10000
Add: Commission p.a. 2% on 100000= 2000 / 10	200
Annual Cost Before Tax	10200

Average Value of Debt

Issue Price	100000
Less: Commission	2000
Net Proceeds (NP)	98000

Redemption Value = 100000

Average Value = NP + RV / 2 = 98000 + 100000 / 2 = 99000

Before Tax Cost of Debt = 10200 / 99000 X 100 = 10.30%

Issued at a Premium and Redeemable at Par

Venus Ltd. issued 10000 9% debentures of Rs. 100 each at a premium of 5%. The maturity period is 5 years and the tax rate is 50%. Compute the cost of debentures to the company if the debentures are redeemable at par.

Annual Cost Before Tax

Interest p.a. 9% on 1000000	90000
Less: Premium Received on Issue (5% on 1000000= 50000/5)	10000
Annual Cost Before Tax	80000
Less: Tax Savings at 50%	40000
Annual Cost After Tax	40000

Average Value of Debt

Net Proceeds (1000000 + 50000) = 1050000

Redemption Value = 1000000

Average Value = 1050000 + 1000000 / 2 = 1025000

Before Tax Cost of Debt = 80000 / 1025000 X 100 = 7.80%

After Tax Cost of Debt = 40000 / 1025000 X 100 = 3.90%

Issued at Discount and Redeemable at Par

Sunrise Ltd. issues Rs. 5000000 12% redeemable debentures at a discount of 10%. The flotation costs are 4% and the debentures are redeemable after five years. Calculate before and after tax cost of debt assuming a tax rate of 40%.

Annual Cost Before Tax

Interest 12% p.a. on 5000000	600000
Add: Discount p.a. (10% on Rs. 5000000) = 500000 / 5	100000
Add: Flotation Cost p.a. (4% on 4500000) = 180000 / 5	36000
Annual Cost Before Tax	736000
Less: Tax Savings 40%	294400
Annual Cost After Tax	441600

Average Value of Debt

Face Value of Debentures	5000000
Less: Discount at 10%	500000
Issue Price	4500000
Less: Floatation Cost 4% on 4500000	180000
Net Proceeds	4320000

Redemption Value = 5000000

Average Value = 4320000 + 5000000 / 2 = 4660000

Before Tax Cost of Debt = 736000 / 4660000 X 100 = 15.79%

After Tax Cost of Debt = 441600/ 4660000 X 100 = 9.48%

Issued at Par and Redeemable at Premium

A Company issues 10% debentures at par for a total value of Rs. 1000000. The debentures are redeemable after 10 years at a premium of 10%. If the tax rate is 40%, compute the cost of debentures to the company (a) before tax and (b) after tax.

Annual Cost Before Tax

Interest p.a. 10% on 1000000	100000
Add: Premium on Redemption 10% on 1000000 = 100000 / 10	10000
Annual Cost Before Tax	110000
Less: Tax Savings 40%	44000
Annual Cost After Tax	66000

Average Value of Debt

Face Value of Debentures	=	1000000	
Redemption Value of Debentures	=	1100000	
Average Value	=	1000000 + 1100000 / 2	= 1050000
Before Tax Cost of Debt	=	110000 / 1050000 X 100	= 10.47%
After Tax Cost of Debt	=	66000 / 1050000 X 100	= 6.28%

Issued at a Discount and Redeemable at a Premium

A Company issues Rs. 1000000, 13% debentures at a discount of 5%. The debentures are redeemable after 5 years at a premium of 5%. Calculate before tax and after tax cost of debt, if the tax rate is 50%

Annual Cost Before Tax

Interest p.a. 13% on 1000000	130000
Add: Discount p.a.(5% on 1000000) = 50000/5	10000
Add: Premium on Redemption p.a. (50000 /5)	10000
Annual Cost Before Tax	150000
Less: Tax Savings 50%	75000
Annual Cost After Tax	75000

Average Value of Debt

Face Value of Debentures	1000000
Less: Discount at 5%	50000
Net Proceeds	950000

Redemption Value = 1050000

Average Value = 950000 + 1050000/ 2 = 1000000

Before Tax Cost of Debt = 150000 / 1000000 X 100 = 15.00%

After Tax Cost of Debt = 75000/ 1000000sX 100 = 7.5%

Issued at Discount and Redeemable at Premium

A five year Rs. 100 debentures can be sold for a net price of Rs. 97.50. The coupon rate of interest is 14% p.a. and the debenture will be redeemed at 5% premium. The tax rate is 50%. Compute the after tax cost of debenture

Annual Cost Before Tax

Interest p.a.	12.50
Add: Discount p.a	0.50
Add: Premium on Redemption p.a.	1
Annual Cost Before Tax	15.50
Less: Tax Savings 50%	7.75
Annual Cost After Tax	7.75

Average Value of Debt

Net Proceeds = 97.50

Redemption Value = 105

Average Value = 97.50 + 105/ 2 = 101.25

Before Tax Cost of Debt = 15.50/ 101.25 X 100 = 15.30%

After Tax Cost of Debt = 7.75 / 101.25 X 100 = 7.65%

A Company issues 10000 bonds of Rs. 100 each at 14% p.a. Marketing costs are Rs. 20000. The bonds are to be redeemed after 10 years and the company is taxed at the rate of 40%.

Compute the cost of debt if the bonds are issued (a) at Par (b) at a discount of 5% and (c) at a premium of 5%

a) Bonds issued at par

Before tax cost of debt = Annual Cost Before Tax / Average Value of Debt

After Tax Cost of Debt = Annual Cost After Tax / Average Value of Debt

Annual Cost Before Tax

Interest at 14% on 1000000	140000
Add: Marketing Costs p.a. (20000 / 10 Years)	2000
Annual Cost Before Tax	10200
Less: Tax 40%	56800
Annual Cost After Tax	85200

Average Value of Debt

Face Value of Bonds Rs. 100 X 10000	1000000
Less: Marketing Costs	20000
Net Proceeds	980000
Redemption Value	1000000

Average Value = Net Proceeds + Redemption Value / 2

= 980000 + 1000000 / 2

= 990000

Before Tax Cost of Debt = 142000 / 990000 X 100 = 14.40%

After Tax Cost of Debt = 85200 / 990000 X 100 = 8.60%

b) Bond Issued at a Discount of 5%

Annual Cost Before Tax

Interest at 14% on 1000000	140000
Add: Marketing Costs p.a. (20000 / 10 Years)	2000
Add: Discount p.a. 50000 / 10 Years	5000
Annual Cost Before Tax	147000
Less: Tax at 40%	58800
Annual Cost After Tax	88200

Average Value of Debt

Face Value of Bonds Rs. 100 X 10000	1000000
Less: Marketing Costs	20000
Less: Discount 5%	50000
Net Proceeds	930000
Redemption Value	1000000

Average Value = Net Proceeds + Redemption Value / 2
= 930000 + 1000000 / 2
= 965000

Before Tax Cost of Debt = 147000 / 965000 X 100 = 15.20%

After Tax Cost of Debt = 88200 / 965000 X 100 = 9.10%

c) Bonds Issued at a Premium of 5%

Interest at 14% on 1000000	140000
Add: Marketing Costs p.a. (20000 / 10 Years)	2000
	142000
Premium received on issue 5%= 50000 / 10 Years	5000
Annual Cost Before Tax	137000
Less: Tax 40%	54800
Annual Cost After Tax	82200

Average Value of Debt

Face Value of Bonds Rs. 100 X 10000	1000000
Add: Premium on Issue 5%	50000
	1050000
Less: Marketing Costs	20000
Net Proceeds	1030000
Redemption Value	1000000

Average Value = Net Proceeds + Redemption Value / 2
= 1030000 + 1000000 / 2
= 1015000

Before Tax Cost of Debt = 137000 / 1015000X 100 = 13.49%
After Tax Cost of Debt = 82200 / 1015000 X 100 = 8.09%

COST OF REDEEMABLE PREFERENCE CAPITAL

A company issues 20000 10% shares of Rs. 10 each. The issue expenses were Rs. 2 per share. Calculate the cost of preference share capital if the shares are issued at (a) Par (b) at a premium of 10% and (c) at a discount 5%

Cost of Redeemable Preference Share Capital = Annual Dividend / Net Proceeds

Annual Dividend

Face Value of Preference Share Capital 100 X 20000	2000000
Annual Dividend at 10%	200000

a) Shares issued at Par

Face Value of Preference Share Capital 100 X 20000	2000000
Less: Issue Expenses Rs. 2 X 20000	40000
Net Proceeds	1960000

Cost of Preference Capital = 200000 / 1960000 X 100 = 10.20%

b) Shares Issued at a Premium of 10%

Face Value of Preference Share Capital 100 X 20000	2000000
Add: Premium 10%	200000
	2200000
Less: Issue Expenses	40000
Net Proceeds (NP)	2160000

Cost of Preference Capital = 200000 / 2160000 X 100 = 9.26%

c) Shares Issued at a Discount of 5%

Face Value of Preference Share Capital 100 X 20000	2000000
Less: Discount on Issue 5%	100000
Less: Issue Expenses	40000
Net Proceeds (NP)	1860000

Cost of Preference Capital = 200000 / 1860000 X 100 = 10.75%

COST OF REDEEMABLE PREFERENCE SHARE CAPITAL

Issued at Par , Redeemable at a Premium

A Ltd, issues 10000 9% preference shares of Rs. 100 each. The shares are redeemable after 10 years at a premium of 5%. Flotation Costs are 2%. Calculate the effective of redeemable preference share capital.

Cost of Redeemable Preference Shares (RPS) = Annual Cost / Average Value of Preference Capital

Annual Cost

Face Value 100 X 10000	1000000
Preference Dividend 9% on 1000000	90000
Add: Flotation Cost 2% on 1000000 = 20000 / 10	2000
Add: Premium on Redemption 5% of 1000000 = 50000 / 10	5000
Annual Cost	**97000**

Average Value

Issue Price	1000000
Less: Flotation Cost	20000
Net Proceeds	**980000**
Face Value	1000000
Add: Premium on Redemption	50000
Redemption Value (RV)	**1050000**

Average Value = Net Proceeds + Redemption Value / 2

= 980000 + 1050000 / 2

= 1015000

Cost of Redeemable Preference Capital = 97000 / 1015000 X 100 = 9.56%

Issued at a Premium, Redeemable at Par

Jayant Ltd. issued 5000 10% preference shares of Rs. 100 each at a premium of 10%. The shares are redeemable after 10 years. Flotation costs are 4%. Calculate the effective cost of redeemable preference capital.

Cost of Redeemable Preference Capital = Annual Cost / Average Value of Preference Capital

Annual Cost

Preference Dividend 10% on 500000	50000
Add: Floatation Cost 4% on 550000 = 22000 / 10 Years	2200
	52200
Less: Premium p.a. 50000 / 10 Years	50000
Annual Cost	**47200**

Average Value

Face Value Rs. 100 X 5000	500000
Add: Premium on Issue 10%	50000
Issue Price	550000
Less: Floatation Costs	22000
Net Proceeds (NP)	528000

Redemption Value	500000

Average Value = Net Proceeds + Redemption Value / 2
= 528000 + 500000 / 2
= 514000

Cost of Redeemable Preference Capital = 47200 / 514000 X 100 = 9.18%

Issued at a Discount, Redeemable at Par

B Ltd., issues 10000 10% preference shares of Rs. 100 each at a discount of 5%. The shares are redeemable after ten years and the issue expenses are 4%. Calculate the effective cost of redeemable preference share capital.

Cost of Redeemable Preference Capital (RPS) = Annual Cost / Average Value of Preference Capital

Annual Cost

Preference Dividend 10% on 1000000	100000
Add: Discount p.a. 50000 / 10 Years	5000
Add: Issue Expenses p.a. 38000 / 10 Years	3800
Annual Cost	**108800**

Average Value

Face Value Rs. 100 X 10000	1000000
Less: Discount on issue 5%	50000
Issue Amount	950000
Less: Issue Expenses 4%	38000
Net Proceed (NP)	912000
Redemption Value (RV)	**1000000**

Average Value = Net Proceeds + Redemption Value / 2
= 912000 + 1000000 / 2
= 956000

Cost of RPS = 108800 / 956000 X 100 = 11.38%

Alpha Ltd., issued 10% redeemable preference shares (RPS) of Rs. 100 each, redeemable after 10 years. The floatation costs were 5% of the nominal value. Compute the effective cost to the company if the issue is made at (a) Par (b) a premium of 5% (c) at a discount of 5%

Cost of Redeemable Preference Capital (RPS) = Annual Cost / Average Value of RPS

a) Shares Issued at Par

Face Value	100
Annual Cost	
Preference Dividend p.a. at 10%	10.00
Add: Floatation Cost p.a.= Rs. 5 / 10 Years	0.50
Annual Cost	10.50

Average Value

Issue Price	100
Less: Floatation Cost 5%	5
Net Proceeds (NP)	95
Redemption Value	100

Average Value = Net Proceeds + Redemption Value / 2
= 95 + 100 / 2
= 97.50

Cost of RPS = 10.50 / 97.50 X 100 = 10.77%

b) Shares Issued at a Premium of 5%

Annual Cost	
Preference Dividend p.a. at 10%	10.00
Add: Floatation Cost p.a.= Rs. 5/10 Years	0.50
	10.50

Less: Premium p.a. 5 / 10 Years	0.50
Annual Cost	**10.00**

Average Value

Issue Price 100 + 5% Premium	105
Less: Floatation Costs	5
Net Proceeds (NP)	100
Redemption Value (RV)	100

Average Value = Net Proceeds + Redemption Value / 2
= 100 + 100 / 2
= 100

Cost of RPS = 10 / 100 X 100 = 10%

c) Shares issued at a discount of 5%

Annual Cost	
Preference Dividend p.a. at 10%	10.00
Add: Discount on issue p.a. Rs.5/ 10 Years	0.50
Add: Floatation Cost p.a. Rs. 5 / 10 Years	0.50
Annual Cost	**11.00**

Average Value	
Issue Price Rs. 100 – 5% Discount	95
Less: Floatation Cost	5
Net Proceeds (NP)	90
Redemption Value (RV)	100

Average Value = Net Proceeds + Redemption Value / 2
= 90 + 100 / 2
= 95

Cost of RPS = 11 / 95 X 100 = 11.57%

COST OF EQUITY SHARE CAPITAL

Dividend Yield Method (or) Dividend Price Method

A company issues one crore equity shares of Rs. 100 each at a premium of 10%. The company has been consistently paying a dividend of 18 per cent for the past five years. It is expected to maintain the dividend in future also.

a) Compute the cost of equity capital

b) What will be the cost of equity capital if the market price of the share is Rs. 200?

Cost of Equity = Dividend / Net Proceeds

Expected Dividend Per Shares = 18% on Rs. 100 = 18

Net Proceeds = Net Proceeds Per Share = Rs. 100 + Premium 10 = 110

Cost of Equity Capial = 18 / 110 = 16.36%

b) If the market price is Rs. 200

Cost of Equity Capital = Dividend / Market Price

D = Expected Dividend = 18

Market Price = 200

Cost of Equity Capital = 18 /200 X 100 = 9%

Anand Ltd. offers for public subscription equity shares of Rs. 10 each at a premium of 10%. The company pays an underwriting commission of 5% on the issue price. The equity shareholders expect a dividend of 15%.

a) Calculate the cost of equity capital

b) Calculate the cost of equity capital, if the market price of the shares is Rs. 20

Cost of Equity Capital

Cost of Equity = D1/NP

Expected Dividend Per Share = 15/100 X 10	1.50
Net Proceeds	
Issue Price = Face Value + Premium 10% (10+1)	11.00
Less: Underwriting Commission 5%	0.55

Net Proceeds Per Share	10.45

Cost of Equity Capital = 1.50/10.45 X 100 = 14.35%

b) If the Market Price is Rs. 20

Cost of Equity Capital = D1/MP

Expected Dividend Per Share	1.50
Market Price Per Share	20

Cost of Equity Capital = 1.50/ 20 X 100 = 7.50%

Ajit is a Shareholder in India Polyester Ltd., The earnings of the company have varied considerably. Ajit feels that the long run average dividend would be Rs. 3 per share. He expects that the same pattern would continue in future. Ajit expects a minimum rate of earning of 15%.

Cost of Equity = D/MP
Market Price Per Share = D1 / K_e
Expected Dividend = Rs. 3
Cost of Equity Capital = 15%
Market Price = 3 / 0.15 = Rs.20

DIVIDEND YIELD + GROWTH METHOD

The market price of an equity shares of G Ltd., is Rs. 80. The dividend expected a year hence is Rs.1.60 per share. The shareholders anticipate a growth of 7% in dividends. Calculate the cost of equity capital.

Cost of Equity = D1/MP + g
Expected Dividend per share = Rs. 1.60
Market price per share = Rs. 80
Growth Rate in dividend = 7%
Cost of Equity Capital = 1.60 / 80 X 7%
= 0.2 + 0.7 = 9%

The Current market price of a company's share is Rs. 100. The company plans to issue new shares to raise one crore rupees. The net proceeds per share will be the market price less the floatation cost which is 5% of the share price.

If the company plans to pay dividend of Rs.4.75 and the growth in dividend is expected to be 8%, calculate the cost of new issue of equity shares.

Cost of Equity capital = D1 / NP + g
Expected Dividend = 4.75

Net Proceeds
Issue Price = 100
Less: Floatation Costs 5% = 5
Net Proceeds = 95
Growth Rate in Dividend = 8%

Cost of Equity Capital = 4.75 / 95 + 8%
= 0.05 + 0.08 = 13%

A Company's share is quoted in the market at Rs. 40 and the expected dividend for the next year is Rs. 2 per share. Thereafter, the investors expect a growth rate of 5% p.a.

a) Calculate the cost of equity capital

b) Calculate the market price per share if the expected growth rate is 6% p.a.

c) Calculate the market price per share if the dividend of Rs. 2 is maintained, the cost of equity is 9% and the expected growth in dividends is 6% p.a.

a) Cost of Equity Capital

$K_e = D/MP + g$

Expected Dividend Rs. 2; Market Price = Rs. 40; Growth Rate = 5%

Cost of Equity Capital = 2 / 40 + 5%
= 0.05 + 0.05 = 10%

b) Market Price, if growth rate is 6%

$K_e = D/MP + g$

10% = 2/MP + 6%

10% - 6% = 2/MP

4% = 2/MP

MP = 2 / 0.04

MP = Rs. 50

c) Market Price, if growth rate is 6% and K_e is 9%

K_e = D/MP +g

9% = 2/MP + 6%

9%-6%= 2/MP

3% = 2/MP

MP =2/0.03

MP = Rs.66.67

The Shares of a company are selling at Rs.50 per share and it had paid a dividend of Rs. 5 per share last year. The investors expect a growth rate of 5% per year.

a) Compute the company's cost of equity capital

b) If the anticipated growth in dividends is 7% p.a., calculate the indicated market price per share

a) Cost of Equity Capital

Ke= D/MP + g

Expected Dividend : Last Year's Dividend	5.00
Add: Growth at 5%	0.25
Current Year Dividend	5.25

Market Price = Rs. 50; Growth Rate = 5%

Cost of Equity Capital = 5.25 / 50 +5 %

= 0.105 + 0.05 = 15.50%

b) Market Price, if growth rate is 7%

Cost of Equity Capital Ke = D / MP + g

Expected Dividend : Last Year's Dividend	5.00
Add: Growth at 5%	0.35
Current Year Dividend	5.35

15.5% = 5.35 / MP + 7%

15.5% - 7% = 5.35 / MP

8.5% = 5.35/ MP

MP = 5.35 / 0.085 = Rs. 62.94

The Shares of a Steel Company are quoted at Rs. 42 per share. The firm had paid a dividend of Rs. 4 per share last year. The expected growth in dividends is 5% p.a.

i) Determine the cost of equity capital of the company

ii) Determine the market price of the equity share, if the anticipated growth rate of the firm. (a) rise to 8% and (b) falls to 3%

Cost of Equity Capital

Ke = D/ MP + g

Expected Dividend : Last Year's Dividend	4.00
Add: Growth at 5%	0.20
Current Year Dividend	4.20

Market Price = Rs. 42; Growth Rate = 5%

Cost of Equity Capital = 4.20 / 42 + 5%

= 0.10 + 0.05 = 15%

ii) a) Market Price, if the growth rate is 8%

Ke = D/ MP + g

Expected Dividend : Last Year's Dividend	4.00
Add: Growth at 8%	0.32
Current Year Dividend	4.32

Ke = D/MP + g

15% = 4.32/MP + 8%

15%-8% = 4.32/MP

7% = 4.32/MP

MP = 4.32/0.07

MP = Rs. 61.71

b) Market Price, if the growth rate is 3%

Ke = D/ MP + g

Expected Dividend : Last Year's Dividend	4.00
Add: Growth at 3%	0.12
Current Year Dividend	4.12

Ke = D/MP + g

15% = 4.12/MP + 3%

15%-3% = 4.12/MP

12% = 4.12/MP

MP = 4.12/0.12

MP = Rs. 34.33

A Ltd., is a mining company. Its iron ore reserves are being depleted and cost of recovering iron ore is increasing each year. As a result, the company's earnings and dividends are declining at the rate of 8% p.a. The previous year's dividend (D) was Rs. 10 and the required rate of return is 15%. What would be the market price of the equity share of A Ltd?

i) Cost of Equity Capital = D / MP + g

Cost of Equity Capital = 15%; Growth Rate = -8%

Expected Dividend : Last Year's Dividend	10.00
Less: Declined at 8%	0.80
Current Year Dividend	9.20

Ke = D/MP + g

15% = 9.20/MP + (-8%)

15%+8% = 9.20/MP

23% = 9.20/MP

MP = 9.20/0.23

MP = Rs. 40

EARNINGS PRICE METHOD

Blue Star Ltd. is a dynamic growth firm. It pays no dividends and anticipates a long-run future earnings of Rs. 7 per share. The current market price of the company's shares is Rs. 55.45. Floatation cost for the issue of equity shares would be about 10% of the share price. What is the cost of new equity capital to Blue Star?

Cost of Equity Capital	= EPS / NP
Earnings Per Share	= Rs. 7
Net Proceeds	= Issue Price – Floatation Costs
	= 55.45 – 10%
	= 55.45 – 5.55
	= 49.90
Cost of Equity Capital	= 7 / 49.90
	= 14.02%

The entire capital of J Ltd. consists of five lakh shares of Rs. 100 each. The profit after tax of the current year is Rs. 50 lakhs. The company wants to raise Rs. 2 crore by issuing new shares. The floatation costs are expected to be 10% of the face value of the shares. Calculate the cost of equity capital assuming that the earnings of the company are expected to be stable over the next five years.

Cost of Equity Capital	= EPS / NP
Earnings Per Share	= Profit After Tax / No. of Shares
	= 5000000 / 500000
	= Rs. 10
Net Proceeds	= Issue Price – Floatation Costs
	= 100 – 10 = 90
Cost of Equity	= 10 / 90 = 11%

Vijay Ltd. wants to raise Rs. 50 lakhs by the issue of new equity shares. The relevant information is given below:

No. of Existing Equity Shares	10 lakhs
Profit after tax	Rs. 60 lakhs
Market value of existing shares	Rs. 400 lakhs

a) Compute the cost of existing equity capital

b) Compute the cost of new capital if the shares are issued at a price of Rs. 32 per share and the issue expenses are Rs. 2 per share

a) Cost of Equity Capital = EPS / MP

EPS = Profit after tax /No. of Equity Shares

= 6000000 / 100000 = Rs. 6

MP = Market Value / No. of Shares

= 40000000 / 1000000 = Rs. 40

Cost of Equity Capital = 6 / 40

= 15%

b) Cost of New Equity Capital = EPS /NP

Net Proceeds per share = Issue Price – Expenses

= Rs. 32 – Rs.2 = 30

Cost of New Capital = 6/30 = 20%

COST OF RETAINED EARNINGS

A Company's Cost of Equity Capital is 15%. The average tax rate of shareholder's is 40% and the brokerage cost for purchase of securities is 2%. Calculate the cost of retained earnings.

	%
Cost of Equity Capital	15.00
Less: Tax at 40% on 15	6.00
	9.00

Less: Brokerage at 2% on 8	0.18
Cost of Retained Earnings	8.82

The following particulars relate to Prakash Ltd.,

	RS.
Equity Share Capital 100000 shares of Rs. 10 each	1000000
Profit After Tax	900000
Current Market Price of Equity Shares	75

a) Calculate the Cost of Equity

b) What is the cost of retained earnings if the average personal tax rate of shareholders is 30% and the brokerage cost for making new investments is 2%

Cost of Equity Capital = EPS/MP

EPS = Profit after tax / No. of Equity Shares

= 9000000/1000000

= Rs. 9.

Market Price = Rs.75

Cost of Equity Capital= 9/75 =12%

b) Cost of Retained Earnings

	%
Cost of Equity Capital	12.00
Less: Tax at 30% on 12	3.60
	8.40
Less: Brokerage at 2% on 8.40	0.17
Cost of Retained Earnings	8.23

Ajanta Ltd., is earning a profit of Rs. 100000 p.a. The shareholder's required rate of return is 10%. It is expected that if the earnings are distributed to the shareholders, after paying taxes on dividends, they will invest the proceeds in the shares of similar firms and earn a 10% return. It is also estimated that the brokerage cost will be 2% of the

investments. What rate of return should be earned by the firm if the earnings are retained? Assume that the shareholders are in 30% tax bracket.

	Rs.
Profit available for distribution	100000
Less: Income tax payable by shareholders @30%	30000
	70000
Less: Brokerage on new investments @ 2%	1400
Net amount available for investment	68600

Expected return on investment 10% on 68600 = 6860

Rate of return to be earned by the firm on retained earnings = 6860/100000 = 6.86%

WEIGHTED AVERAGE COST OF CAPITAL

The capital structure and after tax cost of different sources of funds are given below:

Sources of Funds	Amount (Rs.)	Proportion to Total	After Tax Cost %
Equity Share Capital	720000	.30	15
Retained Earnings	600000	.25	14
Preference Share Capital	480000	.20	10
Debentures	600000	.25	8

You are required to compute the weighted average cost of capital.

Sources of Funds	**Proportion to Total (w)**	**After Tax Cost % (x)**	**Weighted Cost % (w) X (x)**
Equity Share Capital	.30	15	4.5
Retained Earnings	.25	14	3.5
Preference Share Capital	.20	10	2.0
Debentures	.25	8	2.0
Weighted Average Cost of Capital (WACC)			12.00

A firm finances all its investments by 60% equity and 40% debt. The estimated return on equity is 18% after taxes. Cost of debt is 8% after taxes. The firm is considering an

investment proposal costing Rs. 400000 with an expected return that will continue for ever. What amount (in rupees) must the proposal yield per year so that the market price of the share does not change?

Sources of Funds	Proportion to Total (w)	After Tax Cost % (x)	Weighted Cost % (w) X (x)
Equity Share Capital	.60	18	10.80
Debentures	.40	8	3.2
Weighted Average Cost of Capital (WACC)			14.00

The investment must earn 14%

Earnings Required in Rs. 14% on 400000 = Rs. 56000

From the following particulars, calculate the overall cost of capital using book value weights

Sources of Funds	Book Value (Rs.)	After Tax Cost (%)
Equity Share Capital	400000	14
Retained Earnings	200000	13
Preference Share Capital	100000	10
Debentures	300000	6

Sources of Funds	Amount (Rs.)	Proportion to Total (w)	After Tax Cost % (x)	Weighted Cost % (w) X (x)
ESC	400000	.40	14	5.6
RE	200000	.20	13	2.6
PS	100000	.10	10	1.0
Debt	300000	.30	6	1.8
Total	1000000	**WACC**		**11.0**

From the following particulars relating to the capital structure of Blue Ltd., calculate the overall cost of capital, using (a) book value weights and (b) Market value weights

Sources of Funds	Book Value (Rs.)	Market Value (Rs.)
Equity Share Capital	45000	90000
Retained Earnings	15000	-
Preference Share Capital	10000	10000
Debentures	30000	30000

The after-tax cost of different sources of finance is:

Equity Share Capital : 14% Retained Earnings : 13%

Preference Share Capital : 10% Debentures : 8%

a) Book Value

Sources of Funds	Amount (Rs.)	Proportion to Total (w)	After Tax Cost % (x)	Weighted Cost % (w) X (x)
ESC	45000	.45	14	6.30
RE	15000	.15	13	1.95
PS	10000	.10	10	1.00
Debt	30000	.30	8	2.40
Total	100000	**WACC**		**11.65**

b) Market Value

Sources of Funds	Amount (Rs.)	Proportion to Total (w)	After Tax Cost % (x)	Weighted Cost % (w) X (x)
ESC	90000	.692	14	9.69
PS	10000	.077	10	0.77
Debt	30000	.231	8	1.85
Total	130000	**WACC**		**12.31**

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(For the candidates admitted from 2017 onwards)

DEPARTMENT OF COMMERCE

SUBJECT : CORPORATE FINANCE
SEMESTER : I
SUBJECT CODE: 17CMP101 CLASS : I M.COM

POSSIBLE QUESTIONS – UNIT II

PART A (1 MARK)
ONLINE QUESTIONS

PART B (2 MARKS)

1. Define Cost of Capital.
2. Explain on (i) Future Cost and (ii) Historical Cost.
3. What do you mean by Component Cost?
4. What do you understand by Composite Cost?
5. What is average cost?
6. What is Marginal cost?
7. Briefly explain on Explicit and Implicit Cost.
8. What do you understand by Cost of Debt?
9. What do you mean by Redeemable Debt?
10. What do you mean by redeemable and irredeemable debt?
11. What do you understand by retained earnings?
12. What do you mean by cost of equity?
13. What do you mean by weighted average cost of capital?

PART C (6 MARKS)

1. Explain in detail on various types of cost.
2. Sri Ram Industries Ltd. issued 10000, 10% debentures of Rs. 100 each. The tax rate is 50%. Calculate the before tax and after tax cost of debt if the debentures are issued. (a) at Par (b) at a Premium of 10% (c) at a Discount of 10%

3. A Company's share is quoted in the market at Rs. 40 and the expected dividend for the next year is Rs. 2 per share. Thereafter, the investors expect a growth of 5% p.a.

   (a) Calculate the cost of equity capital

   (b) Calculate the market price per share if the expected growth rate is 6% p.a.

   (c) Calculate the market price per share if the dividend of Rs.2 is maintained, the cost of equity is 9% and the expected growth in dividends is 6% p.a.

4. A Company issues 20000 10% shares of Rs. 100 each. The issue expenses were Rs. 2 per share. Calculate the cost of Preference Share capital if the shares are issued (a) at Par (b) at a Premium of 10% (c) at a Discount of 5%,

5. Venus Ltd., issued 10000 9% debentures of Rs. 100 each at a premium of 5%, The maturity period is 5 years and the tax rate is 50%, Compute the cost of debentures to the company if the debentures are redeemable at par.

6. A Company issues one crore equity shares of Rs.100 each at a premium of 10%. The company has been consistently paying a dividend of 18 per cent for the past five years. It is expected to maintain the dividend in future also.

   (a) Compute the cost of equity capital
   (b) What will be the cost of equity capital if the market price of the share is Rs.200?

7. The capital structure and after tax cost of different sources of funds are given below:

Source of Funds	Amount (Rs.)	Proportion to Total	After Tax Cost (%)
Equity Share Capital	720000	.30	15
Retained Earnings	600000	.25	14
Preference Share Capital	480000	.20	10
Debentures	600000	.25	8

You are required to compute the weighted average cost of capital.

8. Sunrise Ltd. issues Rs. 5000000 12% redeemable debentures at a discount of 10%. The flotation costs are 4% and the debentures are redeemable after five years. Calculate before and after tax cost of debt assuming a tax rate of 40%.

9. A Company issues 10% debentures at par for a total value of Rs. 1000000. The debentures are redeemable after 10 years at a premium of 10%. If the tax rate is 40%, compute the cost of debentures to the company (a) before tax and (b) after tax.

10. Jayant Ltd. issued 5000 10% preference shares of Rs. 100 each at a premium of 10%. The shares are redeemable after 10 years. Flotation costs are 4%. Calculate the effective cost of redeemable preference capital.

11. A Company's share is quoted in the market at Rs. 40 and the expected dividend for the next year is Rs. 2 per share. Thereafter, the investors expect a growth rate of 5% p.a.

a) Calculate the cost of equity capital

b) Calculate the market price per share if the expected growth rate is 6% p.a.

c) Calculate the market price per share if the dividend of Rs. 2 is maintained, the cost of equity is 9% and the expected growth in dividends is 6% p.a.

12. Blue Star Ltd. is a dynamic growth firm. It pays no dividends and anticipates a long-run future earnings of Rs. 7 per share. The current market price of the company's shares is Rs. 55.45. Floatation cost for the issue of equity shares would be about 10% of the share price. What is the cost of new equity capital to Blue Star?

13. Ajanta Ltd., is earning a profit of Rs. 100000 p.a. The shareholder's required rate of return is 10%. It is expected that if the earnings are distributed to the shareholders, after paying taxes on dividends, they will invest the proceeds in the shares of similar firms and earn a 10% return. It is also estimated that the brokerage cost will be 2% of the investments. What rate of return should be earned by the firm if the earnings are retained? Assume that the shareholders are in 30% tax bracket.

QUESTION PAPER PATTERN

Internal : 50 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 3 X 2 = 6 Marks
Descriptive type Questions : 3 X 8 = 24 Marks

External : 60 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 5 X 2 = 10 Marks
Descriptive type Questions : 5 X 6 = 30 Marks

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DEPARTMENT OF COMMERCE
CORPORATE FINANCE (17CMP101/17CCP101)
UNIT II ONE MARK QUESTIONS

1	Capital budgeting is also known as _____.	Cost of capital	Capital structure	Investment decision making	Dividend decision	Investment decision making
2	Capital Budgeting is a part of:	Investment decision	Capital structure	Marketing management	working capital management	Investment decision
3	_____ is also known as capital expenditure decision.	Capital budgeting	Capital structure	Investment decision making	Dividend decision	Capital budgeting
4	_____ is also known as analysis of capital expenditure.	Cost of capital	Capital budgeting	Investment decision making	Dividend decision	Capital budgeting
5	_____ is the process of making investment decision in capital expenditure	Working capital management	Cost of capital	Capital structure	Capital budgeting	Capital budgeting
6	Capital Budgeting Decisions are:	Recoverable	Irreversible	reversible	Unimportant	Irreversible
7	_____method is also called as pay out period method	Accounting rate of return	Net present ratio	Rate of return	Pay back period	Pay back period
8	_____ Method is also called as pay off period method.	Pay back period	Net present ratio	Accounting rate of return	Rate of return	Pay back period
9	Pay back period =	Cash inflow/cash outflow	Profit/cash outflow	EBIT/EBT	Initial Investment/annual cash inflow	Initial Investment/annual cash inflow
10	A project cost Rs 50000 and yields an annual cash inflow of Rs10000 for 7 yrs. Calculate the pay back period.	6 yrs	5 yrs	5 1/2 yrs	7 yrs	5 yrs
11	A project costs Rs100000 and yield an annual cash inflow of Rs 20000 for 8 yrs. Calculate the pay back period..	5 yrs	4 yrs	7 yrs	6 yrs	5 yrs
12	_____ is also known as accounting rate of return	Pay back period method	Average Rate of return method	NPV method	Internal rate of return method	Average Rate of return method
13	The _____ method taken into account the profitability and also the time value of money	NPV	Pay back period	Accounting rate of return	Rate of return	NPV
14	The discounted cash flow method take into account the_____	Profitability	Time value of money	Profitability and time value of money	Cash inflow	Profitability and time value of money
15	NPV =	Net present valuation	Net prescribed value	Net present value	Net profit value	Net present value
16	_____ method is also known as time adjusted rate of return.	Pay back period	Average rate of return	NPV	Internal rate of return	Internal rate of return
17	Which of the following is not incorporated in Capital Budgeting?	Time value of money	rate of Cash discount	Required rate of return	tax effect	Rate of Cash discount
18	Which of the following is not a capital budgeting decision?	Stock level	Expansion Programme	merger	Replacement of asset	Stock level
19	A sound Capital Budgeting technique is based on:	Accounting profit	cash flows	interest on Borrowings	last dividend paid	Cash flows
20	_____method is also known as trial and error yield method.	Internal rate of return	Average rate of return	NPV	Pay back period	Internal rate of return
21	IRR =	Investment realized return	Internal rate of return	Internal realized return	Investment rate of return	Internal rate of return
22	The _____ can be defined as that rate of discount at which present value of cash inflow is equal to the present value of cash	NPV	Accounting rate of return	Profitability index	Internal rate of return	Internal rate of return
23	_____method is also called as benefit-cost ratio	Internal rate of return	NPV	Pay back period	Profitability index	Profitability index
24	_____ method reveals the relationship between present value of cash inflow and present value of cash outflow.	Pay back period	Average rate of return	Accounting rate of return	Profitability index	Profitability index
25	Profitability index =	Present value of cash outflow/ present value of cash inflow	Cash inflow /cash outflow	Cash outflow/ cash inflow	Present value of cash inflow/ present value of cash outflow	Present value of cash inflow/ present value of cash outflow
26	In calculating pay-back period method, earnings means	Profit before depreciation and after taxes	Profit after depreciation	Profit before tax	Profit after depreciation and taxes	Profit before depreciation and after taxes
27	The_____ is the minimum rate of return expected by an investor	Capital Structure	Cost of Capital	Capital Budgeting	Working Capital	Cost of Capital
28	_____ is the weighted average cost of various source of finance used by a firm	Capital Structure	Capital Budgeting	Cost of Capital	Working Capital	Cost of Capital
29	Higher the risk involved in a firm higher is the _____	Capital Structure	Capital Budgeting	Working Capital	Cost of Capital	Cost of Capital
30	_____ is the minimum required rate of earnings or the cut-off rate of capital expenditure	Cost of Capital	Capital Budgeting	Working Capital	Capital Structure	Cost of Capital
31	_____ for a firm may be defined as the cost of obtaining funds	Cost of Capital	Capital Budgeting	Working Capital	Capital Structure	Cost of Capital
32	Cost of Capital refers to:	Required rate of return	Floation cost	dividend	borrowing	Required rate of return
33	_____ concept an be used as a basis for evaluating the performance of the firm	Capital Structure	Cost of Capital	Capital Budgeting	Working Capital	Cost of Capital
34	_____ are book cost which are related to the past	Future Cost	Explicit Cost	Historical Cost	Implicit Cost	Historical Cost
35	_____ are estimated costs for the future	Future Cost	Explicit Cost	Historical Cost	Implicit Cost	Future Cost
36	_____ refers to the cost of specific source of capital	Explicit Cost	Specific Cost	Historical Cost	Implicit Cost	Specific Cost
37	_____ is combined cost of various source of Capital	Future Cost	Explicit Cost	Composite cost	Historical Cost	Composite cost
38	Which of the following sources of funds has an Implicit Cost of Capital?	Equity capital	Preference capital	Debenture	Retained Earnings	Retained Earnings
39	_____ is the weighted average cost of Capital	Future Cost	Explicit Cost	Historical Cost	Composite cost	Composite cost
40	Which of the following has the highest cost of capital?	Equity shares	bonds	loans	Preference shares	Equity shares
41	In Capital structure decision, the _____ should be given consideration	Cost of Debt	Cost of Preference Capital	Cost of Equity Capital	Weighted average cost of Capital	Weighted average cost of Capital
42	_____ is the discount rate which equates the present value of cash inflow with the present value of cash out flow	Explicit Cost	Specific Cost	Historical Cost	Implicit Cost	Explicit Cost
43	_____ also known as the opportunity cost	Implicit Cost	Specific Cost	Historical Cost	Implicit Cost	Implicit Cost
44	_____ is the Cost of the opportunity foregone in order to take up a particular project	Implicit Cost	Specific Cost	Historical Cost	Implicit Cost	Implicit Cost
45	An _____ refers to the combined cost of Various source of Capital	Explicit Cost	Specific Cost	Average Cost	Implicit Cost	Average Cost
46	Weighted Average Cost of Capital is generally denoted by:	k_w	k_A	k_o	k_{wc}	k_w
47	_____ refers to the average cost of Capital	Marginal Cost of Capital	Specific Cost	Historical Cost	Implicit Cost	Marginal Cost of Capital
48	_____refers to the average cost of capital which has to be incurred to obtain additional funds required by a firm	Explicit Cost	Specific Cost	Marginal Cost	Implicit Cost	Marginal Cost
49	---------- is the rate of interest payable on Debt	Cost of Debt	Cost of Equity	Cost of Preference Capital	Marginal Cost	Cost of Debt
50	Cost of Debt = _____	Interest	Interest/ Net Proceeds	Investment/Interest	Earnings/ Net Interest	Interest/ Net Proceeds
51	Which of the following cost of capital require tax adjustment?	Cost of Preference Capital	Cost of Equity	Cost of debt	Cost of Retained Earnings	Cost of debt
52	Which is the most expensive source of funds?	New Preference Capital	New Equity shares	New Debt	Retained Earnings	New Equity shares
53	Cost of Preference Capital =	Earnings	Dividend	Dividend / Net Proceeds	EBIT / Net Proceeds	Dividend / Net Proceeds
54	Cost of Capital for Bonds and Debentures is calculated on:	Before tax basis	After tax basis	Risk free rate of interest	Both a and b	After Tax basis
55	Firm's Cost of Capital is the average cost of:	All sources	All borrowings	Share capital	Bonds and debentures	All sources
56	Cost of capital may be defined as:	Weighted Average cost of all debts	Rate of Return expected by Equity Shareholders	Average IRR of the Projects of the firm	Minimum Rate of Return that the firm should earn.	Minimum Rate of Return that the firm should earn.
57	Minimum Rate of Return that a firm must earn in order to satisfy its investors, is also known as	Weighted Average cost of capital	Average Return on Investment	Average cost of borrowing	Net profit ratio	Weighted Average cost of capital
58	Dividend Yield method = _____	Dividend / Net Proceeds	Interest / Net Proceeds	Dividend / Market Price	EBIT / 100	Dividend / Market Price
59	Earnings Yield method = _____	Dividend / Net Proceed	EPS / Market Price	Dividend / Mkt. Price	EBIT / 100	EPS / Market Price
60	_____ is also known as trading on equity	Operating Leverage	Composite Leverage	Financial Leverage	Working Capital Leverage	Financial Leverage

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DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : **I**
SUBJECT CODE: **17CMP101** **CLASS** : **I M.Com.**

UNIT – III

Capital Structure – Concept – Capital Structure Theories – Net Income Theory, Net Operating Income Theory – MM's Proportion on Capital Structure – Determinants of Optimal Capital Structure – Financial and Operating Leverage

INTRODUCTION

Capital is the major part of all kinds of business activities, which are decided by the size, and nature of the business concern. Capital may be raised with the help of various sources. If the company maintains proper and adequate level of capital, it will earn high profit and they can provide more dividends to its shareholders.

MEANING OF CAPITAL STRUCTURE

Capital structure refers to the kinds of securities and the proportionate amounts that makeup capitalization. It is the mix of different sources of long-term sources such as equity shares, preference shares, debentures, long-term loans and retained earnings. The term capital structure refers to the relationship between the various long-term source financing such as equity capital, preference share capital and debt capital. Deciding the suitable capital structure is the important decision of the financial management because it is closely related to the value of the firm. Capital structure is the permanent financing of the company represented primarily by long-term debt and equity.

DEFINITIONS

According to the definition of **Gerestenbeg,** "Capital Structure of a company refers to the composition or make up of its capitalization and it includes all long-term capital resources".

According to the definition of **James C. Van Horne,** "The mix of a firm's permanent long-term financing represented by debt, preferred stock, and common stock equity".

According to the definition of **Presana Chandra,** "The composition of a firm's financing consists of equity, preference, and debt".

According to the definition of **R.H. Wessel,** "The long term sources of fund employed in a business enterprise".

DISTINCTIONS BETWEEN CAPITALIZATION AND CAPITAL STRUCTURE

1. Difference in Scope

Capitalization refers to the total accounting value of all the capital regularly employed in the business, which includes share capital, long-term debt, reserves and surplus. On the other hand capital structure refers to the proportion of different sources of long-term funds in the capitalization of a company.

2. Difference in Objectives

Capitalization is concerned with the determination of the total amount of capital required for the successful business operation, on the other hand capital structure is concerned with the determination of the composition of different long-term sources of funds, such as debentures, long-term debt, preference capital and ordinary share capital including retained earnings.

In order to maximize the shareholder's wealth, the financial manager should attempt to achieve an optimal capital structure which refers to an ideal combination of various sources of long-term funds so as to minimize the overall cost of capital and maximize the market value per share. The optimum capital could be achieved when the marginal cost of each source of finance is the same. It is incorrect to say that there exists an ideal mix of debt and equity capital which will produce an optimum capital structure leading to the maximization of market price per share. There is no single optimal capital structure for all firms, or for the same firm for all times. The financial manager should attempt to develop an appropriate capital structure for his firm instead of trying for un utopian 'optimal capital structure'.

CHARACTERISTICS OF OPTIMAL STRUCTURE

Following are the characteristics of an optimal of capital structure.

1. Simplicity

A sound capital structure is simple in the initial stage are which limits to the of the number of issues and types of securities. If the capital structure is complicated from the very beginning by issuing different types of securities, the investors hesitate to invest is such a company. The company may also face difficulties in raising additional capital in future. That it is advisable to issue equity and preference shares in developing an

optimum capital structure. Debentures and bonds should be reserved for futures financial requirements.

2. Minimum Cost

A sound capital structure attempts to establish the security-mix in such a way as to raise the requisite funds at the lowest possible cost. As the cost of various sources of capital is not equal in all circumstances it is ascertained on the basis of weighted average cost of capital. The management aims at keeping the expenses of issue and fixed annual payments at a minimum in order to maximize the return to equity shareholders.

3. Maximum Return

A balanced capital structure is devised in such a way so as to maximize the profits of the corporation through a proper policy of trading on equity so as to minimize the cost of capital.

4. Minimum Risk

An ideal capital structure possesses the quality of minimum risk. Risks, such as increase in taxes, rates of interest, costs, etc., and decrease in prices and value of shares as well as natural calamities adversely affect the company's earning. Therefore, the capital structure devised in such a way as to enable it to afford the burden of these risks easily.

5. Maximum Control

A sound capital structure retains the ultimate control of a company with the equality shareholders who have the right to elect directors. Due consideration is given to the question of control in management while deciding the issue of securities. The existing shareholders may not be able to retain control. If a large number of equity share are issued, the company issues preference shares or debentures instead of equity shares to the public because preference shares carry limited voting rights and debentures do not have any voting rights. The capital structure of a company is changed in such a way which would favorably affect the voting structure of the existing shareholders and increase their control on the company's affairs.

6. Flexible

A flexible capital structure enables the company to make the necessary changes in it according to the changing conditions and make it possible to procure more capital whenever required or redeem the surplus capital.

7. Liquid

In order to achieve proper liquidity for the solvency of a corporation, all such debts are avoided which threaten the solvency of the company. A proper balance between fixed assets and current assets is maintained according to the nature and size of business.

8. Conservative

In division of the capital structure a company follows the policy of conservation. It helps in maintaining the debt capacity of the company even in unfavourable circumstances.

9. Balanced Capital

A balance is necessary for the optimum capital structure of a company. As both, under capitalization and over-capitalization are injurious to the financial interests of a company, there is a proper co-ordination between the quantum of capital and the financial needs of the corporation. A fair capitalization enables a company to make full utilization of the available capital at minimum cost.

10. Balance Leverage

A sound capital structure attempts to secure a balanced leverage by issuing both types of securities i.e., ownership securities and creditor ship securities. Shares are issued when the rate of capitalization is high, while debentures are issued when rate of interest is low.

IMPORTANCE OF SOUND CAPITAL STRUCTURE

1. Minimized Cost

The primary objective of a company is to maximize the shareholder's wealth through minimization of cost. A well-advised capital structure enables a company to raise the requisite funds from various sources at the lowest possible cost in terms of market

rate of interest, earning rate expected by prospective investors, expense of issue etc. this maximize the return to the equity shareholders as well as the market value of shares held by them.

2. Maximized Return

The primary objective of every corporation is to promote the shareholders interest. A balanced capital structure enables company to provide maximum return to the equity shareholders of the company by raising the requesting capital funds at the minimum cost.

3. Minimize Risks

A sound capital structure serves as an insurance against various business risks, such as interest in costs, interest rates, taxes and reduction in prices. These risks are minimized by making suitable adjustments in the components of capital structure. A balanced capital structure enables the company to meet the business risks by employing its retained earning for the smooth business operations.

4. Controlled

Though the management of a company is apparently in the hands of the directors, indirectly, a company is controlled by equity shareholders carry limited voting rights and debentures holders do not have any voting right, a well-devised capital structure ensures the retention of control over the affairs of the company with in the hands of the existing equity shareholders by maintaining a proper balance between voting right and non-moving right capital.

5. Liquid

An object of a balanced capital structure is to maintain proper liquidity which is necessary for the solvency of the company. A sound capital structure enables a company to maintain a proper balance between fixed and liquid assets and avoid the various financial and managerial difficulties.

6. Optimum Utilization

Optimum utilization of the available financial resources is an important objective of a balanced financial structure. An ideal financial structure enables the company to make full utilization of available capital by establishing a proper co-ordination between

the quantum of capital and the financial requirements of the business. A balanced capital structure helps a company to estimate both the states of overcapitalization and under-capitalization which are harmful to financial interests of the company.

7. Simple

A balanced capital structure is aimed at limiting the number of issues and types of securities, thus, making the capital structure as simple as possible.

8. Flexible

Flexibility or capital structure enables the company to raise additional capital at the time of need, or redeem the surplus capital. it not only helps is fuller utilization of the available capital but also eliminates the two undesirable states of over-capitalization and under – capitalization.

DETERMINANTS OF OPTIMAL CAPITAL STRUCTURE

The factors determining capital structure of a company may be internal or external.

A. INTERNAL FACTORS

1. Nature of Business

Companies have stable earnings can afford to raise funds through sources involving fixed charges, while other companies have to rely heavily in equity share capital. Public utilities, extractive, financing and merchandising enterprises are more stable in their earnings and enjoy greater degree of freedom form competition than industrial concerns.

2. Regularity of Income

Capital structure is affected by the regularity of income. If a company expects regular income in future, debenture and bonds should be issued. Preference shares may be issued if a company does not expect regular income but it is hopeful that its average earnings for a few years may be equal to or in excess of the amount of dividend to be paid on such preference shares.

3. Certainty of Income

If a company is not certain about any regular income in future, it should never issue any type of securities other than equity shares.

4. Desire to control the Business

If the control of the company is to be retained within few hands, a large proportion of funds is raised by issuance of non-voting right securities, such as debentures and preference shares. A majority of voting right securities, i.e. equity shares are held by the promoters or their relatives to control the affairs of the business. Thus, majority of funds are raised from public retaining the control of the company with the promoters or the existing shareholders.

5. Development and Expansion Plans

Capital structure of a company is affected by its development and expansion progremmes in future. The amount of authorized capital is kept higher so that the requisite amount may be raised at the time of need. In the beginning the company collects capital by issuing shares. Therefore, capital structure is devised in accordance with the future development and expansion programmes. The requisite capital is raised through preference shares and debentures.

6. Purpose of Finance

An important factor determining the type of capital to be raised is the purpose for which it is required. If funds are needed for some product give activity directly adding to the profitability of the company, capital may be raised by issuing securities bearing fixed charges like preference shares and debentures. On the other hand, if funds are needed for such purposes as betterment, maintenance, etc. which do not directly add to the earnings of the company retained earnings, equity share capital will be the better source of financing.

7. Characteristic of Management

Varying in skill, judgement, experience, temperament and motivation management evaluates the same risks differently and its willingness to employ debt capital also differ. Thus capital structure is influenced by the age, experience, ambition, confidence, conservativeness and attitude of the management.

8. Trading on Equity

Trading on equity means the regular use of borrowed capital as well as equity capital in the conduct of a companies business. If a company employ borrowed capital including preference share capital to increase the rate of return on equity shares, it is said to be trading on equity. If the fixed rate of interest on borrowed capital or dividend on preference shares is lower than the general rate of earnings of the company, the equity shareholders will have an advantage in the form of additional dividend. Trading on equity implies the presence of a favourable financial leverage in the company's capital structure. A company would prefer to issue debentures or preference shares having a rate of interest or dividend lower than the general rate of its earnings.

9. Debt capacity and Risk

After a certain extent the use of borrowed capital become risky for the company because it leads to increase in the fixed liability of interest payment adversely affecting the company's income and reducing its liquidity. Excessive use of borrowed funds endangers the solvency of the company in the long run. High debt equity ratio is particularly risky for the companies with uncertain, irregular and inadequate earnings. The determination of debt equity ratio of such companies should be in accordance with their debt capacity.

10. Cost of Capital

Cost of capital is an important determinant of capital structure of a company. It influences the profitability and general rate of earnings. A company must raise capital funds by borrowing when rate of interest is low, and by issuing equity shares when rate of earnings and share prices are high.

11. Capital Gearing Ratio

The ratio of equity share capital to the total capital is called 'Capital Gearing'. When the ratio of equity shares is low in the total capital structure, is called 'High Gearing'. On the contrary when the ratio of equity shares in the total capital structure of a company is high, it is called 'Low Gearing'. Stability in equity price and goodwill of a company depends on adequate capital gearing. A high capital gearing ratio encourages

speculation in shares of such a company and market price of shares continuous to fluctuate. Therefore, it is necessary for the promoters to determine the ratio of fixed cost securities (preference shares and debentures) and fluctuating cost securities (equity shares) very carefully.

12. Flexibility

The capital structure must have flexibility as to increase or decrease the funds as per requirements of the enterprise. Excessive dependence on fixed cost securities make the capital structure rigid due to fixed payment of interest or dividend. These sources should be kept in reserve for emergency and expansion purpose.

13. Simplicity

The capital structure must have simplicity, so that financial crises may be avoided.

B. External Factors

1. Tastes and Preference of Investors

An ideal capital structure is one which suits the needs of different types of customers. Its success largely depends upon the psychological conditions of different types of investors. While some investors prefer security of investment and stability of income others prefer higher income and capital appreciation. Hence, shares and debentures should be issued in accordance with the tastes and preferences of all types of customers. To suit the financial status of various sections of the society, a company should issues different types of securities with different denominations.

2. Conditions of Capital Market

Conditions of capital market have a direct bearing on the capital structure. In times of depression the possibilities of profit are the least and rate of dividend on equity shares comes down. Hence the investors would prefer to invest in debentures and not in equity shares. Therefore debentures should be issued in times of depression. On the contrary, any type of security can be issued to raise the requisite funds during boom period when people have sufficient funds. Therefore, equity shares should be issued during boom period.

3. Cost of Capital

As the cost of capital issue affects the capital structure of a company. The capital structure should be designed to minimize the commission payable to brokers, middlemen and underwriters or the discount payable on issue of debentures and bonds. A company should raise funds by issuing different types of securities in such a way as would minimize the cost of capital issue.

4. Present Statutes and Rules

Capital structure a influenced by the statures and rules prevailing in the country. In India, Banking Companies act restricts a banking company from issuing any type of securities other than equity shares. Control of capital issues Act has fixed 4 : 1 ratio for debt and equity and 3:1 ratio for equity and preference share capital.

5. Possible Changes in Law

Besides complying the legal restrictions, a company's capital structure is also influenced by the possible changes in the law of the country. For example, if a company's income is taxed at a higher rate then the directors should issue debentures because the amount of interest payable to debentures holder is deducted while computing the company's total income. Whereas it is a statutory deduction, dividends are not an accepted deduction.

CAPITAL STRUCTURE THEORIES

1. Net Income Approach

- Any company is said to have leveraged if it finances its assets through debt capital and equity capital. On the other hand, a company which finances its assets entirely through equity capital is called an unleveled company.
- The value of equity of any company can be found out by discounting its net income V (value of equity) = E (net income) / K (cost of equity)
- Similarly the value of a company's debt can be found out by discounting the value of interest on debt.

V (Value of Debt) = I (Interest on Debt) / K (Cost of Debt)

The value of the company will be the sum value of value of equity and value of debt.

2. Net Operating Income Approach

- Net Operating Income or NOI is equal to yearly gross income less operating expenses. Gross income includes all income earned by the company. Operating expenses are costs incurred during the operation and maintenance of the company. Net operating income or NOI is used in two very important ratios. It is an essential ingredient in the Capitalization Rate (Cap Rate) calculation. We would estimate the value of company like this

Estimated Value = Net Operating Income /Capitalization Rate

3. Traditional Approach

- The traditional view has emerged as a compromise to the extreme positions taken by the net income approach. According to this approach a judicious mix of debt capital and equity capital can increase the value of the firm by reducing the weighted average cost of capital up to a certain level of debt.

- Thus, the traditional approach proposes that the cost of debt capital remains more or less constant up to a certain level of leverage but thereafter rises very sharply at an increasing rate the cost of equity capital remains more or less constant or rises only gradually up to a certain degree of leverage and rises very sharply thereafter

- The average cost of capital, as a result of the above behaviour of cost of debt and cost of equity decreases up to a certain point, remains more or less unchanged for moderate increases in leverage thereafter and rises beyond a certain point

- This traditional approach is not very clearly or sharply defined as the net income or net operating income approaches.

- The main proposition of the traditional approach is that the cost of capital is dependent on the capital structure and there is an optimal capital structure which minimizes the cost of capital. At this optimal capital structure point the real marginal cost of debt and cost of

equity will be the same. Before this optimal point, the real marginal cost of debt is less than the real marginal cost of equity and beyond the optimal point the real marginal cost of debt is more than the real marginal cost of equity

- The traditional approach implies that investors' value leveraged companies more than the unlevered companies. This implies that they are prepared to pay a premium for the shares of such levered companies.

- The contention of the traditional approach that any addition of debt in sound companies does not really increase the risk ness of the business and the shares of the company is not defendable.

- Therefore there is no sufficient justification for the assumption that the investors' perception about risk of leverage will vary at different levels of leverage.

- However the existence of an optimum capital structure can be justified and supported on two counts: tax deductibility of interest payments on debt capital and other market imperfections

4. Modigliani and Miller's Proposition

- Modigliani-Miller theorem (of Franco Modigliani, Merton Miller) forms the basis for modern thinking on capital structure. The basic theorem states that, in the absence of taxes, bankruptcy costs, and asymmetric information, and in an efficient market, the value of a firm is unaffected by how that firm is financed. It does not matter if the firm's capital is raised by issuing stock or selling debt. It does not matter what the firm's dividend policy is. The theorem is made up of two propositions which can also be extended to a situation with taxes.

PROBLEMS ON NET INCOME APPROACH

Sum 1: Krishna Ltd., is expecting an annual EBIT of Rs. 200000. The company has Rs. 700000 in 10% debentures. The cost of equity capital or capitalization rate is 12.50%. You are required to calculate the total value of the firm. Also ascertain the overall cost of capital.

Solution: V = S + D

S= Market value of Equity

D=Market value of debentures

Particulars	Rs.
Earnings Before Interest and Taxes (EBIT)	200000
Less: Interest at 10% on Rs. 700000	70000
Earnings available to equity share holders (NI)	130000
Equity Capitalization rate Ke	0.125
Market Value of Equity (S) = NI / Ke =130000/0.125	1040000
Market Value of Debt (D)	700000
Value of the firm V=S+D	1740000

Overall Cost of Capital Ke =EBIT/Value of the firm

= 200000/1740000 X 100

= 11.49%

Sum 2: Bharati Ltd., expects an annual EBIT of Rs. 100000. The company has Rs. 400000 in 10% debentures. The equity capitalization rate is 12.50%. The company proposes to issues additional equity shares of Rs. 100000 and use the proceeds for redemption of debentures of Rs. 100000. Calculate the value of the firm (v) and the overall cost of capital (Ko)

Solution: V= S+D

Particulars	Rs.
Earnings Before Interest and Taxes (EBIT)	100000
Less: Interest at 10% on Rs. 300000	30000
Earnings available to equity share holders (NI)	70000
Equity Capitalization rate Ke	0.125
Market Value of Equity (S) = NI / Ke =130000/0.125	560000
Market Value of Debt (D)	300000
Value of the firm V=S+D	860000

Overall Cost of Capital Ke =EBIT/Value of the firm

= 100000/860000X 100

= 11.63%

Sum 3: A company expects a net operating income of Rs. 100000. The equity capitalization rate of the company is 10%. It has Rs. 500000 6% debentures. Calculate the value of the firm and overall capitalization rate according to the Net Income Approach. If the firm's debentures are increased to Rs. 700000 what shall be the value of the firm and overall capitalization rate?

Solution

Particulars	Rs.
Net Operating Income (EBIT)	100000
Less: Interest on 6% Debentures of Rs. 500000	30000
Earnings available to shareholders	70000
Equity Capitalization rate (Ke)	0.10
Market value of Equity = NI / Ke = 70000/0.10	700000
Market value of Debentures	500000
Value of the firm V=S+D	1200000

Overall Cost of Capital Ke = EBIT/Value of the firm
= 100000/1200000X 100
= 8.33%

b) Value of the firm if debentures are increased to Rs. 700000

Particulars	Rs.
Net Operating Income (EBIT)	100000
Less: Interest on 6% Debentures of Rs. 500000	42000
Earnings available to shareholders	58000
Equity Capitalization rate (Ke)	0.10
Market value of Equity = NI / Ke = 58000/0.10	580000
Market value of Debentures	700000
Value of the firm V=S+D	1280000

Overall Cost of Capital Ke = EBIT/Value of the firm
= 100000/1280000X 100
= 7.81%

Net Operating Income Approach

Sum 4: Blue Sky Ltd., has an EBIT Rs. 200000. The cost of debt is 10% and the outstanding debt is Rs. 900000. The overall capitalization rate (ko) is 12.5%. Calculate the total value of the firm (V) and the equity capitalization rate (ke)

Solution

Market value of the firm (V) = Net Operating Income / Overall cost of Capital (Or)

= EBIT / Ko

Particulars	Rs.
Market value of the firm 200000/0.125	1600000
Less: Market value of the debt	900000
Market value of Equity	700000

Equity Capitalization rate = Earnings available to Equity Shareholders / Market value of equity

Equity available to equity shareholders

Particulars	Rs.
EBIT Or Net Operating Income	200000
Less: Interest 10% on 900000	90000
	110000

Equity Capitalization = 110000/700000 X100 = 15.71%

Sum 5: A Ltd., expects a net operating income of Rs. 120000. It has Rs. 600000, 6% debentures. The overall capitalization rate is 10%. Calculate the value of the firm and cost of equity according to the Net Operating Income Approach.

What will be the value of the firm and cost of equity if debenture debt is increased to Rs. 900000

Solution

Net Operating Income Approach

Market value of the firm (V) = Net Operating Income / Overall cost of Capital (Or)

Particulars	Rs.
Market value of the firm 120000/0.10	1200000
Less: Market value of the debt	600000
Market value of Equity	600000

Particulars	Rs.
EBIT Or Net Operating Income	120000
Less: Interest 10% on 900000	36000
	84000

Equity Capitalization rate = Earnings available to Equity Shareholders / Market value of equity

= 84000 / 600000 X 100

= 14%

b) If debentures debt is increased to Rs. 900000

Value of the firm V= EBIT / Ko = 120000/0.10 = 1200000

The value of the firm remains unchanged when debt is increased

Cost of Equity = Earnings available for equity shareholders / Market value of equity

Earnings available to equity shareholders

Particulars	Rs.
EBIT or Net Operating Income	120000
Less: Interest at 6% on 900000	54000
	66000

Particulars	Rs.
Market Value of Equity S = V-D	
Market Value of the firm	1200000
Less: Market value of the debt	900000
Market value of Equity	300000

Cost of Equity = 66000 / 300000 X 100 = 22%

When the proportion of debt had increased, cost of equity had also increased from 14% to 22%. But the overall cost of capital and value of the firm remain unchanged.

Traditional Approach

Sum 6 : Compute the market value of the firm, market value of equity and the average cost of capital

Particulars	Rs.
Net Operating Income	300000
Total Investment	1500000
Equity Capitalization	
a) If the firm uses no debt	10%
b) If the firm uses a debt of Rs. 600000	11%
c) If the firm uses a debt of Rs. 900000	12%

The debt of Rs. 600000 can be raised at 5% rate of interest while debt Rs. 900000 can be raised at 7%.

Solution

a) Market value of firm, Value of Equity and Average Cost of Capital

Particulars	No Debt	5% Debentures	7% Debentures
Net Operating Income	300000	300000	300000
Less: Interest (A)	-	30000	63000
Earnings available to equity shareholders	300000	270000	237000
Equity Capitalization rate (Ke)	0.10	0.11	0.12
Market value of shares (S) (3)/(4)	3000000	2454545	1975000
Add: Market value of Debt (D)	-	600000	900000
Value of the Firm V=S+D	3000000	3054545	2875000
Average Cost of Capital = EBIT /V	10%	9.82%	10.43%

Modigliani and Miller Approach

Sum 7: Two firms L and U are identical in all respects expect for the debt equity mix. Firm L has issued 12% debentures of Rs. 1500000. Firm U has no debt. Both L and U earn 30% before interest and taxes on their total assets of Rs. 2000000. The tax rate is 50% and equity capitalization rate is 20%. Compute the value of the two firms using.

(1) Net Income Approach (2) Net Operating Income Approach

Solution

Net Income Approach

Particulars	Firm L (Levered) Rs.	Firm U (Unlevered) Rs.
EBIT 30% on Rs. 2000000	600000	600000
Less: Interest on debentures 12% on 1500000	180000	-
Earnings Before Tax	420000	600000
Less: Tax at 50%	210000	300000
Earnings available to shareholders	210000	300000
Equity Capitalization rate (Ke)	20%	20%
Market Value of Equity (S) (5) / (6)	1050000	1500000
Add: Value of Debt (D)	1500000	-
Total Value of the Firm V=S+D	2550000	1500000

Net Operating Income Approach

The NOI approach is based on the assumption that there is no tax. But in the given problem, both the firms have tax liability at 50%. So, their values are found by applying MM Model

Particulars	Rs.
As there is no debt EBT= EBIT	600000
Less: Tax at 50%	300000
Earnings available to equity shareholders (EAT)	300000
Equity Capitalization Rate	20%
Value of the firm = Market value of equity 300000/0.20	1500000

Value of Levered Firm is determined by the following formula suggested by Modigliani and Miller.

V1 =Vu+ (T X D)

= Value of Unlevered firm + (Tax rate X Debt)

= Rs. 1500000 + (50% X 1500000)

= Rs. 1500000 + Rs. 750000

= Rs. 2250000

MEANING OF LEVERAGE

- The capital structure decision is a significant managerial decision. It influences the debt equity mix of the company, which ultimately affects the share holders return and return and risk
- If the proportion of borrowed funds is more than owners fund in the total capital structure, the return as well as the risk of the share holders will be high. On the other hand, if the proportion of owners funds is more than the borrowed funds in the total capital structure, the return as well as the risk of the share holders will be much less. The leverage analysis is used by firms to quantity risk return relationship of different alternative capital structures.

CONCEPT OF LEVERAGE

The term leverage in general refers to a relationship between two interrelated variables. In financial analysis, leverage refers to the influence of one financial variable over some other related financial variable. These financial variables may be costs, output, sales revenue, EBIT, EPS, etc.,

DEFINITION

James Horne has define leverage as "the employment of an asset or funds for which the firm pays a fixed cost or fixed return".

The fixed cost (also called fixed operating cost) and fixed return (also called financial cost) form the basis of leverage. If there are no fixed costs, there is no leverage. The fixed costs remain constant irrespective of the level of output or sales. Hence, the employment of an asset or source of funds for which the firm has to pay fixed cost or return has a considerable influence on the earnings of equity shareholders. It is pertinent

to note that while leverage may help to increase the return to the shareholders, it also increase the risk. Higher is the degree of leverage, higher is the risk as well

TYPES OF LEVERAGES

1. Operating leverage

Operating leverage refers to the use of fixed cost in the operations of a firm. A firm has to pay costs irrespective of volume of output or sales. As the fixed costs remains the same, even a small change in sales brings about a proportionate change in operating profit. This occurrence is known as operating leverage. Operating leverage is defined as the firm's ability to use fixed operating costs to magnify the effect of changes in sales on its operating profit (EBIT)

Degree of Operating Leverage

- The degree of operating leverage measures the impact of changes in sales on operating income (EBIT). It is calculated as follows
- Degree of Operating Leverage = Percentage Change in EBIT / Percentage Change in Sales (OR) Operating leverage = Contribution/EBIT

Illustration: A firm sells a product for Rs. 150 p.u. Currently the firm produces and sells 4000 units. The variable cost per unit is Rs. 100 and the fixed operating costs are Rs. 120000. Assume the sales of the company increases by (a) 1% and (b) decreases by 1%. What should be the impact on operating leverage?

Impact of Operating Leverage

Problem on EBIT

Sales (in units)	Present Position 4000 (Rs.)	1% Increase in Sales 4040 (Rs.)	1% Decrease in Sales 3960 (Rs.)
Sales (Rs.150 p.u.)	600000	606000	594000
Less: Variable Costs (Rs. 100 p.u.)	400000	404000	396000
Contribution	200000	202000	196000
Less: Fixed Operating Costs	120000	120000	120000

Operating Profit	80000	82000	76000
Increase / Decrease in EBIT	-	2.5%	- 5%

Favorable and Unfavorable Operating Leverage

- Operating leverage may be favorable or unfavorable. If the contribution (Sales – Variable Cost) is more than fixed costs, operating leverage is said to be favorable. On the other hand, if the contribution is less than the fixed costs, the operating leverage is said to be unfavorable

High and Low Operating Leverage

- The degree of operating leverage depends on the amount of fixed cost element in the cost structure. A firm is said to have a high degree of operating leverage, if it employs a greater amount of fixed cost and a smaller amount of variable cost. On the other hand, a firm will have low operating leverage, if it employs a greater amount of variable cost and a smaller amount of fixed cost. A high operating leverage is highly risky because the margin of safety is very low. Hence, no firm likes to operate under conditions of a high degree of operating leverage. A low operating leverage, on the contrary, gives cushion to the management by providing high margin of safety against fluctuations is sales

Significance of Operating Leverage

- Analysis of operating leverage of a firm is very useful to the financial manager. It tells the impact of change in sales on operating income. A firm with high operating leverage has a relatively greater effect on EBIT for small change in sales. A high degree of operating leverage can dramatically increase the operating profit. But if there is a decline in sales level, operating profit may be wiped out and a loss may occur. Therefore, high degree of operating leverage is good when sales are arising and bad when they are falling.

- As stated earlier, operating leverage depends on fixed costs. If the fixed costs are higher would be the operating leverage as well as risks. The risk refers to the risk of the firm not being able to cover its fixed operating costs. If the operating leverage is high, it means that the break-even point would be reached at a high level of sales.

Consequently, the margin of safety would be low. Therefore, it is preferred to operate sufficiently above the break-even point to avoid dangers of fluctuations in sales and profits.

Operating Risk

- Operating risk refers to variability of EBIT. The variability of EBIT may arise due to variability of sales and variability of expenses. In a given environment, operating risk cannot be avoided

Variability of Sales

- The variability of sales revenue is a major determinant of operating risk. The sales of the company may fluctuate on account various factors such as changes in general economic conditions, availability of raw materials, technological changes, competition, shifts in consumer preferences, change in company's management, change in investment policy, strike in the company etc.,

Variability of Expenses

- Variability of EBIT is further affected by the composition of fixed and variable expenses. Higher the proportion of fixed expenses relative to variable expenses, higher the degree of operating leverage. A high degree of operating leverage leads to faster increase in EBIT when sales are rising. In bad times when sales are falling, EBIT will decline at a faster rate than fall in sales. Operating leverage causes wide fluctuations in EBIT with varying sales. Variable expenses may also vary on account of changes in input prices and may also contribute to the variability of EBIT

Financial Leverage

- The use of long-tern debt and preference share capital along with the owner's equity in the capital structure is called financial leverage or trading on equity. It signifies the presence of fixed interest and / or fixed dividend bearing securities in the capital structure of a firm. It is intended to increase or magnify the return to the equity shareholders
- Financial leverage is defined as the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on EPS

Degree of Financial Leverage

- Degree of financial leverage measures the impact of changes in EBIT on EPS. It can be calculated = Percentage Change in EPS / Percentage Change in EBIT (or) Financial leverage =EBIT/EBT

EBIT- earnings before interest and tax
EBT- Earnings before tax

- Degree of financial leverage shows the responsiveness of EPS to change in EBIT.

Illustration: A company has 100000, 10% debentures and 5000 equity shares of Rs. 10 each. It is in 50% tax bracket. Calculate the EPS for each of the following levels of EBIT. (a) Rs. 50000 (b) Rs.30000 (c) Rs. 70000. Calculate the degree of financial leverage taking EBIT level of Rs. 50000 as present level.

Problem on EPS /DPS

	Present Level	**Expected Levels**	
	Rs.	**Case I (-) 40%**	**Case II (+) 40%**
EBIT	50000	30000	70000
Less: Interest	10000	10000	10000
Earnings Before Tax	40000	20000	60000
Less: Tax	20000	10000	30000
Earnings After Tax	20000	10000	30000
No. of Equity Shares	5000	5000	5000
EPS	4	2	6

Problem: The capital structure of Hindustan Corporation Ltd. consist of equity share capital of Rs. 1000000 (Shares of Rs.100 par value) and Rs. 1000000 of 10% debentures. Sales has increased from 100000 units to 120000 units, the selling price is Rs. 10 p.u. variable cost amounts to Rs. 6 p.u. and fixed expenses amount to Rs. 200000. The income tax rate is assumed to be 50%.

You are required to calculate the percentage increase in earnings per share.

Particulars	100000 Units	120000 Units
Sales (Rs. 10 p.u.)	1000000	12000000
Less: Variable Cost (Rs. 6 p.u)	600000	720000
Contribution	400000	480000
Less: Fixed Cost	200000	200000
EBIT	200000	280000
Less: Interest 10% on 1000000	100000	100000
EBT	100000	180000
Less: Income Tax 50%	50000	90000
PAT	50000	90000
Earnings Per Share (EPS / DPS)	5	9

Favorable and Unfavorable Financial Leverage

- Financial leverage may be favorable or unfavorable. If the company is able to generate a return which is higher than the cost of borrowings, the leverage is said to be favorable. On the other hand, if the company earns a return, which is less than the cost of borrowings, leverage is said to be unfavorable

Trading on Equity and Financial Leverage

- The financial leverage is also sometimes termed as trading on equity. However, many of the authors on financial management are of the opinion that the term trading on equity should be used for the term financial leverage only when the financial leverage is favorable. The company resorts to trading on equity with the objective of earning more on fixed charges funds than their costs

High and Low Financial Leverage

- Every firm has to make its own decision regarding the quantum of funds to be borrowed. If the amount of borrowings (debt and preference share capital) is relatively large in proportion to equity share capital, the company is said to be trading on thin equity. On the other hand, if the amount of borrowed fund is comparatively

low in relation to equity share capital, the company is said to be trading on thick equity

Significance of Financial Leverage

- Financial leverage helps the finance manager in designing the appropriate capital structure. One of the objectives of planning an appropriate capital structure is to maximize the return to the equity shareholder's funds of maximizing the EPS
- Financial leverage is a double-edged sword. On one hand, it increases the earnings per share and on the other, it increases financial risk. A high financial leverage means high fixed financial costs and high financial risk i.e. as the debt component in capital structure increases, the financial leverage and at the same time financial risk increases, i.e. risk of insolvency increases
- The finance manager, therefore, is required to trade off i.e. has to bring a balance between risk and return for determining the appropriate amount of debt in the capital structure of a firm

Financial Risk

- Financial risk refers to the variability in EPS caused by the use of financial leverage. Financial risk arise due to excessive use of borrowed capital. Firms operating on large amount of debt capital to total capital are usually exposed to such a risk. A totally equity financed firm will have no financial risk. Financial risk is, therefore, an avoidable risk if the firm decides not to use any debt in the capital structure. Two firms exposed to same degree of operating risk, can differ with respect to financial risk when they finance their assets differently

Composite leverage

- Composite leverage is a combination of operating leverage and financial leverage.
- Operating leverage affects the firms operating profit which is the result of production. The degree of operating leverage shows the effects of changes in sales on EBIT
- Financial leverage affects the earnings of shareholders. It's the result of financial decision. The degree of financial leverage shows the effect of changes in EBIT on EPS.

- As a result of he combination of operating and financial leverage fluctuations are caused in EPS. The composite leverage measures the combined effect on operating leverage and financial leverage.

  Composite leverage= Operating leverage * Financial leverage

Significance of Combined Leverage

- The ratio of contribution to earnings before tax, given by combined leverage shows the combined effect of operating and financial leverage.

  a) **A high Operating Leverage and a high financial leverage combination** is very risky. If the company is producing and selling at a high level, it will make huge profits for its shareholders. But even a small fall in the level operations would result in tremendous fall in EPS. A company must, therefore, maintain a proper balance between these two leverages

  b) **A low operating leverage and a low financial leverage** indicates that the company is following very cautious and conservative approach on both production front as well as financial front. Such a conservative approach may mean that the company is losing profitable opportunities. Moreover low debt financing will raise the overall cost of capital to the firm

  c) **A high operating leverage and low financial leverage reveals** that the production policy is aggressive but so far as financing policy is concerned, a cautious approach is being followed. The higher amount of risk involved in high operating leverage is balance by low financial leverage

  d) **A low operating leverage and a high financial leverage** shows a bold financial policy. Higher risk due to high financial leverage is counter balanced by a low operating leverage. This enables the management to pursue an aggressive production policy by way expansion or diversification take the fullest possible advantage of growing business opportunities. A low operating leverage implies the company reaches its break-even point at a lower of sales. Therefore, the risk is minimized

- From the above it is clear that the management should avoid the combination of high operating leverage and high financial leverage or low operating leverage and low financial leverage as far as possible. From the shareholder's point of view, a low OL and a high FL combination is considered to be an ideal situation for the maximization of profits
- Thus, leverages play a vital role in financial decision making. Both operating leverage and financial leverage should be paid due attention to have a balanced capital structure and maximize the return on shares. More dependence on high financial leverage without paying due attention to operating leverage results in lop sided capital structure high incidence of fixed charges, low profits and ultimately an early dissolution

PROBLEMS ON LEVERAGE

1. Calculate the operating leverage, financial leverage and combined leverage from the following information

Sales Rs.500000 Variable Cost Rs.25000

Interest Rs.5000 Fixed Cost Rs. 15000

STATEMENT OF PROFIT

Sales	50000
Less: variable cost	25000
Contribution	25000
Less fixed cost	15000
Operating profit	10000
Less interest	5000
Profit before tax	**5000**

Operating leverage = Contribution/ Operating Profit

= 25000/10000

= 2.5 Times

Financial leverage = Operating Profit/ Profit Before Tax

= 10000/5000

= 2 Times

Combined leverage = Operating Leverage X Financial Leverage

= 2.5X2

=5

2. Calculate operating and financial leverage from the following particulars

Units sold 5000

Variable Cost Per Unit Rs.20

10% Public Debt Rs. 100000

Selling Price Per Unit Rs. 30

EBIT Rs.30000

STATEMENT OF PROFIT

Sales (5000X30)	150000
Variable cost	100000
Contribution	50000
Fixed cost	20000
EBIT	30000
Less (10% of 100000)	10000
EBT	20000

- Operating leverage = Contribution /EBIT

  =50000/30000

  =1.667

- Financial leverage = EBIT/EBT

  =30000/20000

  = 1.5

3. The following projections have been in respect of companies X and company Y

Particulars	Company X	Company Y
Volume of Output and Sales	80000 Units	100000 Units
Variable Cost Per Unit	4	3
Fixed Cost	240000	250000
Interest on Debt	120000	50000
Selling Price Per Unit	10	8

On the basis of above information calculate

- Operating leverage
- Financial leverage
- Combined leverage

Statement of Profit	Company X	Company Y
Sales	800000	800000
Less variable cost	320000	300000
Contribution	480000	500000
Less fixed cost	240000	250000
EBIT	240000	250000
Less interest	120000	50000
EBT	120000	200000

Operating leverage **= Contribution / EBIT**

For Company X = 480000/240000

= 2 times

For Company Y = 500000/250000

= 2 times

Financial leverage **= EBIT/EBT**

For Company X = 240000/120000

= 2 times

For Company Y = 250000/200000

=1. 25 times

Combined leverage = Operating Leverage X Financial Leverage

For Company X = 2X2

= 4

For Company Y = 2X1.25

=2.50

4. A ltd sells goods at Rs.10 P.U its variable cost are Rs. 7 P.U and fixed cost amount to Rs.170000 it finances all its assets by equity funds. It pays 40% tax on its income. Z Ltd is identical to A Ltd except in the pattern of financing Z ltd finances its assets 50% by equity and 50 % by debt, the interest on which amounts to Rs. 20000. Determine the degree of operating , Financial and Combined leverage when sales are Rs.700000 for both the firms and interpret the results

STATEMENT OF PROFIT

Particulars	A Ltd.	Z Ltd.
Sales	700000	700000
Less variable cost	490000	490000
Contribution	210000	210000
Fixed cost	170000	170000
EBIT	40000	40000
Less interest	-	20000
EBT	40000	20000
TAX 40%	16000	8000
PROFIT AFTER TAX	**24000**	**12000**

Operating leverage = Contribution / EBIT

For A Ltd = 210000/40000

= 5.25 times

For Z Ltd = 210000/40000

= 5.25 times

Financial leverage **=EBIT/EBT**

For A Ltd = 40000/40000

= 1 time

For Z Ltd = 40000/20000

= 2 times

Combined leverage **= Operating Leverage X Financial Leverage**

For A Ltd =5.25X1 = 5.25

For Z Ltd = 5.25X2 =10.50

5. The following data are available for R and S Ltd.

Selling price Rs.120 per unit

Variable cost Rs.70 per unit

Fixed cost Rs.200000

- What is the operating leverage when R and S Ltd. Produces and sells 6000 units
- What is the percentage change that will occur in the EBIT, if the output increases by 5%.
- Calculate revised operating leverage.

STATEMENT OF PROFIT

Particulars	6000 units	6300 units
Sales	720000	756000
Less variable cost	420000	441000
Contribution	300000	315000
Fixed cost	200000	200000
EBIT	**100000**	**115000**

Operating Leverage @6000units = Contribution/EBIT

= 300000/100000

= 3 times

Percentage change in EBIT if the output increases by 5 %

EBIT at 6300 units =115000

EBIT at 6000 =100000

= 15000

Percentage change in EBIT = 15000/100000=15%

Operating leverage at 6300 units = 315000/115000= 2.74

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(For the candidates admitted from 2017 onwards)

DEPARTMENT OF COMMERCE

SUBJECT : CORPORATE FINANCE
SEMESTER : I
SUBJECT CODE: 17CMP101 CLASS : I M.COM

POSSIBLE QUESTIONS – UNIT III

PART A (1 MARK)
ONLINE QUESTIONS

PART B (2 MARKS)

1. Define Capital Structure
2. Briefly explain on Net Income Theory
3. Briefly narrate on Net Operating Income Theory
4. What do you mean by financial leverage?
5. Briefly elucidate on operating leverage.
6. What is leverage?
7. What do you mean by Trading on Equity?
8. What do you mean by Composite leverage?
9. What is combined leverage?
10. What is market capitalization?

PART C (6 MARKS)

1. Discuss in detail, the factors which determine the Capital Structure of a firm.
2. Elucidate in detail on various theories of Capital Structure.
3. Discuss the Net Income and Net Operating Income approaches to Capital Structure.
4. Elucidate in detail on essential features of Optimal Capital Structure.
5. Explain the term leverage. What are its types?
6. Calculate the operating, finance and combined leverage from the following information.

Sales	Rs. 50000
Variable Costs	Rs. 25000
Fixed Costs	Rs. 15000
Interest	Rs. 5000

7. The operating and cost data of Ashok Ltd., are as follows:

   Sales 40000 units at Rs. 10 per unit

   Variable Cost at Rs. 7.50 per unit

   Fixed Costs Rs. 80000 (including 15% interest on Rs. 200000)

   Calculate the Operating, Financial and Combined leverages.

8. The following projections have been given in respect of companies X and Y.

Particulars	Company X	Company Y
Volume of Output & Sales	80000 Units	100000 Units
Variable Cost per unit	Rs.4	Rs.3
Fixed Cost	Rs.240000	Rs.250000
Interest burden on Debt	Rs.120000	Rs.50000
Selling price per unit	Rs. 10	Rs. 8

On the basis of above information calculate (a) Operating leverage (b) Financial leverage (c) Combined leverage and (d) Operating break-even point (e) Financial break-even point.

9. Alpha Company Ltd., has an all equity capital structure consisting of 20000 equity shares of Rs. 100 each. The management plans to raise Rs. 30 lakhs to finance a programme of expansion. Three alternative methods of financing are under consideration.

   (1) Issue of 30000 new shares of Rs. 100 each

   (2) Issue of 30000 8% debentures of Rs. 100 each

   (3) Issue of 30000 8% preference shares Rs. 100 each

   The company's expected earnings before interest and taxes (EBIT) is Rs. 10 lakhs. Determine the earnings per share in each alternative assuming a corporate tax rate of 50%. Which alternative is best and why?

10. A Company needs Rs. 600000 for construction of a new plant. The following three financial plans are feasible.

1. The company may issue 60000 equity shares of Rs. 10 each
2. The company may issue 30000 equity shares of Rs.10 each and 3000 debentures of Rs. 100 each bearing 8% coupon rate of interest
3. The company may issue 30000 equity shares of Rs. 10 each and 3000 preference shares of Rs. 100 each bearing 8% rate of dividend

The profit before interest and taxes (PBIT) is expected to be Rs.150000. Corporate Tax rate is 50%. Calculate the earning per share under three plans. Which plan would you recommend and why?

QUESTION PAPER PATTERN

Internal	**: 50 Marks**
Multiple Choice Questions	: 20 X1 = 20 Marks
Descriptive type Questions	: 3 X 2 = 6 Marks
Descriptive type Questions	: 3 X 8 = 24 Marks

External	**: 60 Marks**
Multiple Choice Questions	: 20 X1 = 20 Marks
Descriptive type Questions	: 5 X 2 = 10 Marks
Descriptive type Questions	: 5 X 6 = 30 Marks

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF COMMERCE
CORPORATE FINANCE (17CMP101/17CCP101)
UNIT III ONE MARK QUESTIONS

1	Degree of Financial Leverage = _____	EBIT / EBT	Contribution / Profit	Contribution / Sales	EBT / EBIT	EBIT / EBT
2	Operating Leverage = _____	EBIT / EBT	Contribution / Operating Profit	Contribution / Sales	EBT / EBIT	Contribution / Operating Profit
3	Operating Profit =	Sales – Total Cost	Contribution / Profit	EBT / EBIT	Contribution / Sales	Sales – Total Cost
4	Operating leverage helps in analysis of:	Business risk	Financial Risk	Production Risk	Credit Risk	Business risk
5	Which of the following is studied with the help of financial leverage?	Business risk	Financial Risk	Production Risk	Credit Risk	Financial Risk
6	Combined Leverage is obtained from OL and FL by their:	Addition	Substraction	Multiplication	Division	Multiplication
7	Contribution = _____	Sales – Total Cost	Sales – Fixed Cost	Sales – Explicit Cost	Sales – Variable Cost	Sales – Variable Cost
8	A Company is highly geared when	It rises finance by only equity capital	More debentures are issued than preference	More debentures are issued than equity	More preference shares are issued than equity capital	More debentures are issued than equity capital
9	Capital gearing is the ratio between	Equity capital and debenture	Equity capital and preference capital	Equity capital and fixed interest securities	Debentures and preference capital	Equity capital and fixed interest securities
10	Financial Leverage measures relationship between	EBIT and EBT	EBIT and EPS	Sales and EBT	Sales and EPS	EBIT and EBT
11	Trading on equity means	Trading in equity share of small face value	A relatively smaller equity capital than	Transaction between the company and its	Restricted transaction on equity shares and stock exchange	A relatively smaller equity capital than borrowed capital
12	Leverage implies that	The return on equity share capital exceeds the interest on	Return on borrowed capital	Return on equity capital	The return on borrowed capital exceeds the return on equity share	The return on equity share capital exceeds the interest on borrowed
13	High degree of financial leverage means:	High debt	Lower debt	Equal debt and equity	High debt or low debt	High debt
14	Operating leverage arises because of:	Fixed cost of production	Fixed Interest	variable cost	Sales	Fixed cost of production
15	Financial Leverage arises because of:	Fixed cost of production	Interest cost	variable cost	Sales	Interest cost
16	Which combination is generally good for firms?	High OL, High FL	Low OL, Low FL	High FL , Low OL	High OL and Low FL	High OL and Low FL
17	Financial Leverage is zero if:	EBIT=Zero	EBIT= 1	EPS=1	EPS=0	EBIT=Zero
18	Business risk can be measured by:	Openrating Leverage	financial leverage	Combined Leverage	Operating or Financial leverage	Openrating Leverage
19	Financial risk can be measured by:	Openrating Leverage	financial leverage	Combined Leverage	Operating or Financial leverage	financial leverage
20	Which is not included under type of leverage?	Administrative leverage	financial leverage	Operating leverage	Combined leverage	Administrative leverage
21	If interest expenses for a firm rise firm has taken on more	Openrating Leverage	financial leverage	Combined Leverage	fixed assets	financial leverage
22	Combined leverage is a percentage change in relationship between sales and----------	Operating income	Earning per share	Operating leverage	Break even point	Earning per share
23	Contribution divided by operating profit is the formula of	Financial Leverage	Operating leverage	Administrative leverage	Combined leverage	Operating leverage
24	Which of the following is correct?	CL= OL + FL	CL= OL - FL	CL= OL * FL	CL= OL/FL	CL= OL * FL
25	Higher FL is related the use of:	Higher Equity	Higher Debt	Lower Debt	Lower Equity	Higher Debt
26	Higher OL is related to the use of higher:	debt capital	Equity	Fixed cost	Variable cost	Fixed cost
27	In order to calculate EPS, Profit after Tax and Preference Dividend is divided by:	MP of Equity Shares	No. of Equity Shares	Equity share capital	Face value of Equity shares	No. of Equity Shares
28	If a firm has no debt, which one is correct?	OL is one	FL is one	FL is zero	OL is Zero	FL is one
29	Point of indifference relates the	EPS and net profit	EBIT and tax level	Net profit and earnings	Gross and net profit	EBIT and tax level
30	Traditional approach of capital structure is also known as ----------	Older approach	Intermediate approach	Modern approach	Walter approach	Intermediate approach
31	Ploughing back of profit means	Earning of black money	Reinvestment of earnings	Unclaimed dividends	Transferring a part of profit to reserve	Reinvestment of earnings
32	A Company can trade on equity when it has issued	Only equity capital	Only preference capital	Equity and preference capital	Debenture preference and equity capital	Debenture preference and equity capital
33	Composite leverage is a combination of	Financial and operating leverage	Financial and working capital leverage	Financial and trading on equity	Operating and working capital leverage	Financial and operating leverage
34	_____ is an arrangement that provides a firm with the use and control over assets without buying and owning the same.	Hire purchase	Pledge	lease	Bailment	lease
35	Which is a capital expenditure?	Wages paid	Plant & machinery acquired	Salaries paid	Advertisement cost	Plant & machinery acquired
36	Which of the following is a capital expenditure?	Wages paid	Salary	depreciation	preliminary expenses	preliminary expenses
37	Which of the following transaction is of capital nature?	purchase of truck by a company	replacement of old tyres	yearly premium to insure the truck	cost of repairs of the truck	purchase of truck by a company
38	Sources of finance for a business include ----------	Equity	Land	Outstanding expenses	Depreciation	Equity
39	Equity means ----------	Paid up share capital	Reserves	Depreciation	Outstanding expenses	Paid up share capital
40	When will the company have to plan about its capital structure?	During Incorporation	During replacement	during modernization	During diversification	During Incorporation
41	Financial leverage means ----------	Equity is the base to raise the finance	Preference is the base to raise the finance	earning is the base to raise the finance	Dividend is the base to raise the finance	equity is the base to raise the finance
42	What are the sources of finance for a business?	Equity	creditors wealth	Debtors wealth	Stock	Equity
43	When will the company have to plan about its capital structure?	During Incorporation	During replacement	During modernization	During promotion	During Incorporation
44	What do you mean by financial leverage?	Equity is the base to raise the finance	Preference is the base to raise the finance	Earning is the base to raise the finance	Dividend is the base to raise the finance	Earning is the base to raise the finance
45	---------- comprises of fixed assets and other non-current assets	Fixed capital	Working capital	Share capital	Equity capital	Fixed capital
46	The ---------- refers to the kind and proportion of different securities for raising funds.	Capital structure	cost of capital	capital budgeting	auditing	Capital structure
47	In _____ approach, the capital structure decision is relevant to the valuation of the firm.	Net income approach	Net operating income approach	MM approach	Traditional approach	Net income approach
48	Pattern of capital structure include ----------	Equity shares	Dividend	interest	Long term loan	Equity shares
49	Which of the following is true for Net Income Approach?	Higher Equity is better	High Debt better	Debt is irrelavant	Low Debt is better	High Debt better
50	Which of the following is true of Net Income Approach?	$V_E = V_E + V_D$	$V_E = V_E + V_D$	$V_D = V_E + V_E$	$V_E = V_E + V_E$	$V_E = V_E + V_D$
51	Financial leverage is intended to	Increase return on Capital Employed	Increase net equity return	decrease volatility return	Increas return on capital employed and net equity	Increase return on Capital Employed
52	Which of the following statement is incorrect?	Contribution- Fixed cost= Operating cost	FL=EBIT/OP	CL= OL * FL	FL=EBIT / EBIT	FL=EBIT/OP
53	NOI Approach advocates that the degree of debt financing is:	Relevant	may be relevant	may be irrelevant	irrelevant	irrelevant
54	The use of long term fixed interest bearing debt and preference share capital along with equity shares is called ----------	Operating leverage	Financial leverage	Combined leverage	Capital Structure	Financial leverage
55	Which of the following assumes constant k_d and k_e?	Net income approach	Net operating income approach	MM approach	Traditional approach	Net income approach
56	'Judicious use of leverage' is suggested by:	Net income approach	Net operating income approach	MM approach	Traditional approach	Traditional approach
57	Traditional approach of capital structure is also known as ----------	Older approach	Intermediate approach	Modern approach	Walter approach	Intermediate approach
58	In the Traditional Approach, which one of the following remains constant?	Cost of Equity	Cost of Debt	WACC	None	None
59	In MM-Model, irrelevance of capital structure is based on:	Cost of Debt and Equity	Arbitrage Process	Decreasing k_0	Increasing k_0	Arbitrage Process
60	Which of the following is incorrect for NOI?	k_0 is constant	k_d is constant	ke is constant	k_d & k_0 are constant	ke is constant
61	---------- refers to the relationship between equity capital and long term debt	Capital gearing	Capital structure	Capital budgeting	Cost of capital	Capital gearing

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DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : **I**
SUBJECT CODE: **17CMP101** **CLASS** : **I M.Com.**

UNIT – IV

Capital Budgeting Decisions – Investment Evaluation Criteria – Payback Method – ARR – NPV Method – IRR – Profitability Index – Risk Analysis in Capital Budgeting – Nature of Risk – Conventional and Statistical Technique to handle risk.

CAPITAL BUDGETING

The word Capital refers to be the total investment of a company of firm in money, tangible and intangible assets. Whereas budgeting defined by the "**Rowland** and **William**" it maybe said to be the art of building budgets. Budgets are a blue print of a plan and action expressed in quantities and manners.

The examples of capital expenditure:

1. Purchase of fixed assets such as land and building, plant and machinery, good will, etc.
2. The expenditure relating to addition, expansion, improvement and alteration to the fixed assets.
3. The replacement of fixed assets.
4. Research and development project.

DEFINITIONS

According to the definition of **Charles T. Hrongreen,** "capital budgeting is a long-term planning for making and financing proposed capital out lays.

According to the definition of **G.C. Philippatos,** "capital budgeting is concerned with the allocation of the firms source financial resources among the available opportunities. The consideration of investment opportunities involves the comparison of the expected future streams of earnings from a project with the immediate and subsequent streams of earning from a project, with the immediate and subsequent streams of expenditure".

According to the definition of **Richard and Green law,** "capital budgeting is acquiring inputs with long-term return".

According to the definition of **Lyrich,** "capital budgeting consists in planning development of available capital for the purpose of maximizing the long-term profitability of the concern".

It is clearly explained in the above definitions that a firm's scarce financial resources are utilizing the available opportunities. The overall objective of the company is to maximize the profits and minimize the expenditure of cost.

NEED AND IMPORTANCE OF CAPITAL BUDGETING

1. Huge Investments

Capital budgeting requires huge investments of funds, but the available funds are limited, therefore the firm before investing projects, plan are control its capital expenditure.

2. Long-term

Capital expenditure is long-term in nature or permanent in nature. Therefore financial risks involved in the investment decision are more. If higher risks are involved, it needs careful planning of capital budgeting.

3. Irreversible

The capital investment decisions are irreversible, are not changed back. Once the decision is taken for purchasing a permanent asset, it is very difficult to dispose of those assets without involving huge losses.

4. Long-term effect

Capital budgeting not only reduces the cost but also increases the revenue in long-term and will bring significant changes in the profit of the company by avoiding over or more investment or under investment. Over investments leads to be unable to utilize assets or over utilization of fixed assets. Therefore before making the investment, it is required carefully planning and analysis of the project thoroughly.

CAPITAL BUDGETING PROCESS

Capital budgeting is a difficult process to the investment of available funds. The benefit will attained only in the near future but, the future is uncertain. However, the following steps followed for capital budgeting, then the process may be easier are.

1. Identification of various Investments Proposals

The capital budgeting may have various investment proposals. The proposal for the investment opportunities may be defined from the top management or may be even from the lower rank. The heads of various departments analyse the various investment decisions, and will select proposals submitted to the planning committee of competent authority.

2. Screening or matching the Proposals

The planning committee will analyse the various proposals and screenings. The selected proposals are considered with the available resources of the concern. Here resources referred as the financial part of the proposal. This reduces the gap between the resources and the investment cost.

3. Evaluation

After screening, the proposals are evaluated with the help of various methods, such as payback period proposal, net discovered present value method, accounting rate of return and risk analysis. Each method of evaluation used in detail in the later part of this chapter. The proposals are evaluated by.

(a) Independent proposals

(b) Contingent of dependent proposals

(c) Partially exclusive proposals.

Independent proposals are not compared with another proposals and the same may be accepted or rejected. Whereas higher proposals acceptance depends upon the other one or more proposals. For example, the expansion of plant machinery leads to constructing of new building, additional manpower etc. Mutually exclusive projects are those which competed with other proposals and to implement the proposals after considering the risk and return, market demand etc.

4. Fixing Property

After the evolution, the planning committee will predict which proposals will give more profit or economic consideration. If the projects or proposals are not suitable for the concern's financial condition, the projects are rejected without considering other nature of the proposals.

5. Final Approval

The planning committee approves the final proposals, with the help of the following:

(a) Profitability

(b) Economic constituents

(c) Financial violability

(d) Market conditions.

The planning committee prepares the cost estimation and submits to the management.

6. Implementing

The competent authority spends the money and implements the proposals. While implementing the proposals, assign responsibilities to the proposals, assign responsibilities for completing it, within the time allotted and reduce the cost for this purpose. The network techniques used such as PERT and CPM. It helps the management for monitoring and containing the implementation of the proposals.

Performance Review of Feedback

The final stage of capital budgeting is actual results compared with the standard results. The adverse or unfavourable results identified and removing the various difficulties of the project. This is helpful for the future of the proposals.

METHODS OF CAPITAL BUDGETING OF EVALUATION

By matching the available resources and projects it can be invested. The funds available are always living funds. There are many considerations taken for investment decision process such as environment and economic conditions.

The methods of evaluations are classified as follows:

(A) Traditional methods (or Non-discount methods)

(i) Pay-back Period Methods

(ii) Post Pay-back Methods

(iii) Accounts Rate of Return

(B) Modern methods (or Discount methods)

(i) Net Present Value Method

(ii) Internal Rate of Return Method

(iii) Profitability Index Method

Pay-back Period

The payback period (PBP) is the traditional method of capital budgeting. It is the simplest and perhaps, the most widely used quantitative method for appraising capital expenditure decision Pay-back period is the time required to recover the initial investment in a project.

(It is one of the non-discounted cash flow methods of capital budgeting).

$$\text{Pay-back period} = \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

Meaning:

It is the number of years required to recover the original cash outlay invested in a project

Decision Rule:

The PBP can be used as a decision criterion to select investment proposal.

- If the PBP is less than the maximum acceptable payback period, accept the project.
- If the PBP is greater than the maximum acceptable payback period, reject the project.

This technique can be used to compare actual pay back with a standard pay back setup by the management in terms of the maximum period during which the initial investment must be recovered. The standard PBP is determined by management subjectively on the basis of a number of factors such as the type of project, the perceived risk of the project etc. PBP can be even used for ranking mutually exclusive projects. The projects may be ranked according to the length of PBP and the project with the shortest PBP will be selected**.**

Merits of Pay-back method

The following are the important merits of the pay-back method:

1. It is easy to calculate and simple to understand.
2. Pay-back method provides further improvement over the accounting rate return.
3. Pay-back method reduces the possibility of loss on account of obsolescence.
4. It is a cost effective method which does not require much of the time of finance executives as well as the use of computers.
5. It is a method for dealing with risk. It favours projects which generates substantial cash inflows in earlier years and discriminates against projects which brings substantial inflows in later years . Thus PBP method is useful in weeding out risky projects.
6. This is a method of liquidity. It emphasizes selecting a project with the early recovery of the investment.

Demerits

1. It ignores the time value of money.
2. It ignores all cash inflows after the pay-back period.
3. It is one of the misleading evaluations of capital budgeting.

Accept /Reject criteria

If the actual pay-back period is less than the predetermined pay-back period, the project would be accepted. If not, it would be rejected.

Uses:

The PBP can be gainfully employed under the following circumstances.

1. The PB method may be useful for the firms suffering from a liquidity crisis
2. It is very useful for those firms which emphasizes on short run earning performance rather than its long term growth.
3. The reciprocal of PBP is a good approximation of IRR which otherwise requires trial & error approach.

Payback Reciprocal and the Rate of Return

Payback is considered a good approximation of the rate of return under following two conditions.

1. The life of the project is too large or at least twice the payback period.
2. The project generates constant annual cash inflow.

Though pay back reciprocal is a useful way to estimate the project's IRR but the major limitation of it is all investment project does not satisfy the conditions on which this method is based. When the useful life of the project is not at least twice the PBP, it will always exceed the rate of return. Similarly, if the project is not yielding constant CFAT it cannot be used as an approximation of the rate of return.

Sum 1:

Project cost is Rs. 30,000 and the cash inflows are Rs. 10,000, the life of the project is 5 years. Calculate the pay-back period.

Solution =Rs. 30,000

Rs. 10,000

= 3 Year

The annual cash inflow is calculated by considering the amount of net income on the amount of depreciation project (Asset) before taxation but after taxation. The income precision earned is expressed as a percentage of initial investment, is called unadjusted rate of return. The above problem will be calculated as below

$$\text{Unadjusted rate of return} = \frac{\text{Annual Return}}{\text{Investment}} \times 100$$

$$= \frac{\text{Rs. 10,000}}{\text{Rs.30,000}} * 100$$

$$= 33.33\%$$

Sum 2:

A project costs Rs. 20, 00,000 and yields annually a profit of Rs. 3, 00,000 after depreciation @ 12½% but before tax at 50%. Calculate the pay-back period.

Profit after depreciation	3, 00,000
Tax 50%	1, 50,000
	1, 50,000
Add depreciation 20, 00,000 12 ½ %	2, 50,000
Cash inflow	4, 00,000

Solution

$$\text{Pay-back period} = \frac{\text{Investment}}{\text{Cash flow}}$$

$$= \frac{\text{20, 00,000}}{\text{4, 00,000}}$$

$$= 5 \text{ Years}$$

Uneven Cash Inflows

Normally the projects are not having uniform cash inflows. In those cases the pay-back period is calculated, cumulative cash inflows will be calculated and then interpreted.

Sum 3

Certain projects require an initial cash outflow of Rs. 25,000. The cash inflows for 6years are Rs. 5,000, Rs. 8,000, Rs. 10,000, Rs. 12,000, Rs. 7,000 and Rs. 3,000.

Solution

Year	Cash Inflows (Rs.)	Cumulative Cash Inflows (Rs.)
1	5000	5000
2	8000	13000
3	10000	23000
4	12000	35000
5	7000	42000
6	3000	45000

The above calculation shows that in 3 years Rs. 23,000 has been recovered Rs. 2,000, is balance out of cash outflow. In the 4th year the cash inflow is Rs. 12,000. It means the pay-back period is three to four years, calculated as follows

Pay-back period = 3 years+2000/12000×12 months

= 3 years 2 months.

Post Pay-back Profitability Method

One of the major limitations of pay-back period method is that it does not consider the cash inflows earned after pay-back period and if the real profitability of the project cannot be assessed. To improve over this method, it can be made by considering the receivable after the pay-back period. These returns are called post pay-back profits.

Sum 4

From the following particulars, compute:

1. Payback period.
2. Post pay-back profitability and post pay-back profitability index.

(a)	Cash outflow	Rs. 1, 00,000
	Annual cash inflow	Rs. 25,000
	(After tax before depreciation)	
	Estimate Life	6 years
(b)	Cash outflow	Rs. 1, 00,000
	Annual cash inflow	
	(After tax depreciation)	
	First five years	Rs. 20,000
	Next five years	Rs. 8,000
	Estimated life	10 Years
	Salvage value	Rs. 16,000

Solution

(a) (i) Pay-back period = Initial investment / Annual cash inflows

= 1,00,000 /25,000 = 4 Years

(ii) Post pay-back profitability

=Cash inflow (Estimated life – Pay-back period)

=25,000 (6 – 4)

=Rs. 50,000

(iii) Post pay-back Profitability Index

$$= \frac{50,000}{1,00,000} \times 100$$

= 50%

(b) Cash inflows are equal, therefore payback period is calculated as follows:

(i)

Year	Cash Inflows (Rs.)	Cumulative Cash Inflows (Rs.)
1	20,000	20,0000
2	20,000	40,000
3	20,000	60,000
4	20,000	80,000
5	20,000	100000
6	8,000	1,08,000
7	8,000	1,16,000
8	8,000	1,24,000
9	8,000	1,32,000
10	8,000	1,40,000

(ii) Post pay-back profitability.

= Cash inflow (estimated life – pay-back period)

= 8,000 (10–5)

= 8000×5 = 40,000

(iii) Post pay-back profitability index

$$= \frac{40,000}{1,00,000} \times 100$$

=40%

ACCOUNTING RATE OF RETURN OR AVERAGE RATE OF RETURN

Average rate of return means the average rate of return or profit taken for considering the project evaluation. This method is one of the traditional methods for evaluating the project proposals:

Meaning

The ARR is the ratio of the average after tax profit divided by the average investment.

Decision Rule

The ARR can be used as a decision criterion to select investment proposal.

- If the ARR is higher than the minimum rate established by the management, accept the project.
- If the ARR is less than the minimum rate established by the management, reject the project.

The ranking method can also be used to select or reject the proposal using ARR. It will rank a project number one if it has highest ARR and lowest rank would be given to the project with lowest ARR.

Merits

1. It is easy to calculate and simple to understand.
2. It is based on the accounting information rather than cash inflow.
3. It is not based on the time value of money.
4. It considers the total benefits associated with the project.

Demerits

1. It ignores the time value of money.
2. It ignores the reinvestment potential of a project.
3. Different methods are used for accounting profit. So, it leads to some difficulties in the calculation of the project.

Accept/Reject criteria

If the actual accounting rate of return is more than the predetermined required rate of return, the project would be accepted. If not it would be rejected.

Uses

The ARR can better be used as performance evaluation measure and control devise but it is not advisable to use as a decision making criterion for capital expenditures of the firm as it is not using cash flow information

NET PRESENT VALUE

Net present value method is one of the modern methods for evaluating the project proposals. In this method cash inflows are considered with the time value of the money. Net present value describes as the summation of the present value of cash inflow and present value of cash outflow. Net present value is the difference between the total present value of future cash inflows and the total present value of future cash outflows.

Meaning

The NPV is the difference between the present value of future cash inflows and the present value of the initial outlay, discounted at the firm's cost of capital. The procedure for determining the present values consists of two stages. The first stage involves determination of an appropriate discount rate. With the discount rate so selected, the cash flow streams are converted into present values in the second stage.

Decision Rule

The present value method can be used as an accept-reject criterion. The present value of the future cash streams or inflows would be compared with present value of outlays. The present value outlays are the same as the initial investment.

- If the NPV is greater than 0, accept the project.
- If the NPV is less than 0, reject the project.

Merits

1. It recognizes the time value of money.
2. It considers the total benefits arising out of the proposal.
3. It is the best method for the selection of mutually exclusive projects.
4. It helps to achieve the maximization of shareholders' wealth.

Demerits

1. It is difficult to understand and calculate.
2. It needs the discount factors for calculation of present values.
3. It is not suitable for the projects having different effective lives.

Accept/Reject Criteria

If the present value of cash inflows is more than the present value of cash outflows, it would be accepted. If not, it would be rejected.

Uses

NPV is very much in use capital budgeting practice being a true profitability measure.

Sum 5

From the following information, calculate the net present value of the two project and suggest which of the two projects should be accepted a discount rate of the two.

	Project X	**Project Y**
Initial Investment	Rs. 20,000	Rs. 30,000
Estimated Life	5 years	5 years
Scrap Value	Rs. 1,000	Rs. 2,000

The profits before depreciation and after taxation (cash flows) are as follows:

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Project x	5,000	10,000	10,000	3,000	2,000
Project y	20,000	10,000	5,000	3,000	2,000

NOTE: The following are the present value factors @ 10% p.a.

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Factor	.909	.826	.751	.683	.621	.564

Solution

Year	**Cash inflows**		**Present Value of Rs. 1 @ 10%**	**Present Value of Net Cash inflows**	
	Project X Rs.	**Project Y Rs.**		**Project X Rs.**	**Project Y Rs.**
1	5000	20000	.909	4,545	18,180
2	10000	10000	.826	8,260	8,260
3	10000	5000	.751	7,510	3,755
4	3000	3000	.683	2,049	2,049
5	2000	2000	.621	1,242	1,242
Scrap Value	1000	2000	.621	621	1,245
Total present value Initial Investments				24,227 20,000	34,728 30,000
Net present value				4,227	4,728

Project Y should be selected as net present value of project Y is higher.

PROFITABILITY INDEX (PI):

Profitability Index (PI) or Benefit-cost ratio (B/C) is similar to the NPV approach. PI approach measures the present value of returns per rupee invested. It is observed in short coming of NPV that, being an absolute measure, it is not a reliable method to evaluate projects requiring different initial investments. The PI method provides solution to this kind of problem**.**

Meaning

It is a relative measure and can be defined as the ratio which is obtained by dividing the present value of future cash inflows by the present value of cash outlays.

Decision Rule

Using the PI ratio,

1. Accept the project when PI>1
2. Reject the project when PI<1
3. May or may not accept when PI=1, the firm is indifferent to the project.

Merits

1. PI considers the time value of money as well as all the cash flows generated by the project.
2. At times it is a better evaluation technique than NPV in a situation of capital rationing especially. For instance, two projects may have the same NPV of Rs. 20,000 but project A requires an initial investment of Rs. 1, 00,000 whereas B requires only Rs. 50,000. The NPV method will give identical ranking to both projects, whereas PI will suggest project B should be preferred. Thus PI is better than NPV method as former evaluate the worth of projects in terms of their relative rather than absolute magnitude.
3. It is consistent with the shareholders' wealth maximization.

Demerits

Though PI is a sound method of project appraisal and it is just a variation of the NPV, it has all those limitation of NPV method too.

1. When cash outflow occurs beyond the current period, the PI is unsuitable as a selection criterion.

2. It requires estimation of cash flows with accuracy which is very difficult under ever changing world.
3. It also requires correct estimation of cost of capital for getting correct result.

Uses

1. It is useful in evaluating capital expenditures projects being a relative measure
2. When the projects are mutually exclusive and it has different cash outlays, different cash flow pattern or unequal lives, it may not give unambiguous results.

INTERNAL RATE OF RETURN

Internal rate of return is time adjusted technique and covers the disadvantages of the traditional techniques. In other words it is a rate at which discount cash flows to zero.

Meaning

The internal rate of return (IRR) is the discount rate that equates the NPV of an investment opportunity with Rs.0 (because the present value of cash inflows equals the initial investment). It is the compound annual rate of return that the firm will earn if it invests in the project and receives the given cash inflows

It is expected by the following ratio:

$$\frac{\text{Cash inflow}}{\text{Investment initial}}$$

Steps to be followed:

Step1. Find out factor

Factor is calculated as follows:

$$\frac{\text{Cash outlay (or) initial investment}}{\text{Cash inflow}}$$

Step 2. Find out positive net present value

Step 3. Find out negative net present value

Step 4. Find out formula net present value

Formula

$$\text{IRR} = \text{Base factor} + \frac{\text{Positive Net Present Value}}{\text{Difference in positive}} \times \text{DP}$$

And negative net present Value

Base factor = Positive discount rate

DP = Difference in percentage

Decision Rule

When IRR is used to make accept-reject decisions, the decision criteria are as follows:

- If the IRR is greater than the cost of capital, accept the project. (r >k)
- If the IRR is less than the cost of capital, reject the project. (r<k)

Merits

1. It considers the time value of money.
2. It takes into account the total cash inflow and outflow.
3. It does not use the concept of the required rate of return.
4. It gives the approximate/nearest rate of return.

Demerits

1. It involves complicated computational method.
2. It produces multiple rates which may be confusing for taking decisions.
3. It is assume that all intermediate cash flows are reinvested at the internal rate of return

Accept/Reject criteria

If the present value of the sum total of the compounded reinvested cash flows is greater than the present value of the outflows, the proposed project is accepted. If not it would be rejected.

Comparison of NPV and IRR

Both NPV and IRR will give the same results (i.e. acceptance or rejections) regarding an investment proposal in following two situations.

- When the project under consideration involve conventional cash flow. I.e. when an initial cash outlays is followed by a series of cash inflows.
- When the projects are independent of one another i.e., proposals the acceptance of which does not preclude the acceptance of others and if the firm is not facing a problem of funds constraint.

The reasons for similarity in results in the above cases are simple. In NPV method a proposal is accepted if NPV is positive. NPV will be positive only when the actual rate of return on investment is more than the cut off rate. In case of IRR method a proposal is accepted only when the IRR is higher than the cut off rate. Thus, both methods will give consistent results since the acceptance or rejection of the proposal under both of them is based on the actual return being higher than the required rate i.e.

- NPV will be positive only if r > k,
- NPV will be negative only if r < k,

NPV would be zero only if r = k

RISK AND UNCERTAINLY IN CAPITAL BUDGETING

Capital budgeting requires the projection of cash inflow and outflow of the future. The future in always uncertain, estimate of demand, production, selling price, cost etc., cannot be exact.

For example: The product at any time it become obsolete therefore, the future in unexpected. The following methods for considering the accounting of risk in capital budgeting.

Various evaluation methods are used for risk and uncertainty in capital budgeting are as follows:

1. Risk-adjusted cut off rate (or method of varying discount rate)
2. Certainly equivalent method.
3. Sensitivity technique.
4. Probability technique
5. Standard deviation method.
6. Co-efficient of variation method.
7. Decision tree analysis.

(i) Risk-adjusted cut-off rate (or Method of varying)

This is one of the simplest method while calculating the risk in capital budgeting increase cut of rate or discount factor by certain percentage an account of risk.

Statistical Techniques for Risk Analysis:

(a) Probability Assignment

(b) Expected Net Present Value

(c) Standard Deviation

(d) Coefficient of Variation

(e) Probability Distribution Approach

(f) Normal Probability Distribution

(a) Probability Assignment

The concept of probability is fundamental to the use of the risk analysis techniques. It may be defined as the likelihood of occurrence of an event. If an event is certain to occur, the probability of its occurrence is one but if an event is certain not to occur, the probability of its occurrence is zero. Thus, probability of all events to occur lies between zero and one.

The classical view of probability holds that one can talk about probability in a very large number of times under independent identical conditions. Thus, the probability estimate, which is based on a large number of observations, is known as an objective probability. But this is of little use in analyzing investment decisions because these decisions are non-repetitive in nature and hardly made under independent identical conditions over time. The another view of probability holds that it makes a great deal of sense to talk about the probability of a single event without reference to the repeatability long run frequency concept. Therefore, it is perfectly valid to talk about the probability of sales growth will reach to 4%, the probability of rain tomorrow or fifteen days hence. Such probability assignments that reflect the state of belief of a person rather than the objective evidence of a large number of trials are called personal or subjective probabilities.

(b) Expected Net Present Value:

Once the probability assignments have been made to the future cash flows, the next step is to find out the expected net present value. It can be found out by multiplying the monetary values of the possible events by their probabilities.

(c) Standard Deviation:

The assignment of probabilities and the calculation of the expected net present value include risk into the investment decision, but a better insight into the risk analysis of capital budgeting decision is possible by calculating standard deviation and coefficient of variation.

Standard deviation (σ) is an absolute measure of risk analysis and it can be used when projects under consideration are having same cash outlay. Statically, standard deviation is the square root of variance and variance measures the deviation about expected cash flow of each of the possible cash flows.

(d) Coefficient of Variation:

If the projects to be compared involve different outlays/different expected value, the coefficient of variation is the correct choice, being a relative measure. The higher the coefficient of variation, the riskier the project. Project Y is having higher coefficient so it is riskier than the project X. It is a better measure of the uncertainty of cash flow returns than the standard deviation because it adjusts for the size of the cash flow.

(e) Probability Distribution Approach:

The researcher has discussed the concept of probability for incorporating risk in capital budgeting proposals. The concept of probability for incorporating risk in evaluating capital budgeting proposals. The probability distribution of cash flows over time provides valuable information about the expected value of return and the dispersion of the probability distribution of possible returns which helps in taking accept-reject decision of the investment decision.

The application of this theory in analyzing risk in capital budgeting depends upon the behaviour of the cash flows, being (i) independent, or (ii) dependent. The assumption that cash flows are independent over time signifies that future cash flows are not affected by the cash flows in the preceding or following years. When the cash flows in one period depend upon the cash flows in previous periods, they are referred to as dependent cash flows.

(i) **Independent Cash Flows over Time**: The mathematical formulation to determine the expected values of the probability distribution of NPV. Where 1 *CF* is the expected value of net CFAT in period t and I is the risk free rate of interest.

(ii) **Dependent Cash Flows26:** If cash flows are perfectly correlated, the behavior of cash flows in all periods is alike. This means that if the actual cash flow in one year is α standard deviations to the left of its expected value, cash flows in other years will also be α standard deviations to the left of their respective expected values.

(f) Normal Probability Distribution:

The normal probability distribution can be used to further analyze the risk in investment decision. It enable the decision maker to have an idea of the probability of different expected values of NPV, that is, the probability of NPV having the value of zero or less, greater than zero and within the range of two values for example, within the range of Rs. 2000 and Rs. 3000 etc. If the probability of having NPV zero or less is low, eg. .01, it means that the risk in the project is negligible. Thus, the normal probability distribution is an important statistical technique in the hands of decision makers for evaluating the riskiness of a project.

The area under the normal curve, representing the normal probability distribution, is equal to 1 (0.5 on either side of the mean). The curve has its maximum height at its expected value i.e. its mean. The distribution theoretically runs from minus infinity to plus infinity. The probability of occurrence beyond 3σ is very near to zero (0.26 percent). For any normal distribution, the probability of an outcome falling within plus or minus.

1σ from the mean is 0.6826 or 68.26 per cent,

2σ from the mean is 95.46 per cent,

3σ from the mean is 99.74 per cent.

CONVENTIONAL TECHNIQUES FOR RISK ANALYSIS:

(a) Payback

(b) Risk-adjusted Discount Rate

(c) Certainty Equivalent

(a) Payback Period:

Payback as a method of risk analysis is useful in allowing for a specific types of risk only, i.e., the risk that a project will go exactly as planned for a certain period will then suddenly stop generating returns, the risk that the forecasts of cash flows will go wrong due to lower sales, higher cost etc. This method has been already discussed in detail above so it has not been repeated here.

(b) Risk Adjusted Discount Rate Method:

The economic theorists have assumed that to allow for risk, the businessmen required a premium over and above an alternative which is risk free. It is proposed that

risk premium be incorporated into the capital budgeting analysis through the discount rate. i.e. If the time preference for the money is to be recognized by discounting estimated future cash flows, at some risk free rate, to their present value, then, to allow for the riskiness of the future cash flow a risk premium rate may be added to risk free discount rate. Such a composite discount would account for both time preference and risk preference.

Decision Rule

- The risk adjusted approach can be used for both NPV & IRR.
- If NPV method is used for evaluation, the NPV would be calculated using risk adjusted rate. If NPV is positive, the proposal would qualify for acceptance, if it is negative, the proposal would be rejected.
- In case of IRR, the IRR would be compared with the risk adjusted required rate of return. If the 'r' exceeds risk adjusted rate, the proposal would be accepted, otherwise not.

Merits

1. It is simple to calculate and easy to understand.
2. It has a great deal of intuitive appeal for risk-averse businessman.
3. It incorporates an attitude towards uncertainty.

Demerits

1. The determination of appropriate discount rates keeping in view the differing degrees of risk is arbitrary and does not give objective results.
2. Conceptually this method is incorrect since it adjusts the required rate of return. As a matter fact it is the future cash flows which are subject to risk.
3. This method results in compounding of risk over time, thus it assumes that risk necessarily increases with time which may not be correct in all cases.
4. The method presumes that investors are averse to risk, which is true in most cases. However, there are risk seeker investors and are prepared to pay premium for taking risk and for them discount rate should be reduced rather than increased with increase in risk.
5. Thus, this approach can be best described as a crude method of incorporating risk into capital budgeting.

(c) Certainty Equivalent Approach:

This approach to incorporate risk in evaluating investment projects, overcomes weaknesses of the RADR approach. Under this approach riskiness of project is taken into consideration by adjusting the expected cash flows and not discount rate. This method eliminates the problem arising out of the inclusion of risk premium in the discounting process.

Decision Rule

- If NPV method is used, the proposal would be accepted if NPV of CE cash flows is positive, otherwise it is rejected.
- If IRR is used, the internal rate of return which equates the present value of CE cash inflows with the present value of the cash outflows, would be compared with risk free discount rate.
- If IRR is greater than the risk free rate, the investment project would be accepted otherwise it would be rejected.

Merits

1. It is simple to calculate.
2. It is conceptually superior to time-adjusted discount rate approach because it incorporates risk by modifying the cash flows which are subject to risk.

Demerits

1. This method explicitly recognizes risk, but the procedure for reducing the forecast of cash flows is implicit and likely to be inconsistent from one investment to another.
2. The forecaster expecting reduction that will be made in his forecast, may inflate them in anticipation. This will no longer give forecasts according to “best estimate”.
3. If forecast have to pass through several layers of management, the effect may be to greatly exaggerate the original forecast or to make it ultra conservative.
4. By focusing explicit attention only on the gloomy outcomes, chances are increased for passing by some good investments.

These techniques attempts to incorporate risk but major shortcomings are that specifying the appropriate degree of risk for an investment project is beset with serious operational problems and they cannot be applied to various projects over time.

Other Techniques:

(a) Sensitivity Analysis

(b) Scenario Analysis

(c) Break Even Analysis

(d) Simulation Analysis

(e) Decision Tree Approach

a) Sensitivity Analysis

While evaluating any capital budgeting project, there is a need to forecast cash flows. The forecasting of cash flows depends on sales forecast and costs. The Sales revenue is a function of sales volume and unit selling price. Sales volume will depend on the market size and the firm's market share. The NPV and IRR of a project are determined by analysing the after-tax cash flows arrived at by combining various variables of project cash flows, project life and discount rate. The behavior of all these variables are very much uncertain. The sensitivity analysis helps in identifying how sensitive are the various estimated variables of the project. It shows how sensitive is a project's NPV or IRR for a given change in particular variables.

The more sensitive the NPV, the more critical is the variables.

Steps:

The following three steps are involved in the use of sensitivity analysis.

1. Identify the variables which can influence the project's NPV or IRR.
2. Define the underlying relationship between the variables.
3. Analyze the impact of the change in each of the variables on the projects NPV or IRR.

The Project's NPV or IRR can be computed under following three assumptions in sensitivity analysis.

1. Pessimistic (i.e. the worst),
2. Expected (i.e. the most likely)
3. Optimistic (i.e. the best)

Merits:

1. The sensitivity analysis has the following advantages:
2. It compels the decision maker to identify the variables affecting the cash flow forecasts which helps in understanding the investment project in totality.
3. It identifies the critical variables for which special actions can be taken.
4. It guides the decision maker to concentrate on relevant variables for the project.

Demerits

The sensitivity analysis suffers from following limitations:

1. The range of values suggested by the technique may not be consistent. The terms 'optimistic' and 'pessimistic' could mean different things to different people.
2. It fails to focus on the interrelationship between variables. The study of variability of one factor at a time, keeping other variables constant may not much sense. For example, sales volume may be related to price and cost. One can not study the effect of change in price keeping quantity constant.

b) Scenario Analysis

In sensitivity analysis, typically one variable is varied at a time. If variables are interrelated, as they are most likely to be, it is helpful to look at some plausible scenarios, each scenario representing a consistent combination of variables.

Procedure

The steps involved in scenario analysis are as follows:

1. Select the factor around which scenarios will be built. The factor chosen must be the largest source of uncertainty for the success of the project. It may be the state of the economy or interest rate or technological development or response of the market.
2. Estimate the values of each of the variables in investment analysis (investment outlay, revenues, costs, project life, and so on) for each scenario.
3. Calculate the net present value and/or internal rate of return under each scenario.

Evaluation

- Scenario analysis may be regarded as an improvement over sensitively analysis because it considers variations in several variables together.
- It is based on the assumption that there are few well-delineated scenarios. This may not be true in many cases. For example, the economy does not necessarily lie in three

discrete states, viz., recession, stability, and boom. It can in fact be anywhere on the continuum between the extremes. When a continuum is converted into three discrete states some information is lost.

- Scenario analysis expands the concept of estimating the expected values. Thus in a case where there are 10 inputs the analyst has to estimate 30 expected values (3 x 10) to do the scenario analysis.

c) Break-even Analysis:

In sensitivity analysis one may ask what will happen to the project if sales decline or costs increase or something else happens. A financial manager will also be interested in knowing how much should be produced and sold at a minimum to ensure that the project does not 'lose money'. Such an exercise is called break even analysis and the minimum quantity at which loss is avoided is called the break-even point. The breakeven point may be defined in accounting terms or financial terms.

Accounting Break-even Analysis

Suppose a company is considering setting up a new plant near Mumbai. The capital budgeting committee has given following projections.

d) Simulation Analysis

Sensitivity analysis and Scenario analysis are quite useful to understand the uncertainty of the investment projects. But both the methods do not consider the interactions between variables and also, they do not reflect on the probability of the change in variables. The power of the computer can help to incorporate risk into capital budgeting through a technique called Monte Carlo simulation. The term

"Monte Carlo" implies that the approach involves the use of numbers drawn randomly from probability distributions. It is statistically based approach which makes use of random numbers and pre assigned probabilities to simulate a project's outcome or return. It requires a sophisticated computing package to operate effectively. It differs from sensitivity analysis in the sense that instead of estimating a specific value for a key variable, a distribution of possible values for each variable is used.

The simulation model building process begins with the computer calculating a random value simultaneously for each variable identified for the model like market size, market growth rate, sales price, sales volume, variable costs, residual asset values, project

life etc. From this set of random values a new series of cash flows is created and a new NPV is calculated. This process is repeated numerous times, perhaps as many as 1000 times or even more for very large projects, allowing a decision-maker to develop a probability distribution of project NPVs. From the distribution model, a mean (expected) NPV will be calculated and its associated standard deviation will be used to guage the project's level of risk. The distribution of possible outcome enables the decision-maker to view a continuum of possible outcomes rather than a single estimate.

Merits

1. An increasingly popular tool of risk analysis, simulation offers certain advantages:
2. It facilitates the analysis and appraisal of highly complex, multivariate investment proposals with the help of sophisticated computer packages.
3. It can cope up with both independence and dependence amongst variables. It forces decision-makers to examine the relationship between variables.

Demerits

1. Simulation is not always appropriate or feasible for risk evaluation.
2. The model requires accurate probability assessments of the key variables. For example, it may be known that there is a correlation between sales price and volume sold, but specifying with mathematical accuracy the nature of the relationship for model purposes may be difficult.
3. Constructing simulated financial models can be time-consuming, costly and requires specialized skills, therefore. It is likely to be used to analyse very important, complex, and large-scale projects.
4. It focuses on a project's standalone risk. It ignores the impact of diversification, i.e., how a project's stand-alone risk will correlate with that of other projects within the firm and affect the firm's overall corporate risk.
5. Simulation is inherently imprecise. It provides a rough approximation of the probability distribution of net present value (or any other criterion of merit).
6. Due to its imprecision, the simulated probability distribution may be misleading when a tail of the distribution is critical.•

7. A realistic simulation model, likely to be complex, would most probably be constructed by a management scientist, not the decision maker. The decision maker, lacking understanding of the model, may not use it.
8. To determine the net present value in a simulation run the risk-free discount rate is used. This is done to avoid prejudging risk which is supposed to be reflected in the dispersion of the distribution of net present value. Thus the measure of net present value takes a meaning, very different from its usual one, which is difficult to interpret.

e) Decision-tree Approach:

Sometimes cash flow is estimated under different managerial options with the help of decision-tree approach. A decision tree is a graphic presentation of the present decision with future events and decisions. The sequence of events is shown in a format that resembles the branches of a tree.

Steps in constructing decision tree:

The first step in constructing a decision tree is to define a proposal. It may be concerning either a new product or an old product entering a new market. It may also be an abandonment option or a continuation option, expansion option or no-expansion option, etc.

Second step is identifying various alternatives. For example, if a firm is launching a new product, it must chalk out the demand possibilities and on that basis it identifies different alternatives-whether to have a large factory or a medium-size or only a small

- Plant. Each of the alternatives will have varying consequences on the cash flow.

The third step is to lay out the decision tree showing the different alternatives through different branches. And finally, the estimates of cash flow with probabilities in each branch are made.

Merits

1. Decision tree analysis gives the clarity of sequential investment decisions.
2. It gives a decision maker to visualize assumptions and alternatives in graphic form which is easier to understand than the analytical form.
3. It helps in eliminating the unprofitable branches and determines optimum decision at various decision points.

Demerits

1. The decision tree becomes more and more complicated if he includes more and more alternatives. It becomes more complicated if the analysis includes interdependent variables which are dependent on one another.
2. It becomes very difficult to construct decision tree if the number of years expected life of the project and the number of possible outcomes for each year are large.

Risk

A basic assumption of traditional cost of capital analysis is that the firm's business and financial risk are unaffected by the acceptance and financing of projects.

Business risk is related to the response of the firm's earnings before interest and taxes, or operating profits, to changes in sales. When the cost of capital is used to evaluate investment alternatives, it is assumed that acceptance of the proposed projects will not affect the firm's business risk. The types of projects accepted by a firm can greatly affect its business risk.

If a firm accepts a project that is considerably more risky than average, suppliers of funds to the firm are quite likely to raise the cost of funds. This is because of the decreased probability of the fund suppliers. Receiving the expected returns on their money. A long-term lender will charge higher interest on loans if the probability of receiving periodic interest from the firm and ultimately regaining the principal is decreased. Common stockholders will require the firm to increase earnings as compensation for increases in the uncertainty of receiving dividend payments or ably appreciation in the value of their stock. In analyzing the cost of capital it is assumed that the business risk of the firm remain sun changed (i.e., that the projects accepted do not affect the variability of the firm's sales revenues). This assumption eliminates the need to consider changes in the cost of specific sources of financing resulting from changes in business risk. The definition of the cost of capital developed in this chapter is valid only for projects that do not change the firm's business risk.

Financial risk is affected by the mixture of long-term financing, or the capital structure, of the firm. Firms with high levels of long-term debt in proportion to their equity are more risky than firms maintaining lower ratios of long-term debt to equity. It is the contractual fixed-payment obligations associated with debt financing that make a firm

financially risky. The greater the amount of interest and principal (or sinking fund) payments a firm must make in a given period, the higher the operating profits required to cover these charges. If a firm fails to generate sufficient revenues to cover operating charges, it may be forced into bankruptcy.

As a firm's financial structure shifts toward suppliers of funds recognize a more highly levered position the increased financial risk associated with the firm. They compensate for this increased risk by charging higher rates of interest or requiring greater returns, In short they react in much the same way as they would to increasing business risks. Frequently the funds supplied to a firm by lenders will change its financial structure, and the charge for the funds will be based on the changed financial structure. In the analysis of the cost of capital in this chapter, however, the firm's financial structure is assumed to remain fixed. This assumption is necessary in order to isolate the costs of the various forms of financing. If the firm's capital structure were not held constant, it would be quite difficult to find its cost of capital, since the selection of a given source of financing would change the costs of alternate sources of financing. The assumption of a constant capital structure implies that when a firm raises funds to finance a given project these funds are raised in the same proportions as the firm exists financing. The awkwardness of this assumption is obvious since in reality a firm raises funds in lumps, .it does not raise a mixture of small amounts of various types of funds.. For example, in order to raise Rs. l million a firm may sell bonds, preferred stock, or common stock in the amount of Rs. l million; or, it may sell Rs. 400,000 worth of bonds, Rs. 100,000 worth of preferred stock, and Rs. 500,000 worth of common stock. Most firms will use the former strategy, but our analysis of cost of capital is based on the assumption that the firm will follow the latter strategy. More sophisticated approaches for measuring the cost of capital when a firm's capital structure is changing rare available.

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KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed University Established Under Section 3 of UGC Act 1956)
Coimbatore - 641021.
(For the candidates admitted from 2017 onwards)

DEPARTMENT OF COMMERCE

SUBJECT : CORPORATE FINANCE
SEMESTER : I
SUBJECT CODE: 17CMP101 CLASS : I M.COM

POSSIBLE QUESTIONS – UNIT IV

PART A (1 MARK)
ONLINE QUESTIONS

PART B (2 MARKS)

1. Define Capital Budgeting.
2. Explain briefly on Payback method.
3. Elucidate briefly on Post payback period method.
4. What do you mean by accounting rate of return?
5. What do you understand by Net Present Value?
6. What do you understand by Internal Rate of Return Method?
7. What do you mean by risk?
8. What do you mean by financial risk?
9. Explain on Business Risk.
10. Explicate on Break Even Analysis.

PART C (6 MARKS)

1. Explain in detail on various methods of evaluating capital expenditure decisions.
2. Explicate in detail on need and importance of Capital Budgeting Decision.
3. Elucidate in detail on the process of Capital Budgeting.
4. Explain in detail on the merits and demerits of Pay-back method.
5. Explicate in detail on the merits and demerits of Discounted cash flow method.

6. A Company has to choose one of the following two mutually exclusive projects. Investment required for each project is Rs.15000. Both the projects have to be depreciated on straight line basis. The tax rate is 50%.

Year	Profit Before Depreciation	
	Project A	Project B
1	4200	4200
2	4800	4500
3	7000	4000
4	7000	5000
5	2000	10000

Calculate Pay-back period.

7. The Alpha Co. Ltd. is considering the purchase of a new machine. Two alternative machines (A and B) have been suggested, each having an initial cost of Rs. 400000 and requiring Rs. 20000 as additional working capital at the end of 1st Year. Earnings after taxation are expected to be as follows.

Year	Cash Inflows	
	Machine A	Machine B
1	40000	120000
2	120000	160000
3	160000	200000
4	240000	120000
5	160000	80000

The company has a target of return on capital of 10% and on this basis, you are required to compare the profitability of the machines and state which alternative you consider financially preferable?

Year	1	2	3	4	5
PV factor @ 10%	0.91	0.83	0.75	0.68	0.62

8. Project X intially costs Rs. 25000. It generates the following cash inflows.

Year	Cash Inflows (Rs.)	Present Value of Re1at 10%
1	9000	0.909
2	8000	0.826
3	7000	0.751
4	6000	0.683
5	5000	0.621

Taking the cut-off rate as 10%, suggest whether the project should be accepted or not.

9. A Choice is to be made between two competing proposals which require an equal investment of Rs. 50000 and are expected to generate net cash flows as under.

Year	Project I	Project II
End of Year 1	25000	10000
End of Year 2	15000	12000
End of Year 3	10000	18000
End of Year 4	NIL	25000
End of Year 5	12000	8000
End of Year 6	6000	4000

The Cost of Capital of the company is 10 per cent. The following are the Present Value factors at 10% per annum,

Year	1	2	3	4	5	6
PV factor @ 10%	0.909	0.826	0.751	0.683	0.621	0.564

Which project proposal should be chosen and why? Evaluate the project proposals under.

(a) Pay Back Period

10. The following are the cash inflows and outflows of a certain project.

Year	Outflows	Inflows
0	150000	
1	30000	30000
2		30000
3		50000
4		60000
5		40000

The salvage value at the end of 5 years is Rs.40000. Taking the cut of rate as 10%, calculate net present value.

QUESTION PAPER PATTERN

Internal : 50 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 3 X 2 = 6 Marks
Descriptive type Questions : 3 X 8 = 24 Marks

External : 60 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 5 X 2 = 10 Marks
Descriptive type Questions : 5 X 6 = 30 Marks

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF COMMERCE
CORPORATE FINANCE (17CMP101/17CCP101)
UNIT IV ONE MARK QUESTIONS

1	What do you mean by working capital management?	Management of current assets	Land	Reserve	Loan	Management of current assets
2	Which of the following is not an element of credit policy?	Credit Terms	Collection policy	Cash discount policy	Sales price	Sales price
3	Which of the following is related to Receivables Management?	cash budget	EOQ	Stock Level	Ageing Schedule	Ageing Schedule
4	EOQ stands for	Economic Order Quantity	Economic order Quandum	Equal Order Quantity	Economic One Quantity	Economic Order Quantity
5	In which current asset is vital to the daily operations of manufacturing companies	Inventory	Cash	Bills receivables	Debtors	Inventory
6	Which is the principal tool of cash management?	Bank deposit	Cash budget	Lock box system	Flexible budget	Cash budget
7	Current assets are also known as	Inventory	Cash	Gross working capital	Fixed Asset	Gross working capital
8	Which is the principal method of short term cash forecasting?	Funds flow method	Cash flow method	Receipts and payments method	Financial statement	Cash flow method
9	ABC Analysis is used in	Inventory Management	Receivable Management	Accounts payable management	Corporate Goverances	Inventory Management
10	Advantages of adequate working capital funds include	Cash Discount	Liquidity and Solvency	High morale	All of the above	All of the above
11	Working capital management encompass ----------problem	Availability of ample funds	To decide upon optimal mix of funds	To find internal source of funds	To find external source of funds	Availability of ample funds
12	What is circulating capital?	Working capital	Share capital	deposits in the bank	Current assets	Working capital
13	Which is not considered as current asset ?	Prepaid Expenses	Debtors	Furniture	Work in Progress	Furniture
14	Net working means___	Current Assets- Current Liabilities	Current Assets+Current Liabilities	Current Assets* Current Liabilities	Current Assets/Current Liabilities	Current Assets- Current Liabilities
15	Net working capital can be___	Positive	Gross	Medium	Average	Positive
16	Positive working capital arises when__	Current Assets exceeds Current Liabilities	Current Liabilities exceeds Current Assets	Current Assets equal Current Liabilities	Current assets average current liabilities	Current Assets exceeds Current Liabilities
17	Which equation is correct ?	WC =CA- CL	WC= current liability	Both a & b	WC= CA	WC =CA- CL
18	Net working capital indicates ----------concept	Liquidity position	current assets position	Current liabilities positions	Prpfitability position	Liquidity position
19	The changes in the level of working capital occur due to	Policy changes	Economic changes	Environment changes	Political changes	Policy changes
20	Current asset policy is the relationship between current assets and	Current liability	sales volume	Inventory	working capital	Current liability
21	ABC Analaysis stands for	Always Better Control	Always Best Control	All Better Control	All better Cost	Always Better Control
22	Growth industries require ----------	Less working capital	Less fixed assets	More working capital	Increase fixed assets	More working capital
23	VED stands for	Vital End Desirable	Vital Essential Desirable	Very Essential Desirable	Vital Essential Dot	Vital Essential Desirable
24	Trade creditor is	Source of finance	A current liability	Fixed asset	Current assets	A current liability
25	Opeation cycle starts with raw material and end with	Finished goods	Work in progress	cash	Receivables	Cash
26	What is Economic Order Quantity?	Cost of an order	Cost of Stock	Reorder level	Optitum order size	Optitum order size
27	Which of the following is not included in cost of inventory?	Purchase Cost	Transport Cost	Import Duty	Selling Costs	Selling costs
28	----------sources of working capital	Credit papers	Public deposits	Debtors	Creditors	Debtors
29	If A = Annual Requirement, O = Order Cost and C = Carrying Cost per unit per annum, then EOQ	$(2AO/C)^2$	$\sqrt{2AO/}$	2A÷OC	2A÷OC	$\sqrt{2AO/(}$
30	Which of the following is not an application of working capital	Day to day expenditure of business	current obligations for payment	expenditure in the usual course of business	Expenditure to acquire capital	Expenditure to acquire capital
31	Cash ratio shows the availability of --------balances to meet the current assets	Cash	Bank	Overdraft	Loan	Cash
32	Ageing schedule incorporates the relationship between	Creditors and Days Outstanding	Debtors and Days outstanding	Average Age of Directors	Average age of all employees	Debtors and Days outstanding
33	Which of the following is not a technique of receivables Management?	Collection matrix	fund flow analysis	aging schedule	Days sales outstanding	fund flow analysis
34	Receivables Management deals with	Receipts of raw materials	creditors management	Debtors collection	Inventory Management	Debtors collection
35	EOQ is the quantity that minimizes	Total ordering cost	Total inventory cost	Total interest cost	Safety stock level	Total ordering cost
36	In ABC inventory management system, class A items may require	Higher Safety Stock	Frequent Deliveries	Periodic Inventory system	updating of inventory records	Higher Safety Stock
37	Equity shares also known as ----------	Ordinary shares	preference shares	equity shares	Share premium	Ordinary shares
38	_____ refers to the amount invested in various components of current assets.	Temporary working capital	Net working capital	Gross working capital	Permanent working capital	Gross working capital
39	_____ is the length of time between the firm's actual cash expenditure and its own cash receipt.	Net operating cycle	Cash conversion cycle	Working capital cycle	Gross operating cycle	Net operating cycle
40	XYZ is an oil based business company, which does not have adequate working capital. It fails to meet its current obligation, which le	Investment decision	Dividend decision	Liquidity decision	Finance decision	Liquidity decision
41	The addition of all current assets investment is known as...	Net Working Capital	Gross Working capital	Temporary Working Capital	All of these	Gross Working capital
42	When total current assets exceeds total current liabilities it refers to.	Gross Working Capital	Temporary Working Capital	Both a and b	Net Working Capital	Net Working Capital
43	Which of the following would not be financed from working capital?	Cash float.	Accounts receivable.	Credit sales.	A new personal computer for the office.	A new personal computer for the office.
44	Current ratio of a concern is 1,its net working capital will be	Positive	Negative	Nil	Infinitive	Nil
45	Good inventory management is good _____ management	Financial	Marketing	Packaging	Purchasing	Purchasing
46	Ageing schedule incorporates the relationship between	Creditors and Days Outstanding,	Debtors and DaysOutstanding,	Average Age of Directors,	Average Age of Average all employees	Debtors and DaysOutstanding,
47	When using the "ABC" approach to stock categorisation. Which of the following describes class 'C" items?	High value, high risk	High value, low risk	Low value, high risk	Low value, low risk.	Low value, low risk.
48	Total of all current assets is called as ____	Gross Working Capital	Net working capital	Fixed working capital	Seasonal working capital	Gross Working Capital
49	Which are not types of working capital?	Gross Working Capital	Net working capital	Seasonal working capital	Working capital Turnover	Working capital Turnover
50	WC stands for__	Working capital	Worth Capital	Working cost	Working change	Working capital
51	Which of the following is not current liability?	Bank overdraft	Sundry creditor	Outstanding expenses	Debenture	Debenture
52	Net working capital=---------- (-) current liability	Current assets	Fixed assets	Stock	Bills receivable	Current Assets
53	ABC Analaysis stands for	Always Better Control	Always Best Control	All Better Control	All better Cost	Always Better Control
54	Gross working capital is equal to investment in ----------	Current Liability	Current Assets	Fixed Liability	Fixed Asset	Current Assets
55	An example of current asset is ----------	Plant	Machinery	Furniture	Debtors	Debtors
56	An example for current liability is ----------	Bills payable	Bills Receivable	Prepaid Expenses	Loan	Bills payable
57	Bank overdraft is an example for ----------	Current Liability	Current Asset	Fixed Liability	Fixed Asset	Current Liability
58	Which of the following is considered for cash coverstion cycle?	Inventory conversion period	Purchase of fixed assets	Issue of shares	Settlement of Discount	Inventory conversion period
59	Current ratio is the relationship between current asset and ----------	Current liability	Current asset	Fixed liability	Fixed asset	Current liability
60	---------- is the most important tool in cash management	Cash budget.	Flexible budget	Master budget	Production budget	Cash budget.
61	Cash management models include ----------	Operating cycle model	Inventory model	Both	None	Both
62	In finance, working capital means the same thing as _____.	Total assets	Fixed assets.	Current liabilities	Current assets minus current liabilities	Current assets minus current liabilities
63	Net working capital refers to _____.	Total assets minus fixed assets.	Current assets minus current liabilities.	Current assets minus inventories.	Current assets.	Current assets minus current liabilities.

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DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : **I**
SUBJECT CODE: **17CMP101** **CLASS** : **I M.Com.**

UNIT – V

Management of Working Capital – Determinants of Working Capital – Management of Accounts Receivable, Inventory and Cash – Financing of Working Capital – Dividend Theories – Walter's Model – Gordon's Model – MM's Hypothesis – Dividend Policy – Determinants of Dividend Policy.

WORKING CAPITAL

The term working capital is the difference between current assets to current liabilities. The need for working capital in a corporate needs no explanation. The working capital is needed for stock of raw materials, work-in-progress, finished goods, book debts and cash balances. Thus, a part of investment in current assets is generally financed by credit availed from suppliers of services and goods. The investment in current assets should be twice of current liabilities.

It is a complete sequence and there is no need of current assets. But it is not possible; the firm is forced to have current assets. The cash inflows and outflows do not match. Firms have necessity to keep cash or invest in shares or any other securities, so that it is possible in a position to meet the obligation whenever they are in need and when they become due.

CONCEPT

Working capital may be regarded as the lifeblood of a business. Its effective provision can do much to ensure the success of a business, while its inefficient management can lead not only to loss to profits but also to the ultimate downfall of what otherwise might be considered as a promising concern. A study of working capital is of major importance to internal and external analysis because of its close relationship with the current day-to-day operations of a business. The inadequacy or mis-management is the leading cause of business failures. Working capital is the leading cause of that portion of the assets of a business which are used in, or related to current operations, and represented at any one time by the operating cycle of such items as against receivables, inventories of raw materials, stores, work-in-process and finished goods, merchandise, notes or bills receivables and cash. "Working capital is the difference between the inflow and outflow and outflow of funds. In other words, it is the net cash inflow. It is defined as the excess of current assets over current liabilities and provisions. In other words, it is "net current assets or net working capital".

Working capital represents the total of all current assets. In other words, it is "gross working capital" and provisions exceed current assets, the difference is referred to as negative working capital.

Working funds are the total resources of business. Working funds are the total resources of a business concern and include internal and external equities, which are sunk in current and fixed assets. Working capital funds, however, are in those, which are sunk only in the current assets of a concern.

IMPORTANCE OF WORKING CAPITAL

1. Bill Payment

Sufficient working capital enables the company to pay its bills, to meet the daily expenses, to make the routine purchases as and when required. Thus the business is kept going without interruption arising from shortage of funds reflected in scarcity at materials, irregular payment of wages, etc.

2. Solvency

It also ensures solvency of the firm. Continuing production and sales would generate funds to meet the day-to-day expenses and hence availability at liquid funds brings to the firms a touch of doubtless solvency and strength.

3. The Worthiness of Credit

The creditworthiness of the company is rated high if its working capital position is found satisfactory. Credit status depends on ability to pay and the promptness with which payments are actually made. A company with adequate working capital can afford to be regular and prompt in payments and thus maintain its credit standing in the public.

4. More Credit Facility

A company with sound working capital arrangements having high rated credit standings will be able to procure credit from commercial banks on easy or competitive terms. Particularly the seasonal loans are readily granted by banks to companies which have good reputation of having adequate initial working funds.

5. Cash Discount

A company having sufficient funds will be able to take advantage of cash discount offered by suppliers of raw materials or other merchandise for prompt payment.

6. High morale of Employees

Regular payment of wages and salaries by a company with working capital maintains and enhances morale among the personnel and efficient performance can be secured thereby.

7. Business Cycles

A company having strong finances can successfully whether the storms at business cycles. In depression there would be pressure or working funds; hence a company having sufficient cash reserves will be able to ride over the dark phase at slump and recession.

8. Boom Period

In times of boom when there is rush of orders, companies having adequate working capital can execute the routine as well as special cadres by purchasing additional raw materials and employing additional staff.

9. Higher Prices of Product

Companies having sufficient working funds can wait for better marketing opportunities by holding up inventories and secure higher prices. Otherwise, hasty sales by companies with short funds would lower their bargaining power in the competition.

10. Self-Confidence

Continued prosperity and progress at the undertaking can be maintained by ample working capital. Managers themselves will get self-confidence and can infuse such confidence among the other levels of administration.

KINDS OF WORKING CAPITAL:

1. Net Working Capital

The net Working capital is the difference between current assets and current liabilities. The concept of net working capital enables a firm to determine how much amount is left for operational requirements.

2. Gross Working Capital

Gross working capital is the amount of funds invested in the various components of current assets. This concept has the following advantages:

a) Financial managers are profoundly concerned with current assets.
b) Gross working capital provides the correct amount of working capital at the right time;
c) It enables a firm to realize the greatest return on its investment;
d) It helps in the fixation of various areas of financial responsibility;
e) It enables a firm to plan and control funds and to maximize the return on investment.

Gross working capital has become a more acceptable concept in financial management.

3. Permanent Working Capital

Permanent working capital is the minimum amount of current assets, which is needed to conduct a business even during the dullest season of the year. This amount varies from year to year, depending upon the growth of a company and the stage of the business cycle in which it operates. It is the amount of funds required to produce the goods and services, which are necessary to satisfy demand at a particular point. It represents the current assets, which are required on a continuing basis over the entire year. It is maintained as the medium to carry on operations at any time. Permanent working capital has the following characteristics:

(a) It is classified on the basis of the time factor;
(b) It constantly changes from one asset to another and continues to remain in the business process;
(c) Its size increases with the growth of business operations.

(A) Initial Working Capital

At the time of inception of a company and during the formative period of its operation, it should set up a sizeable cash fund to meet its obligation. In initial years revenues may not be regular and adequate, credit arrangements may not be available from banks etc. till the company established it's credit standing; credits may have to be granted on sales to attract the customers.

(B) Regular Working Capital:

The amount needed to keep the operations in continuity. It refers to excess of current assets over current liabilities so that the process of conversion of cash into stock, stock into sales, receivables and collections is maintained without break.

4. Temporary or Variable Working Capital

It represents the additional assets which are required at different times during the operating year additional inventory, extra cash, etc. Seasonal working capital is the additional amount of current assets-particularly cash, receivables and inventory that is required during the more active business seasons of the year. It is temporarily invested in current assets and possesses the following characteristics:

a) It is not always gainfully employed, through it may change from one asset to another, as permanent working capital does;
b) It is particularly suited to business of a seasonal or cyclical nature.

(A) Seasonal Working Capital

Obviously it refers to financial requirements that crop up during the particular season "beyond their initial and regular circulating capital". "Most businesses will require at stated intervals a larger amount of current assets to fill the demands of the seasonal busy periods".

(B) Special Working Capital

All business enterprises have to be prepared to meet unforeseen risks that may arise in the course of operations. These should have extra funds at unstated period to meet contingencies.

The following are the circumstances:

(i) To meet the sudden demand of products, war contract, supply of new products to new enterprises;

(ii) Depression leads to decline in demand, prices and incomes;

(iii) Rising prices too may spell out the need for special funds to keep up or step up the inventories and avail the opportunities of enhancing the profits.

5. Balance Sheet Working Capital

The balance sheet working capital is one which is calculated from the items appearing in the balance sheet. Gross working capital, which is represented by current assets, and not working capital, which is represented by the excess of current assets over current liabilities, is examples of the balance sheet working capital.

6. Cash Working Capital

Cash working capital is one, which is calculated, form the items appearing in the profit and loss account. It shows the real flow of money or value at a particular time and is considered to be the most realistic approach in working capital management. IT is the basis of the operation cycle concept, which has assumed a great importance in financial management in recent year. The reason is that the cash working capital indicates the adequacy of the cash flow, which is an essential pre-requisite of a business.

7. Negative Working Capital

Negative working capital emerges when current liabilities exceed current assets. Such a situation is not absolutely theoretical, and occurs when a firm is nearing a crisis of some magnitude.

DETERMINANTS OF WORKING CAPITAL

1. Nature of Industry

The composition of an asset is a function of the size of a business and the industry to which it belongs. Small companies have smaller proportions of cash, receivables and inventory than large corporations. This difference becomes more marked in large corporations. For example, mostly employs fixed assets in its operations, which a merchandising department depends generally on inventory and receivables. Needs for working capital are thus determined by the nature of an enterprise.

2. Demand of Creditors

Creditors are interested in the security of loans. They want their obligations to be sufficiently covered. They want the amount of security in assets, which are greater than the liability.

3. Cash Requirements

Cash is one of the current assets, which is essential for the successful operations of the production cycle. Cash should be adequate and properly utilized. It would be wasteful to hold excessive cash. A minimum level of cash is always required to keep the operations going.

4. General Nature of Business

The nature of a business is an important determinant of the level of the working capital. Working capital requirements depend upon the general nature or type of business. They are relatively low in public utility concerns, in which inventories and receivables are rapidly converted into cash. Manufacturing organizations, however, face problems of show turnovers of inventories and receivables, and invest large amounts in working capital.

5. Time

The level of working capital depends upon the time required to manufacture goods. If the time is longer, the size of working capital depends upon inventory turnover and the unit cost of the goods that are sold. The greater this cost, the bigger is the amount of working capital.

6. Volume of Sales

This is the most important factor affecting the size and components of working capital

7. Terms of Purchases and Sales

If the credit terms of purchases are more favorable and those of sales less liberal, less cash will be invested in inventory. With more favorable credit terms, working capital requirements can be reduced. A firm gets more time for payment to creditors or suppliers. A firm, which enjoys greater credit with banks, needs less working capital.

8. Inventory Turnover

If the inventory turnover is high, the working capital requirements will be low. With a better inventory control, a firm is able to reduce its working capital requirements. While attempting this, it should determine the minimum level of stock, which it will have to maintain throughout the period of its operations.

9. Receivable Turnover

It is necessary to have an effective control of receivables. A prompt collection of receivables and good facilities for settling payables result into low working capital requirements.

10. Business Cycle

Business expands during periods of prosperity and declines during the period of depression. Consequently, more working capital is required during periods of prosperity and less during the periods of depression. During marked upswings of activity, there is usually a need for larger amounts of capital to cover the lag between collection and increased sales and to finance purchases of additional materials to support growing business activity.

11. Value of Current Assets

A decrease in the real value of current assets as compared to their book value reduces the size of the working capital. If the real value of current assets increases, there is an increase in working capital.

12. Variations in Sales

A seasonal business requires the maximum amount of working capital for a relatively short period of time.

13. Production Cycle

The time taken to convert raw materials into finished products is referred to as the production cycle or operating cycle. The longer the production cycle, the greater is the requirement of working capital. An utmost care should be taken to shorten the period of the production cycle in order to minimize working capital requirements.

14. Credit Control

Credit control includes such factors as the volume of credit sales, the terms of credit sales, the collection policy, etc. With a sound credit control policy, it is possible for a firm to improve its cash inflow.

15. Liquidity and Profitability

If a firm desires to take a greater risk for bigger gains or losses, it reduces the size of its working capital in relation to its sales. If it is interested in improving its liquidity, it increases the level of its working capital.

16. Inflation

As a result of inflation, size of the working capital is increase in order to make it easier for a firm to achieve a better cash inflow. To some extent, this factor may be compensated by the rise in selling price during inflation.

17. Seasonal Fluctuations

Seasonal fluctuations in sales affect the level of variable working capital. Often, the demand for products may be of a seasonal nature. Yet inventories have got to be purchased during certain seasons only. The size of the working capital in one period may, therefore, be bigger than that in another.

18. Profit Planning and Control

The level of working capital is decided by the management in accordance with its policy of profit planning and control. Adequate profit assists in the generation of cash. It makes it possible for the management to plough back a part of its earnings in the business and substantially build up internal financial resources.

19. Repayment Ability

A firm's repayment ability determines level of its working capital. The usual practice of a firm is to prepare cash flow projections according to its plans of repayment and to fix the working capital levels accordingly.

20. Cash Reserves

It would be necessary for a firm to maintain some cash reserves to enable it to meet contingent disbursements. This would provide a buffer against abrupt shortages in cash flows.

21. Operational and Financial Efficiency

Working capital turnover is improved with a better operational and financial efficiency of firm. With a greater working capital turnover, it may be able to reduce its working capital requirements.

22. Changes in Technology

Technological developments related to the production process have a sharp impact on the need for working capital.

23. Firm's Policies

These affect the levels of permanent and variable working capital. Changes in credit policy, production policy, etc., are bound to affect the size of working capital.

24. Size of the Firm

A firm's size, either in terms of its assets or sales, affects its need for working capital. Bigger firms, with many sources of funds, may need less working capital as compared to their total assets or sales.

25. Activities of the Firm

A firm's stocking on heavy inventory or selling on easy credit terms calls for a higher level of working capital for it than for selling services or making cash sales.

26. Attitude to Risk

The greater the amount working capital, the lower is the risk of liquidity.

ADVANTAGES OF EXCESSIVE OR ADEQUATE WORKING CAPITAL

1. Continuous Production

Adequate working capital ensures regular supply of raw materials and continuous production.

2. Solvency and Goodwill

Adequate working capital enables prompt payment to creditors. This helps in creating and maintaining goodwill.

3. Easy Loans

A concern having sufficient working capital enjoys high liquidity and good credit standing. Hence it can secure loans from banks and others on easy and favourable terms.

4. Cash Discounts

Adequate working capital enables a concern to avail cash discounts on purchases, leading to reduction in costs.

5. Regular payment of expenses

A company which has ample working capital can make regular payment of salaries, wages, and other day to day commitments. Such prompt payment raises the morale of employees and increases their efficiency. As a result, costs are minimized and profit increases.

6. Exploitation of Market Conditions

A concern with adequate working capital can exploit favourable market conditions. It can buy its requirement of raw materials in bulk when the market price is lower. Similarly, it can hold stock of finished goods to realize better prices.

7. Ability to face Crisis

Adequate working capital enables a concern to face business crisis such as depression because during such periods there is much pressure on working capital.

8. High Return on Investments

Adequacy of working capital facilitates continuous production and effective utilization of fixed assets. Because of this, the concern is able to generate more profits and ensure high return on investments.

DISADVANTAGES OF EXCESSIVE WORKING CAPITAL

1. Excessive working capital means idle funds which earn no profit for the business. Hence, the business cannot earn a proper rate of return on its investments.
2. Due to low rate of return on investments, the value of shares may also fall.
3. Redundant working capital may lead to unnecessary purchasing and accumulation of inventories. As a result, chances of theft waste and losses will increase.
4. Excessive working capital is an indication of excessive debtors and defective credit policy. Consequently, there may be delay in collection and higher incidence of bad debts.

5. Excessive working capital makes management complacent. It leads to overall inefficiency in the organization.

DISADVANTAGES OF INADEQUATE WORKING CAPITAL

1. A concern which has inadequate working capital cannot pay its short-term liabilities in time. As a result, it loses its reputation and faces tight credit terms.
2. It cannot buy its requirements in bulk and take advantage of cash discounts.
3. The concern will experience difficulties in meeting its day to day expenses.
4. It becomes difficult to exploit favourable market conditions and undertake profitable projects due to lack of working capital.
5. Due to paucity of working capital, fixed assets are not efficiently utilized. Thus, the rate of return investments falls.

Problems in Working Capital

1. From the following balance sheet compute (a) Gross working capital (b) Net working capital.

BALANCE SHEET AS ON 31.12.2005

Liabilities	Rs.	Assets	Rs.
Share capital	6,00,000	Fixed assets:	
Reserves	1,00,000	Land and building	3,00,000
Debentures	3,00,000	Plant and machinery	4,00,000
Current Liabilities:		Current assets:	
Bank loans	1,00,000	Cash	60,000
Creditors	60,000	Investments	1,00,000
Bills payable	40,000	Debtors	1,40,000
		Inventory	2,00,000
	12,00,000		**12,00,000**

Solution:

(a) Gross working capital = Total Assets – Fixed Assets

= 12,00,000 – 7,00,000

= Rs. 5,00,000

(or)

	=	Cash + Investments + Debtors + inventory
	=	60,000+1,00,000+1,40,000+2,00,000
	=	Rs.5,00,000
(b) Net working capital	=	Current Assets – Current Liabilities
	=	5,00,000 – 2,00,000
	=	Rs.3,00,000

2. From the following estimates, calculate the average amount of working capital required.

	Per Annum
1. Average amount locked up in stock:	Rs.
Stock of finished goods and work-in-progress	10,000
Stock of stores, material etc.	8,000
2. Average credit given:	
Local Sales 2 weeks credit	1,04,000
Outside the State 6 weeks credit	3,12,000
3. Time available for payments:	
For purchases 4 weeks	78,000
For wages 2 weeks	2,60,000
Add 10% to allow for contingencies	

Solution:

Statement showing working capital requirements

Current Assets:	**Rs.**	**Rs.**
Stock of finished goods and work-in-progress	10,000	
Stock of stores, material etc.	8,000	
Debtors – local Sales (2 weeks)		
1,04,000 x 2/52	4,000	
Outside the State (6 weeks)		
3,12,000 x 6/52	36,000	58,000
Less: Current Liabilities:		
Creditors (4 weeks) 78,000 x 4/52	6,000	
Outstanding wages (2 weeks) 2,60,000 x 2/52	10,000	16,000

	42,000
Add: 10%for contingencies	4,200
Average working capital required	46,200

3. Assuming a year of 50 weeks of 5 days each, calculate the working capital requirements from the following data.

Sales: 1,50,000 units sold at Re.1per unit on credit. Customers are allowed 60 days credit.

Production:	Raw material	0.50
	Labour	0.20
	Expenses	0.25

The production cycle is 20 days and all materials are issued at the commencement of each cycle.

Credit allowed by suppliers 50 days

Cash required: one quarter of the remaining current assets

Stock Levels: Raw materials : 40 days of supply

Finished goods : 20 days of supply

Ignore work-in-progress.

Solution:

Sales = 1,50,000; there is no closing stock

Hence, production per year	1,50,000 units	
Working days per year	5 days x 50 weeks	250 day
Production per day	1,50,000 / 250	600 units
Raw materials per day	Re.0.50 x 600 units	Rs. 300
Labour per day	Re.0.20 x 600 units	Rs. 120
Expenses per day	Re.0.25 x 600 units	Rs. 150
	Cost of production per day	Rs. 570

Statement of Working Capital Requirements

Current Assets:	**Rs.**
Stock of raw materials (40 days) 300 x 40	12,000
Stock of finished goods (20 days) 570 x 20	11,400

Debtors (60 days) = 570 x 60	34,200
	57,600
Cash required = 1/4th of 57600	14,400
Total Current Assets	72,000
Current Liabilities:	
Creditors (50 days) 300 x 50	15,000
Working Capital Requirement	57,000

RECEIVABLES MANAGEMENT

Meaning

Receivables represent amounts owed to the firm as a result of sale of goods or services in the ordinary course of business. These claims of the firm against its customers form part of its current assets.

Factors influencing the size of receivables:

1. The volume of the credit sales out of total sales
2. The conservative or the liberal credit policy of the firm
3. The period of credit, rate of discount and other terms of trade
4. The various expansion plans of the firm
5. The increase in sales will increase the size of the receivables or vice versa
6. The various credit collection efforts of the firm
7. The habits of the customers also influence the size of the receivables.

1. Forecasting the Receivables

The concern should be clear about its credit policies. Though it is not possible to forecast exact receivables in the future but some estimation is possible on the basis of past experience, present credit policies and policies pursued by other concerns.

The following factors will help in forecasting receivables.

2. Credit Period Allowed

The increase in receivables will result in more profits as well as higher costs too. The collection expenses and bad debts will also be more. If credit period is less, then the size of the receivables will also be less.

3. Effect of Cost of Goods Sold

An increase in sales would result in decrease in cost of goods sold. The sales shall be increased to that extent till the costs are low. The increase in sales will also increase the amount of receivables. The estimate of sales will enable the estimation of receivables too.

4. Forecasting Expenses

If the costs of receivables are more than the increase in income, further credit sales should not be allowed. On the other hand, if receivables earned by the increase in sales are more than the costs of receivables, then sales should be expanded.

5. Forecasting Average Collection

If the average collection period is more then the size of receivables will be more. Average collection period is calculated as follows

$$\textbf{Average collection period} = \frac{\textbf{Trade debtors * No. of working days}}{\textbf{Net sales}}$$

6. Average Size of Receivables

The determination of average size of receivables will also be helpful in forecasting receivables. Average size of receivables is calculated as:

Average size of Receivables = Estimated annual sales * Average collection period

Problems in Receivables management

1. A company sells goods on cash as well as on credit the following particulars are extracted from the book of the company.

	Rs.
Gross sales	4,00,000
Cash sales	80,000
Sales returns	28,000
Debtors at the end	36,000
Bills Receivables at the end	8,000
Provision for Doubtful debts	3,000

Calculate average collection period.

Solution:

Average Collection Period = Debtors + Bills Receivable / Credit Sales X 100

= 36000+ 8000/400000-80000-28000 X 365

= 44000 / 292000 X 365

= 55 Days

2. Calculate (a) Average age of debtors and (b) Debtors turnover from the following particulars:

	Rs.
Credit Sales	2,70,000
Return inwards	20,000
Debtors at the beginning	55,000
Debtors at the end	45,000
Provision for doubtful debts	5,000

Assume number of days in a year is 360

Solution:

(a) **Average age of Debtors** = Average Debtors / Credit Sales X No. of Days in a Year

Average Debtors = Opening Debtors + Closing Debtors / 2

= 55000+45000/2

= 50000

Average age of Debtors = 50000 / 270000-20000 X 360

= 72 Days

(b) Debtors turnover = Net Credit Sales / Average Debtors

= 250000 / 50000

= 5 Times

3. From the following you are required to calculate (a) Debtors Turnover (b) Average age of Debtors

Particulars	2005	2004
Net Sales	Rs. 1800000	Rs. 1500000
Debtors at the Beginning	Rs. 172000	Rs. 160000
Debtors at the End	Rs. 234000	Rs. 172000

Debtors Turnover	= Credit Sales / Average Debtotr		
2004	= (160000+172000)/2	=	Rs. 166000
2005	= (172000+234000)/2	=	Rs. 203000
Debtors Turnover (2004)	= 1500000 / 166000	=	9.04
Debtors Turnover (2005)	= 1800000/ 203000	=	8.87

(b) Average Collection Period or Average Age of Debtors

= Average Debtors / Credit Sales X 365

2004	= 166000/1500000X365	= 40 Days (Approximate)
2005	= 203000/1800000X365	= 41 Days (Approximate)

INVENTORY MANGEMENT

Inventory includes Raw materials, work – in – progress, consumables, finished goods and spares. The purpose of inventory management is to keep the stocks in such a way that neither there is over stocking nor under stocking. The overstocking will mean a reduction on liquidity and starving of other production processes; under stocking will result in stoppage of work. The investments in inventory should be kept in reasonable limits.

Objects of Inventory Management

- To ensure continuous supply of materials, spares and finished goods so that production should not suffer at any time and the customers demand should also be met.
- To avoid both over stocking and under stocking of inventory.
- To keep material cost under control so that they contribute in reducing cost of production and overall costs.
- To eliminate duplication in ordering or replenishing stocks. This is possible by centralizing purchases.
- To minimize losses through deterioration, pilferage, wastages and damages.
- To design proper organization for inventory management. Clear cut accountability should be fixed at various levels of he organization.
- To ensure right quality goods at reasonable prices.
- To facilitate furnishing of data for short tern and long tern planning and control of inventory.

TOOLS AND TECHNIQUES OF INVENTORY MANAGEMENT

1. Determination of Stock levels:

An efficient inventory management requires that a firm should maintain an optimum level of inventory where inventory costs are the minimum and at the same time there is no stock out which may result in loss of sale or stoppage of production. Various stock levels are discussed as such:

a. **Minimum Level:**

This represents the quantity which must be maintained in hand at all times. If stocks are less than the minimum level then the work will stop due to shortage of materials. Factors that are taken into account while fixing the minimum stock level are lead time, Rate of consumption and the nature of materials.

Minimum Stock Level = Re-ordering level – (Normal consumption * Normal Re-order Period)

Reorder Level = Maximum Consumption * Maximum Re- order period

b. Maximum Level:

This is the level beyond which the quantity of materials should not exceed. It it exceeds this level it means over stocking. A firm should avoid over stocking because it will result in high material costs.

Maximum Stock Level = Re-ordering Level+ Re-ordering Quantity – (Minimum Consumption * Minimum Re-ordering period)

c. Danger Level:

- It is the level beyond which materials should not fall in any case. If danger level arises then immediate steps should be taken to replenish the stocks even if more cost is incurred in arranging the materials.

Danger Level = Average Consumption * Maximum re-order period for emergency purchases.

d. Average Stock Level:

- Average Stock Level = Minimum Stock Level + ½ of re – order quantity

2. Determination of Safety Stocks

Safety stock is a buffer to meet some unanticipated increase in usage. Two costs are involved in the determination of this sock i.e., opportunity costs of stock outs and the

carrying costs. The stock outs of raw materials cause production disruption resulting into higher cost of production. Similarly, the stock outs of finished goods result into the failure of the firm in competition as the firm cannot provide proper customer service. So Safety stock should be maintained.

3. Ordering Systems of Inventory:

There are three systems prevailing and a concern shall choose any one of these. They are

i. Fixed order quantity system (EOQ)
ii. Fixed period order system or periodic re – ordering system
iii. Single order and scheduled part delivery system

4. Economic Order Quantity:

Economic Order Quantity is the size of the lot to be purchased which is economically viable. This is the quantity of materials which can be purchased at minimum costs.

a. Ordering Costs:

These are the costs which are associated with the purchasing or ordering of materials.

b. Carrying Costs:

These are the costs for holding the inventories. These costs will not be incurred if inventories are not carried.

Assumptions of EOQ:

1. The supply of goods is satisfactory
2. The quantity to be purchased by the concern is certain
3. Prices of goods are stable

$$\mathbf{EOQ} = \sqrt{\frac{\mathbf{2AS}}{\mathbf{I}}}$$

A = Annual consumption in rupees

S = Cost of placing order

I = Inventory carrying costs of one unit

5. A-B-C Analysis:

Under this method, the materials are divided into three categories A, B, C. Past experience has shown that almst10 per cent of the items contribute to 70 per cent of value of consumption and this category is called A category. About 20 per cent of the items contribute about 20 per cent of vale of consumption and this is known as category B materials. Category C covers about 70 per cent of items of materials which contribute only 10 per cent of value of consumption. There may be some variation in different organizations and an adjustment can be made in these percentages.

A B C analysis helps to concentrate more efforts on category. A since greatest monetary advantage will come by controlling these items. An attention should be paid in estimating requirements, purchasing, maintaining safety stocks and properly storing of A category materials. These items are kept under constant review so that a substantial material cost may be controlled. The control of C items may be relaxed and these stocks may be purchased for that year. A little ore attention should be given towards B category items and their purchase should be under taken at quarterly or half yearly intervals.

6. VED Analysis:

The demand for the spares depends upon the performance of the plant and machinery. Spare parts are classified as Vital (V), Essential (E), and Desirable (D). The vital spares are must for running the concern smoothly and these must be stored adequately. The non- availability of vital spares will cause havoc in the concern. The E types of spares are also necessary but their stocks may be kept at low figures. The stocking of D type of spares may be avoided at times. The classification of spares under three categories must be made correctly and it should be left tot the decision of technical staff.

7. Inventory Turnover Ratios:

These ratios are used to find out whether the inventories are efficiently used or not.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory at Cost}}$$

(Or)

$$\text{Inventory Conversion Period} = \frac{\text{Days in a year}}{\text{Inventory turnover ratio}}$$

$$\text{Inventory turnover ratio} = \frac{\text{Net Sales}}{\text{Average Inventory}}$$

8. Aging Schedule of Inventories:

Classification of inventories according to the period of their holding also helps in identifying slow moving inventories thereby helping in effective control and management of inventories.

9. Classification and Codification of Inventories:

The inventories of a manufacturing concern may consist of raw materials; work – in – progress, finished goods, spares, consumables etc. All these categories have their sub divisions. The classification and coding of inventories enables the introduction of mechanized accounting. It also helps in marinating secrecy of description. It helps in the prompt issue of stores.

10. Inventory Reports:

From effective inventory control, the management should be kept informed with the latest stock position of different items. This is usually done by preparing periodical inventory reports. These reports should contain all information necessary for the management. On the basis of these reports management takes corrective measures.

Sum 1: Find out the Re-order Level

Maximum Usage 300 units, Minimum Usage 200 units, Re-order Period 8 to 10 days

Solution

Reorder Level = Maximum Consumption X Maximum Reorder Period

= 300 X 10 = 3000 Units

Sum 2: Find out the re-order level from the following data:

Minimum Stock : 1000 units

Maximum Stock : 2000 units

Time required for receiving the materials 15 days

Daily consumption of materials 50 units

Solution

Re-order Level = Maximum Consumption X Maximum Re-order Period

Re-order Level = Safety Stock (Minimum Stock) + Consumption during lead time

= 1000 + 50 X 15

= 1000 + 750

= 1750 Units

Sum 3: Find out the maximum consumption

Re-order level 4000 units; Minimum level 2000 units; Re-order level period 2 to 4 weeks

Solution

Maximum Consumption = Maximum Consumption X Maximum Re-order period

Maximum Consumption X Maximum Re-order period = Re-order Level

Maximum Consumption = Re-order Level / Maximum Re-order period

= 4000 / 4

= 1000 Units

Sum 4 From the following information, calculate:

(a) Maximum Stock Level (b) Minimum Stock Level (c) Re-order Level

Minimum Consumption	240 Units per day
Normal Consumption	300 Units per day
Maximum Consumption	420 Units per day
Re-order Quantity	3600 Units
Re-order Period	10 to 15 Days
Normal order Period	12 Days

Solution

Re-order Level = Maximum Consumption X Maximum Re-order Period

= 420 X 15

= 6300 Units

Minimum Level = Re-order Level – (Normal Consumption X Normal Re-order Period)

= 6300 – (300 X 12)

= 6300 – 3600

= 2700 Units

Maximum Level = Re-order Level + Re-order Quantity – (Minimum Consumption X Minimum Re-order Period)

6300 + 3600 = (240 X 10)

9900 – 2400 = 7500 Units

Sum 5 : Calculate Economic Order Quantity

Quarterly Requirements 900 Kgs.

Cost of placing and receiving one order Rs. 10

Annual carrying and storage cost Rs 20 p.u.

Solution

EOQ = $\sqrt{2AO/C}$

Annual Consumption = 900 X 4 = 3600 Kgs.

O – Cost of placing an order = Rs.10

C – Carrying cost p.u. = Rs. 20

EOQ = $\sqrt{2AO/C}$

= $\sqrt{2X3600X10\ /20}$

= 60 Kgs.

Sum 6 Calculate EOQ from the following

Consumption during the year 600 Units

Ordering Cost Rs. 12

Carrying Cost 20%

Price Per Unit Rs. 20

Solution

EOQ = $\sqrt{2AO/C}$

EOQ = $\sqrt{2X600X12/4}$

= 60 Units

Sum 7 Find out the Economic Ordering Quantity from the following:

Annual Usage Rs. 120000; Cost of Placing an Order Rs.15 ; Annual Carrying Cost 10% of inventory value

Solution

EOQ = $\sqrt{2AO/C}$

EOQ = $\sqrt{2 \text{ X } 120000 \text{ X } 15 / 10\%}$

= Rs. 6000

CASH MANAGEMENT

- ❖ Cash management deals with the following
- Cash inflows and outflows
- Cash flows within the firm
- Cash balances held by the firm at a point of time

Cash Management Strategies:

a. Cash planning

b. Cash forecasts and budgeting

Long term and short term forecasts may be made with the help of the following methods.

i. Receipts and disbursements method

ii. Adjusted net income method

Managing Cash Flows

- ❖ Cash management will be successful only if cash collections are accelerated and cash disbursements as far as possible delayed. The following methods of cash management will help.

Methods of accelerating cash inflows

- ➢ Make the customers to pay promptly
- ➢ Convert the payments which is in the form of Cheques or DD into cash quickly
- ➢ Big firms operating in different areas can have collection centers in those area (Decentralized collections)
- ➢ Lock Box system – firm hires post box from post office and the parties are asked to send the Cheques to that post box number.

Methods of slowing cash outflows:

- Delaying the payments till last date
- Making payments through drafts
- Adjusting the payroll funds by making the weekly payment in to month etc.
- Cheques shall be issued from the main office then it will take time for the Cheques to be cleared through post.
- Inter – bank transfers shall be made to make efficient use of cash

Problems in Cash Management

1. From the following information, prepare cash budget for June 2005.

Particulars	**Rs.**
Cash in hand 1.6.2005	10,000
Cash purchases for June, 2005	70,000
Cash sales for June, 2005	1,00,000
Interest payable in June, 2005	1,000
Purchase of Office furniture in June, 2005	2,500

Solution:

Cash Budget for the month June, 2005

Particulars	**Rs.**
Opening cash balance	10,000
Add: Estimated receipts:	
Cash Sales	1,00,000
Total cash available during the month	1,10,000
Less: Estimated cash payments:	
Cash purchases	70,000
Interest paid	1,000
Purchase of furniture	2,500
Total cash payments	73,500
Closing cash balance	36,500

2. Prepare a cash budget for the months of June, July, August 2004 from the following information:

1) Opening cash balance in June Rs.7,000.

2) Cash sales for June Rs.20,000; July Rs.30,000 and August Rs.40,000.

3) Wages payable Rs.6,000 every month.

4) Interest receivable Rs.500 in the month of August.

5) Purchase of furniture for Rs.16,000 in July.

6) Cash Purchases for June Rs.10,000; July Rs.9,000 and August Rs.14,000.

Solution:

Cash Budget for the period June to August 2004

Particulars	**June**	**July**	**August**
	Rs.	**Rs.**	**Rs.**
Opening cash balance	7,000	11,000	10,000
Add: Estimated cash receipts :			
Cash sales	20,000	30,000	40,000
Interest	—	—	500
Total cash available during the month	27,000	41,000	50,500
Less: Estimated cash payments :			
Cash purchases	10,000	9,000	14,000
Payment of wages	6,000	6,000	6,000
Purchase of furniture	—	16,000	—
Total cash payments during the month	16,000	31,000	20,000
Closing cash balance	11,000	10,000	30,500

3. Prepare a cash budget for the months – March, April and May 2005 from the following information

Month	Credit Sales	Credit Purchase	Wages	Misc. Expenses	Office Expenses
	Rs.	Rs.	Rs.	Rs.	Rs.
January	60,000	36,000	9,000	4,000	2,000
February	82,000	38,000	8,000	3,000	1,500
March	84,000	33,000	10,000	4,500	2,500
April	78,000	35,000	8,500	3,500	2,000
May	56,000	39,000	9,500	4,000	1,000

Additional information:

1) Opening cash balance Rs.8,000.

2) Period of credit allowed to customers one month

3) Period of credit allowed by suppliers two months.

4) Wages and miscellaneous expenses are payable in the same month.

5) Lag in payment of office expenses is one month

Solution:

Cash Budget for the period March, April & May 2005

Particulars	March	April	May
	Rs.	Rs.	Rs.
Opening cash balance	8,000	38,000	69,500
Add: Estimated cash receipts :			
Cash receivable from customers	82,000	84,000	78,000
Total cash available during the month	90,000	1,22,000	1,47,500
Less: Estimated cash payments :			
Payments to suppliers	36,000	38,000	33,000
Wages	10,000	8,500	9,500
Office expenses	1,500	2,500	2,000
Miscellaneous expenses	4,500	3,500	4,000
Total cash payments during the month	52,000	52,500	48,500

Closing cash balance	**38,000**	**69,500**	**99,000**

DIVIDEND

Dividend refers to that part of the earnings of a company which is distributed to shareholders. Shareholders would like to receive a higher dividend as it increases their current wealth. But, for the company, retention of profit would be desirable as it provide funds for financing the expansion and growth plans.

Retained earnings is the most important internal source of finance. A higher dividend means less retained earnings. It may result in slower growth rate and lower market price of the shares. Further, the company will have to depend on external source such as debentures and new shares. Thus, distribution is desirable from the point of view of shareholders and retention is advantageous to the company for growth and expansion. The dividend policy must strike a happy balance between distribution and retention. It should allocate the earnings between dividends and retained earnings in such a way that the value of the firm is maximized. Hence, dividend policy is a very crucial area of financial management.

IMPORTANCE OF DIVIDEND POLICY

1. Expectation of Shareholders

Shareholders are the owners of the company. So, the company should consider the dividend expectations of shareholders. They may be interested in dividend or capital gains. The preference for dividend or capital gains depends on the economic status or attitude of an individual. For example, a retired person who wants a regular income may prefer to receive dividends. On the other hand, a wealthy person may prefer capital gain to dividends.

In the case of a closely held company, it is easy to ascertain the wishes of the shareholders. But in the case of a widely held company, it is difficult to ascertain the preferences of shareholders. They may have different desires regarding dividends and capital gains. A company should formulate the dividend policy after taking into consideration the expectations of different groups of shareholders. It may aim at satisfying a vast majority of the shareholders.

2. New Investments

Availability of investment opportunities is an important factor which influences the dividend decision. If the company has profitable investment opportunities, it may retain a substantial part of the earnings and pay out a small dividend. If the company does not have good investment opportunities, it is better to distribute the earnings as dividends. In other words, a high payout is desirable for such companies.

3. Taxation

Taxation policy also affects the dividend policy of a firm. In India, dividends are tax free in the hands of the shareholders. Long term capital gain on listed shares, sold on or after 1st October 2004 is also not taxable, if securities transaction tax has been paid. But, short term capital gain is taxable. The shareholders may prefer dividends or capital gains depending on the effect of tax on their incomes. Hence, a company should keep in mind the taxation aspect while formulating its dividend policy.

4. Liquidity

The liquidity position is an important factor which influences the dividend decision. Sometimes, a company which has good earnings may not have sufficient liquidity. In such a case, it is advisable to restrict the dividend to the available liquid resources.

5. Access to Capital Markets

A company which is confident of raising resources from the capital market may pay higher dividends. On the other hand, if the company is unable to raise resources due to its poor image or the depressed state of the capital markets, it has to contend with a low project.

6. Restrictions by Lenders

The lenders, particularly financial institutions impose restriction on the payment of dividends to safeguard their own interests. For example, a lender may stipulate that only up to 30 per cent of the profits may be paid as dividends. Because of these restrictions, a company may be forced to retain earnings and have a low payout.

7. Control

The objective of maintaining control by the personal management may also affect the dividend policy. Suppose a company is quite liberal in paying dividends, it may have

to raise funds for expansion or diversification by the issue of new shares. If the present management is unable to subscribe to the new shares, its control will be diluted. Hence, the management may opt for low payout and retain earnings to maintain control over the company

8. Legal Restrictions

The provisions of the Companies Act are to be adhered in the formulation of dividend policy. According to these provisions, dividend can be paid only out of current profits or past profits, only after providing for depreciation. There are also stipulations regarding transfer of profits to reserves before declaration of dividends. Further, dividends can not be paid out of capital

9. Nature of Earnings

The nature of earnings is also a key factor in dividend decision. Certain industries like Pharmaceuticals, liquor and essential goods have a steady demand. Companies in such industries may enjoy stable earnings. They may therefore resort to liberal payout of dividends. However, if the earnings are uncertain because of the cyclical nature of the industry it is desirable to have a low pay out

10. Stability of Dividends

Stable dividends create a good image of the company. A steady dividend gives a sense of security and confidence to the shareholders. Hence, companies may prefer to maintain a stable dividend irrespective of the ups and downs in the earnings

CLASSIFICATION OF DIVIDEND

1. Cash Dividend

The dividend is paid to shareholders in cash. Cash dividend is the usual method of paying dividends. It results in outflow of cash. Hence, the company should rearrange adequate cash resources for payment of dividend

2. Bond Dividend

If the company does not have sufficient cash resources, it may issue bonds in lieu of dividend. The shareholders get bonds instead of dividends. The company generally pays interest on these bonds and repay the bonds on maturity. Bond dividend enables the company to postpone payment of dividend. But it is not popular

3. Property Dividend

It refers to the payment of dividend in the form of some assets other than cash. This type of dividend is also not popular

4. Stock Dividend

Stock dividend refers to the issue of bonus shares to shareholders. Bonus shares are issued free of cost to shareholders out of accumulated profits. Usually they are issued when a company has substantial reserves but needs to retain cash for expansion / diversification. It does not result in any outflow of cash. Issue of bonus shares signifies optimism about future profits of the company

DIVIDEND POLICY

Walter's Model

Professor James E. Walter argues that dividend policy is a critical factor and it affects the value of the firm. According to the Walter's Model, dividend policy depends on the firm's internal rate of return (r) and cost of capital (k). Walter's views on optimum dividend payout are as follows

Growth firms (r>k)

Growth firms have good, profitable investment opportunities. They are able to earn a return (r) which is higher than the cost of capital (k). Hence, the growth firm can benefit by retaining all the earnings for internal investment. The optimum payout would be zero. This would maximize the value of the shares of growth firms

Normal Firms (r=k)

Normal firms do not have good investment opportunities. They are able to earn a rate of return (r) which is just equal to the cost of capital (k). Hence, distribution or retention of earnings will not make any difference in the value of the firm. The dividend policy has no effect on the market value of shares. There is no particular optimum payout ratio for normal firms.

Declining Firms (r<k)

Declining firms do not have profitable investment opportunities. The rate of return (r) is less than the cost of capital (k). It is advisable for the declining firms not to

retain the earnings. The optimum payout ratio is 100 per cent. This will maximize the value of shares of the declining firms

- In short, according to the Walter's model, a growth firm (r>k) should retain all its earnings
- A declining firm (r<k) should distribute all its earnings
- For a normal firm (r=k), there is no optimum payout. Any dividend policy is a good as the other

Assumptions of Walter's Model

- The firm finances all its earnings only through retained earnings. It does not use new debt or equity
- The internal rate of return (r) and the cost of capital (k) of the firm remain constant
- All the earnings are distributed or reinvested in the firm
- The firm has a perpetual life
- Earnings per share and dividend remain constant in determining a given value

Walter's Formula

- Walter's formula to determine the market price per share is as follows:
- Market price per share P= D+r/k (E-D) / k
- Where D= Dividend; k=Cost of Capita ; r= Rate of Return E= Earnings Per Share

Criticism of Walter's Model

- The model assumes that a firm finances all its investment only through retained earnings. The assumption is unrealistic. Firms do raise funds through new debt and equity
- The assumption that the rate of return (r) remains constant is also not true. In fact, the rate of return changes with increase in investment
- The model assumes that the cost of capital remains constant. But the cost of capital also changes because of the changes in risk. Hence, the assumption does not hold good

GORDON'S MODEL

The model developed by Myron Gordon suggests that the dividend decision is relevant and it affects the value of the firm. Gordon's model explicitly relates the market value of the firm to dividend policy

- The conclusion of Gordon's Model are:

Growth firms (r>k)

- For growth firms with profitable investment opportunities, market price of share increases when dividend payout is less. Hence growth firms should retain maximum earnings. The optimum payout is zero per cent

Normal firms (r=k)

- For normal firms, the price per share is not affected by dividend policy. Hence, there is no optimal dividend payout

Declining firms (r<k)

- For declining firms, the market price of share increases when dividend payout increases. It is beneficial to distribute all the earnings. Optimum payout ratio is 100 per cent
- Conclusions of Gordon's model are similar to those of Walter's model to the similarities in assumptions

Assumptions of Gordon's Model

- The firm is an all equity firm. It does not use any debt
- The firm finances its expansion only through retained earnings
- The rate of return on investment (r) is constant
- The cost of capital (k) also remains constant
- The retention ratio (b), (the proportion of earnings retained) once decided, remains constant. Therefore, the growth rate (g) (g=br) is also constant
- Cost of capital (k) is greater than the growth rate (r)
- There are no corporate taxes
- The firm has a perpetual life

Gordon's Formula

- According to the Gordon model, the market price of a share is equal to the present value of future stream of dividends
- $P= D1/(1+K) + D2/(1+K)^2 +D3/(1+K)^3 +…….Dt/(1+K)^n$
- Accordingly, the value of the share can be obtained by the equation
- $P = D/k-g = E (1-b) / k-br$
- Where, P= Market Price Per Share ; E = Earnings Per Share

- D = Dividend Per Share : b = Retention ratio
- K = Cost of Capital ; r = Rate of Return
- g = Growth rate= b x r

MODIGLIANI – MILLER HYPOTHESES (M.M MODEL)

According to Modigliani and Miller, the value of the firm depends on its earnings. The dividend decision splits the earnings between retention and dividends. It has no significance in determining the value of the firm. The dividend decision is irrelevant as it does not affect the wealth of the shareholders. Hence, the MM hypothesis is known as hypothesis of dividend irrelevance

The MM Argument

- The substance of the MM argument is as follows. If the firm distributes dividends, the shareholders benefit. But the benefit to shareholders will be offset by the decline in market price of shares. As a result, there will no change in the total wealth of the share holders
- For example, suppose A Ltd., has investment opportunities. If the company distributes all its earnings as dividends, it will have to raise funds by the issue of new shares or debt to finance its investment. The number of shares will increase or interest charges will go up. As a result, earnings per share will decline leading to a fall in market price of the share. In other words, the benefit derived by the shareholders on account of dividend payment will be offset by the fall in market price. Hence division of earnings between dividend and retained earnings is irrelevant from the point of view of shareholders

Assumptions of MM Model

- The capital markets are perfect
- Investors behave rationally
- Information is freely available
- There are no floatation costs (Costs of issue of securities)
- There are no transaction costs such as brokerage
- There are no taxes or tax rates applicable to dividends and capital gains are the same
- The firm has a fixed investment policy

- There is no risk of uncertainty. Hence, investors can forecast dividends and prices with certainty. A single discount rate can be used for discounting cash inflow at different time periods.

Market Price under MM Model

- The market price of a share at the beginning of a period (Po) is equal to the present value of dividends received at the end of the period plus the market price of the share at the end of the period
- Po= Present value of dividends received + Market price of the at the end of the period
- $Po= D1/(1+k_e) +P1/(1+k_e) = D1+P1/ (1+k_e)$
- The value of P1 (Market price at the end of the period) can be derived from the above equation
- $P1= Po(1+K_e) –D$
- P1= Market price per share at the end of the period
- Po=Current Market Price
- Ke=Cost of Equity Capital
- D1=Dividend to be received at the end of the period

Criticism of MM Hypothesis

- Modigliani and Miller's hypothesis is based on certain simplifying assumptions. But the assumptions are not well founded. As the assumptions are unrealistic, the MM hypothesis lacks practical relevance. The criticisms are:
  - The model assumes perfect capital markets. But in practice, capital markets are not perfect
  - Information about the company is also not freely available to all
  - The assumption that there are no corporate taxes does not hold good. In the real world, there are corporate taxes. Further, the rate of tax on dividend and capital gains are not the same
  - The firms are assumed to follow a fixed investment policy. In the dynamic real world, firms do not follow any fixed investment policy
  - The model assumes that there are no floatation costs (costs of issue). But in actual practice, floatation costs are incurred by companies for raising new debt or capital

- Similarly, the assumption that there are no transaction costs is also not valid. Investors have to pay brokerage, service tax etc., on purchase and sale of securities

Problems on Walter's Model

Sum 1 : The following information relates to Vignesh Ltd.,

Earnings Per Share = Rs. 9

Internal Rate of Return = 18%

Cost of Capital = 12%

Payout Ratio = 33.33%

Compute the market price under the Walter's Model

Solution

Market Price Per Share P=D+r/ k (E-D)/k

MP = 3 +(0.18/12) (9-3) / 0.12

= 3+ (1.5) (6) / 0.12

= 3 + 9 / 0.12

= 12/0.12

= Rs.100

Sum 2 : Joy Ltd., earns Rs.5 per share. The company is capitalized at a rate of 10% and has a return on investment of 18%. According to Walter's formula, what should be the price per share at 25% dividend payout ratio?

Solution

Market Price Per Share P=D+(r/ k) (E-D)/k

D=25% of EPS =25% of Rs. 5=1.25

r= Rate of Return = 18% or 0.18

k= Cost of Capital = 10% or 0.10

E= Earnings Per Share= Rs. 5

Market Price Per Share = 1.25 + (0.18/0.10) (5-1.25)/0.10

= (1.25) + (1.80) (3.75)/0.10

= 1.25+6.75/0.10

= 8/0.10

= Rs.80

Sum 3 : The earnings per share of the company is Rs. 12. The cost of equity capital is 10%. The rate of return on investments is 15%. Compute the market price per share under. Walter's model, if the payout is 50% and 75%

Solution

a) Market price if payout is 50%

Market Price Per Share P =D+(r/ k) (E-D)/k

=6 + (0.15/0.10) (12-6)/0.10

= 6+ (1.5)(6) / 0.10

= 6+9/0.10

= 15/0.10

= Rs. 150

a) Market price if payout is 75%

Market Price Per Share P =D+(r/ k) (E-D)/k

= 9+(.15/0.10)(12-9)/0.10

= 9+(1.5)(3)/0.10

= 9+4.5/.10

= 13.5/10

= Rs. 135

Sum 4: The earnings per share of a company are Rs. 10. The rate of capitalization is 10% and the retained earnings can be employed to yield a return of 20%. The company is considering a payout of a) 20% b) 40% and c) 60%. Which of these would maximize the wealth of the shareholders as per Walter's Model?

a) When the Payout is 20%

Market Price Per Share P =D+(r/ k) (E-D)/k

= 2 + (.20/0.10)(10-2)/0.10

= 2+ (2)(8)/0.10

= 2+16/0.10

= 18/0.10

= Rs. 180

b) When the Payout is 40%

Market Price Per Share P =D+(r/ k) (E-D)/k

= 4 + (.20/0.10)(10-4)/0.10

= 4+ (2)(6)/0.10

= 4+12/0.10

= 16/0.10

= Rs. 160

c) When the Payout is 60%

Market Price Per Share P =D+(r/ k) (E-D)/k

= 6 + (.20/0.10)(10-6)/0.10

= 6+ (2)(4)/0.10

= 6+8/0.10

= 14/0.10

= Rs. 140

Sum 5 : The earnings per share of a company are Rs. 10. It has an internal rate of return of 15% and the capitalization rate is 12.50%. If walter's model is used.

a) What is the optimum payout ratio for the company?
b) What should be the price of the share at this payout?
c) How shall the share price be affected if the payout ratio is 20%?

Solution: Optimum Pay out Ratio

Under the Walter's model, for a company which earns a higher return than the cost of capital (r>k), optimum payout is zero. That is, for growth firms, optimum payout is zero. The company earns 15% whereas the cost of capital is 12.50%. Hence, the optimum payout is zero.

b) Market price when payout is zero

Market price per share P = D+(r/ k) (E-D)/k

Payout ratio is 0, D = Dividend = 0

r = Rate of Return = 15% or 0.15

k = Cost of Capital = 12.50% or 0.125

E = Earnings per share = Rs.10

Market Price Per Share = 0 + (0.15+0.125) (10-0) /0.125

= (1.2) (10) /0.125

= 12/0.125

= Rs. 96

c) Market price if payout is 20%

The optimum payout for the company is 0. Any other payout will reduce the share price. Hence, if the payout is 20%, share price will fall. If payout is 20%

D= Dividend 20% of Rs. 10 = Rs. 2

Market Price Per Share P = 2 + (0.15/0.125) (10-2) / 0.125

= 2 + (1.2) (8) / 0.125

= 2 + 9.6 / 0.125

= Rs. 92.80

Gordon's Model

Sum 6 : The following data relate to Jasmine Ltd., Earning per share Rs. 4. Retention ratio (b) 25%; Capitalization rate (k) 15%; Rate of return (r) 20%. Debenture the market price per share under Gordon's model.

Solution

Market Price Per Share = D/k-g

Retention Ratio = 25%; Payout =100% - 25%=75%

D=Dividend = 75% of EPS = 75% of Rs. 4 = Rs.3

k= Cost of Capital= 15% or 0.15

g= Growth Ratio = Retention Ratio (b) X Rate of Return (r)

= 3/(0.15-0.05)

= 3/0.10

= Rs. 30

Sum 7 : The following information relates to Rose Ltd. Earning per share (EPS) Rs. 10; Cost of Capital (k) = 10%; Rate of Return (r) =15%. Determine the market price per share under the Gordon model, if retention is a) 60% b) 40% and c) 10%

Solution

a) If Retention (b) is 60%, payout is 40%

D=Dividend = 40% of EPS = 40% of Rs. 10 = Rs.4

k= Cost of Capital= 10% or 0.10; r=15% or 0.15

g= Growth Ratio = Retention Ratio (b) X Rate of Return (r)

= b x r= 60% X 15% or 0.60 X 0.15 = 0.09

Market Price Per Share = D/k-g

= 4 / (0.10-0.09)

= 4/0.01

= Rs. 400

b) If Retention (b) is 40%, payout is 60%

D=Dividend = 60% of EPS = 60% of Rs. 10 = Rs.6

k= Cost of Capital= 10% or 0.10; r=15% or 0.15

g= Growth Ratio = Retention Ratio (b) X Rate of Return (r)

= b x r= 40% X 15% or 0.40 X 0.15 = 0.06

Market Price Per Share = D/k-g

= 6 / (0.10-0.06)

= 6/0.04

= Rs. 150

c) If Retention (b) is 10%, payout is 90%

D=Dividend = 90% of EPS = 90% of Rs. 10 = Rs.9

k= Cost of Capital= 10% or 0.10; r=15% or 0.15

g= Growth Ratio = Retention Ratio (b) X Rate of Return (r)

= b x r= 10% X 15% or 0.10 X 0.15 = 0.015

Market Price Per Share = D/k-g

= 9 / (0.10-0.015)

= 9/0.085

= Rs. 106

Sum 8 : Normal Ltd., gives you the following information

Earnings Per Share (EPS) = Rs. 12

Cost of Capital (k) = 10%

Return on Investment (r) = 10%

Find out the market price per share using Gordon's Model, if the payout is a) 25% b) 50% and 75%

Solution

Market Price Per Share = D/k-g

D=Dividend Per Share ; k= Cost of Capital

g= Growth Rate = Retention (b) X Rate of Return (r)

Retention (b) = 100%- payout %

a) Market Price if payout is 25% and retention (b) is 75%

D= 25% of EPS =25% of Rs. 12=Rs.3 k=10 r=10

g=bXr = 75% X 10% = 0.75 X .10 = 0.075

Market Price Per Share = 3/0.10-0.075

= 3/0.025

= Rs. 120

b) Market Price if payout is 50% and retention (b) is 50%

D= 50% of EPS =50% of Rs. 12=Rs.6 k=10 r=10

g=bXr = 50% X 10% = 0.50 X .10 = 0.05

Market Price Per Share = 6/0.10-0.05

= 6/0.05

= Rs. 120

c) Market Price if payout is 75% and retention (b) is 25%

D= 75% of EPS =75% of Rs. 12=Rs.9 k=10 r=10

g=bXr = 25% X 10% = 0.25 X .10 = 0.025

Market Price Per Share = 9/0.10-0.025

= 9/0.075

= Rs. 120

The company is normal firm (r=k). The share price remains the same for different payout ratio.

Sum 9 : Rajshree Ltd., earns a profit of Rs. 5 per share. The rate of capitalization (k) is 12% and the productivity of retained earnings (r) is 10%. Using Gordon's model determine the market price per share if the payout is a) 20%, b) 40% and c) 60%

Solution

Market Price Per Share = D/k-g

D= Dividend per share ; k=Cost of Capital

g= Growth Rate = Retention (b) X Rate of Return (r)

Retention (b) = 100%- Payout %

a) Market Price if payout is 20% and retention (b) is 80%

D= 20% of EPS =20% of Rs. 5=Re.1

k=12% or 0.12 r=10% or 0.10

g=retention (b) X r = 80% X 10% = 0.8 X 0.10= 0.08

Market Price Per Share = 1/0.12-0.08

= 1/0.04

= Rs. 25

b) Market Price if payout is 40% and retention (b) is 60%

D= 40% of EPS =40% of Rs. 5=Rs. 2

k=12% or 0.12 r=10% or 0.10

g=retention (b) X r = 60% X 10% = 0.6 X 0.10= 0.06

Market Price Per Share = 2/0.12-0.06

= 2/0.06

= Rs. 33.33

c) Market Price if payout is 60% and retention (b) is 40%

D= 60% of EPS =60% of Rs. 5=Rs. 3

k=12% or 0.12 r=10% or 0.10

g=retention (b) X r = 40% X 10% = 0.4 X 0.10= 0.04

Market Price Per Share = 3/0.12-0.04

= 3/0.08

= Rs. 37.50

Modigliani and Miller (MM) Model

Sum 10 : Varun industries Ltd., has 50000 equity shares of Rs. 10 each outstanding on January 1. The shares are currently quoted at Rs. 20 in the market. The company's intends to pay a dividend of Rs. 2 per share for the current calendar year. It belongs to a risk class whose appropriate capitalization rate (ke) is 15%. Using MM model and assuming no taxes, ascertain the price of the company's share.

i) When dividend is not declared

ii) When dividend is declared

iii) Also find out the number of shares to be issued to meet the investment needs of Rs. 620000 if the net income is Rs. 300000 and dividend is paid

Solution

i) Price per share when dividend is not paid (P_1)

$P_1 = P_1 - P_0 (1+Ke) - D_1$

P_o= Current price = Rs.20 Ke = Cost of Equity Capital = 15% or 0.15

$D_1 = 0$

P_1 = 20 (1+0.15) – 0

= 20 (1.15)

= Rs. 23

ii) Price per share when dividend is paid (P_1)

$P_1 = P_1 - P_0 (1+Ke) - D_1$

P_o= Current price = Rs.20 Ke = Cost of Equity Capital = 15% or 0.15

$D_1 = 2$

P_1 = 20 (1+0.15) – 2

= 20 (1.15) -2

= Rs. 23-2

= Rs. 21

iii) No. of Shares to be issued

Particulars	Rs.	Rs.
Investment Requirement		620000
Net Income	300000	
Dividend distribution Rs. 2 X 50000 shares	-100000	
Retained Earnings Available		200000
New Shares to be issued for		420000
Issue Price		Rs. 21
No. of Shares to be issued = 420000 / 21 =20000		

Sum 11: Anand Corporation Ltd., belongs to a risk class of which the appropriate capitalization rate is 10%. It currently has 100000 shares quoting Rs. 100 each. The company proposes to declare of a dividend of Rs. 6 per share at the end of the current fiscal year which had just begun. Answer the following questions based on Modigliani and Miller Model and assumption of no taxes.

i) What will be the price of the shares at the end of the year if dividend is not declared?

ii) What will be the price if dividend is declared?

iii) Assuming that the company pays dividends has a net income of Rs. 10 lakhs and plans new investments of Rs. 20 lakhs during the period, how many new shares must be issued?

iv) Is the MM Model realistic? What factors might mar its validity?

Solution

Price at the end of the year $P_1=P_1=P_o(1+Ke) – D_1$

i) If dividend is not declared

P_0 = Current market price = Rs.100

Ke = Cost of Equity Capital = 10% or 0.10

D_1 = Dividend to be paid at the end of the period = 0

P_1 = 100 (1+0.10)-0; P_1=100 (1.10) – 0= Rs. 110

ii) Price of the share if dividend is declared

$P_1 = P_1 - P_0 (1+Ke) - D_1$ P_0=Rs.100

Ke=10% or 0.10 D = Dividend = Rs. 6

P_1 = 100 (1+0.10)-6; P_1=100 (1.10) – 6= Rs. 110 – 6

= Rs. 104

iii) No. of Shares to be Issued

Particulars	Rs.	Rs.
Investment Requirement		2000000
Net Income	1000000	
Dividend distribution Rs. 6 X 100000 shares	-600000	
Retained Earnings Available		400000
New Shares to be issued for		1600000
Issue Price		Rs. 104
No. of Shares to be issued = 1600000/ 104 =150385		

v) The MM model is unrealistic. Its validity is married by unrealistic assumptions such as

vi) There are no taxes (or)

vii) There is no difference in the tax rates applicable to dividends and capital gains

viii) There are no floatation and transaction costs

ix) There is no uniformity about the future of the firm

Sum 12: Dawn Ltd., has 1 lakh equity shares at the beginning of a year. The current market price of the shares is Rs. 150 each and a dividend of Rs. 8 per share has been recommended. The rate of capitalization appropriate to the risk class to which the company belongs to is 12%

i) Based on MM approach calculate the market price of the share of the company when the recommended dividend is (a) not paid (b) Paid

ii) How may new shares are to be issued by the company at the end of the accounting year on the assumption that the net income for the year is Rs. 16 lakhs and the investment budget is Rs.40 lakhs when the above dividend is (a) not paid (b) Paid

iii) Show that the market value of the shares at the end of the accounting year will remain the same whether dividends are paid or not

Solution

i) a) Price Per Share if dividend is not paid (P_1)

$P_1 = P_1 - P_0 (1+Ke) - D_1$

P_0= Current Market Price = Rs.150

Ke= Cost of Equity Capital = 12% or 0.12 D_1= Dividend = 0

P_1= 150 (1+0.12)-0; P=150 (1.12) = 0 = Rs. 168

b) Price per share if dividend is paid (P_1)

$P_1 = P_1 - P_0 (1+Ke) - D_1$

P_0= Current Market Price = Rs.150

Ke= Cost of Equity Capital = 12% or 0.12 D_1= Dividend = Rs.8

P_1= 150 (1+0.12)-0; P=150 (1.12) – 8 = 0 = Rs. 168 –Rs.8 = Rs.160

ii) No. of New Shares to be Issued

Particulars	If dividend is not paid (Rs.)		If dividend is paid (Rs.)	
	Rs.	Rs.	Rs.	Rs.
Investment Proposed		4000000		4000000
Net Income of the year	1600000		1600000	
Dividend Distribution	0			
100000 X Rs. 8			-800000	
Retained Earnings available (2-3)		1600000		800000
New Shares to be issued for (x)		2400000		3200000
Issue Price (y)		168		160
No. of new shares to be issued (x) / (y)		14285		20000

iii) Market Value of Shares at the end of the Period

Particulars	If Dividend is not paid	If Dividend is paid
No. of Existing Shares	100000	100000
New Shares	14285	20000
Total No. of Shares (n)	114285	120000
Market Price Per Share (p)	168	160
Total Market Value (n) X (p)	19199880	19200000

The total market value of shares remains almost the same whether dividend is paid or not.

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed University Established Under Section 3 of UGC Act 1956)
Coimbatore - 641021.
(For the candidates admitted from 2017 onwards)

DEPARTMENT OF COMMERCE

SUBJECT : **CORPORATE FINANCE**
SEMESTER : I
SUBJECT CODE: **17CMP101** **CLASS** : **I M.COM**

POSSIBLE QUESTIONS – UNIT V

PART A (1 MARK)
ONLINE QUESTIONS

PART B (2 MARKS)

1. Define Working Capital.
2. What is Gross and Net Working Capital?
3. What do you mean by Permanent Working Capital?
4. What do you understand by Temporary and Variable Working Capital?
5. What is Seasonal Working Capital?
6. What do you mean by Negative Working Capital?
7. Explain on (i) Minimum Stock Level and (ii) Maximum Stock Level.
8. What do you mean by Danger level?
9. Elucidate on Economic Order Quantity.
10. What is Ordering Cost?
11. What is Carrying Cost?
12. Explain on ABC analysis.
13. What is the purpose of employing VED analysis?
14. What do you mean by dividend?
15. Explain on (i) Cash Dividend (ii) Bond Dividend
16. Elucidate on (i) Property Dividend (ii) Stock Dividend.

PART C (6MARKS)

1. Discuss the determinants of Dividend policy of Corporate Enterprises.
2. Explain the factors which determine the working capital needs of a firm
3. Explicate the factors influencing the size of receivables.
4. Discuss in detail on Walter's view on Optimum Divided Payout.
5. Explain the assumptions and implications of Gordon's Dividend Model.
6. Tom & CO. Ltd., desires to purchase a business and has consulted you, and one point on which you are asked to advise them is the average amount of working capital which will be required in the first year's working.

Your are given the following estimates and are instructed to add 10% to your computed figure to allow for contingencies.

1. Average amount locked up in Stock.	
Stock of Finished Product	5000
Stock o Stores, Materials, etc.,	8000
2. Average Credit Given:	
Inland Sales 6 Weeks Credit	312000
Export Sales 1 ½ Weeks Credit	78000
3. Lag in Payment of Wages and other Outstanding	
Wages – 1 ½ Weeks	260000
Stores, materials etc., - 1 ½ Months	48000
Rent, royalties, etc – 6 Months	10000
Clerical Staff – ½ Month	62400
Manager – ½ Month	4800
Miscellaneous Expenses - 1 ½ Months	48000
4. Payment in Advance	
Sundry Expenses (Paid quarterly in advance)	8000
5. Undrawn profits on an average throughout the year	11000

Calculate the average amount of working capital required.

.

7. The earnings per share of a company is Rs.12. The cost of equity capital is 10%. The rate of return on investments is 15%. Compute the market price per share under. Walter's Model, if the payout is (a) 50% (b) 75%.

8. BPL Ltd., wishes to arrange overdraft facilities with its bankers during the period April to June 2005 when it will be manufacturing mostly for stock. Prepare a Cash Budget for the above period from the following data, indicating the extent of the bank facilities the company will require at the end of each month.

(a)

Month	Credit Sales (Rs.)	Purchases (Rs.)	Wages (Rs.)
February 2005	180000	124800	12000
March	192000	144000	14000
April	108000	243000	11000
May	174000	246000	10000
June	126000	268000	15000

(b) 50 per cent of credit sales are realized in the month following the sales and the remaining 50 per cent in the second month following. Creditors are paid in the month following the month of purchase

(c) Cash at Bank on 1.4.2005 (estimated) Rs. 25000.

9. From the following you are required to calculate (a) Debtors Turnover (b) Average age of Debtors

Particulars	2005	2004
Net Sales	1800000	1500000
Debts at the Beginning	172000	160000
Debtors at the end	234000	172000

10. From the following particulars, calculate.

(a) Maximum Level (b) Minimum Level (c) Re-order Level

Normal Usage	100 units per day
Minimum Usage	60 units per day
Maximum Usage	130 units per day
Economic Order Quantity	5000 units
Reorder Period	25 to 30 Days

QUESTION PAPER PATTERN

Internal : 50 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 3 X 2 = 6 Marks
Descriptive type Questions : 3 X 8 = 24 Marks

External : 60 Marks
Multiple Choice Questions : 20 X1 = 20 Marks
Descriptive type Questions : 5 X 2 = 10 Marks
Descriptive type Questions : 5 X 6 = 30 Marks

KARPAGAM ACADEMY OF HIGHER EDUCATION
DEPARTMENT OF COMMERCE
CORPORATE FINANCE (17CMP101/17CCP101)
UNIT V ONE MARK QUESTIONS

1	The irrelevance concept of dividend includes ----------	Short term approach	MM approach	Traditional approach	Modern approach	MM approach
2	According to residual approach, ---------- has no effect on the wealth of the shareholders.	Dividend decision	Finance decision	Investment decision	Management decision	Dividend decision
3	According to residential approach, dividend decision is merely a part of ----------	Dividend decision	Finance decision	Investment decision	Management decision	Finance decision
4	According to MM theory, the assumptions are ----------	No risk	High risk	Low risk	Medium risk	No risk
5	The relevance concept of dividend include ----------	Walter approach	Gardens approach	MM approach	Traditional approach	MM approach
6	The relevance concept of dividend include ----------	MM approach	Residual approach	Gorden approach	Modern approach	Gorden approach
7	Walter model based on the relationship between the firms ----------	Return on investment	Capital	Risk	Income	Return on investment
8	Walter model based on the relationship between the firms ----------	Profit	Capital	Risk	Cost of capital	Cost of capital
9	Assumption of Walters model include ----------	r and k are constant	long life	Short life	Medium	Short life
10	Determinants of dividend policy include ----------	Legal restrictions	Nature of the industry	Age of the company	All of these	All of these
11	Legal provisions of dividend policy is laid down in ----------	Company's act	Partnership act	Societies act	Registration act	Company's act
12	Desire and type of shareholder are the factors determining ---------- policy	Finance	Interest	Dividend	Profit	Dividend
13	Taxation policy of govt economic policies are the factors which are influencing ----------policy.	Finance	Interest	Dividend	Profit	Dividend
14	---------- policy can be maintained by companies by long standing and stable earning.	Regular dividend	Stable dividend	Irregular dividend	Unstable dividend	Regular dividend
15	EPS Expand ----------	Earnings Per Share	Earnings per Shareholder	Expectation per share	Expectation Per security.	Earnings Per Share
16	DPS = ----------‘	Determinants Per Share	Dividend per share	Dividend per security	Determinants per security	Dividend per share
17	Consistency or lack of variability in the stream of dividend payments are called ---------- policy.	Regular dividend	Stable dividend	Irregular dividend	Unstable dividend	Stable dividend
18	---------- policy is most suitable to concerns whose earnings are expected to remain stable over a number of years.	Constant dividend per share	Constant pay out ratio	profit dividend	liquidation dividend	Constant dividend per share
19	---------- is the reward of the shareholders for investments made by them.	Interest	Profit	Dividend	Income	Dividend
20	Irregular dividend policy is suitable if the company has ----------	Uncertainty of earnings	Unsuccessful business operations	Stable business operations	Successful business operations	Certainty of earnings
21	Dividend paid in the ordinary course of business are known as ----------	Profit dividend	Liquidation dividend	Stable dividend	Irregular dividend	Profit dividend
22	Dividends paid out of capital are known as ----------	Profit dividend	Liquidation dividend	Regular dividend	Unstable dividend	Liquidation dividend
23	Payment of dividend in the form of cash is known as ----------	Cash dividend	Scrip dividend	Property dividend	Stock dividend	Cash dividend
24	Bond dividend is otherwise known as ----------	Cash dividend	Scrip dividend	Property dividend	Stock dividend	Scrip dividend
25	---------- dividend are paid on the form of some assets other than cash.	Cash dividend	Scrip dividend	Property dividend	Stock dividend	Property dividend
26	The issue of bonus shares ot the existing shareholders is known as ----------	Cash dividend	Scrip dividend	Property dividend	Stock dividend	Stock dividend
27	A ---------- promises to pay the shareholder at a future specific date .	Cash dividend	Property dividend	Bond dividend	Stock dividend	Bond dividend
28	---------- dividend policy is most suitable to the firm having fluctuating earnings from year to year.	Stable rupee divided plus extra dividend	Constant payout ratio	Constant dividend per share	All of these.	Stable rupee divided plus extra dividend
29	The forms of stable dividend policy are ----------	Constant payout ratio	constant payout ratio	constant dividend per share	all of these	all of these
30	The ----------position of the company is an important consideration in paying dividend.	Liquidity	Solvency	Profitability	turnover	Liquidity
31	---------- refers to the payment of dividend regularly to the shareholders.	Stability of dividend	No dividend	Excess dividend	Additional dividend other than prescribed	Stability of dividend
32	Dividend policy of a firm affers both the long term financing and _____	Owners wealth	Creditors wealth	Shareholders wealth	Employees wealth	Shareholders wealth
33	_____ dividend is a visual method of paying dividend.	Payment	Cash	Other than cash	Stock	Other than cash
34	_____ affects the liquidity position of the company	Cash dividend	Stock dividend	Interest	Dividend	Stock dividend
35	Property dividends are paid in the form of some assets other than _____	Stock	Shares	Cash	Bank	Cash
36	_____ means the issue of bonus shares to the existing shareholders of the company	Stock dividend	Shares	Debentures	None	Stock dividend
37	_____ means reducing the par value of the shares by increasing the number of shares proportionately.	Preference shares	Equity shares	Promoters shares	Stock spilit	Stock spilit
38	Which of the following are the consumptions of MM approach of dividend theory?	Perfect capital market	Floation cost	Market price	Constant price	Perfect capital market
39	_____ of dividend refers to the payment of dividend regularly to shareholders	Irregular	Stability	Constant	Regular	Stability
40	EPS = _____	Total earnings/ no. of shares	net income / total shares	income after taxes/ no of debentures	shares / income	Total earnings/ no. of shares
41	Established companies which have sufficient reserves can afford to pay _____ dividend.	Stable	Irregular	Liberal	Less	Liberal
42	The industries with steady demand of their products can follow a _____ dividend pay out ratio.	Higher	Lower	Constant	No dividend	Higher
43	The industries with cyclical demand of their production can follow a _____ dividend pay out ratio.	Higher	Constant	Lower	No dividend	Lower
44	Companies were allowed to pay dividend upto _____ of theire profits.	33%	12%	15%	17%	33%
45	The companies were allowed to pay dividend upto _____ on the paid up share capital.	15%	20%	25%	12%	12%
46	Walter's Model suggests for 100% DP Ratio when	$k_e = r$	$k_e < r$	$k_e > r$	$k_e = 0$	$k_e > r$
47	If a firm has $k_e > r$ the Walter's Model suggests for	0% payout	25% payout	100% payout	50% payout	0% payout
48	Which of the following is not relevant for dividend pay-ment for a year ?	Cash flow position	Profit Position	Retained Earnings	Paid up capital	Retained Earnings
49	Stock split is a form of	Dividend Payment	Bonus Issue	Financial Restructuring	Dividend in Kind	Financial Restructuring
50	If the following is an element of dividend policy?	Production capacity	Change in Management	Informational Content	Debt service capacity	Informational Content
51	Which of the following is not a type of dividend payment?	Property	Share split	Bonus issue	cash	Share split
52	'Constant Dividend Per Share' Policy is considered as:	Increasing Dividend Policy	Decreasing Dividend policy	Increase or Decrease Dividend policy	Stable dividend policy	Stable dividend policy
53	Every company should follow	High dividend payment	Low dividend payment	Fixed dividend policy	Stable dividend policy	Stable dividend policy
54	Dividend is the share of profit of company divided amongst its	Shareholders	Brokers	Debenture holders'	Bond holders	Shareholders
55	Stock dividend---------- the number of equity shares	Increases	Decreases	Neutralise	Increase or decrease	Increases
56	The policy concerning quantum of profits to be distributed as dividend is called	Dividend policy	Distribution policy	Share policy	Sale policy	Dividend policy
57	Under rigid dividend policy, the rate of dividend is	0	1	-1	-2	0
58	If the earnings of company are stable then it can easily follow	Stable dividend policy	Flexible dividend policy	lower rate dividend plicy	High dividend plicy	Stable dividend policy
59	Dividends are earnings for shareholders and they expect reasonable earnings from their	Profit	Capital	Investments	Property	Investments
60	Which one is not irregular dividend policy?	More profit	Uncertainty of earnings	Heavy fixed burden of interest	Shortage of liquid resources	More profit
61	The ----------position of the company is an important consideration in paying dividend.	Liquidity	Solvency	Profitability	Turnover	Liquidity

Register No.: ……..

[17CMP101 / 17CCP101]

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed University Established Under Sec. 3 of UGC Act 1956)
Coimbatore – 641 021
(For the candidates admitted from 2017 onwards)
First Internal Examination, August 2017

CORPORATE FINANCE
I M.Com. / I M.Com. (CA)
FIRST SEMESTER

Time: 2 Hours **Maximum: 50 Marks**

PART – A (20 X 1 = 20 Marks)

1. Financial Management is a part of _____
   (a) Business Management (b) Management Accounting
   (c) Cost Accounting (d) Structural Management

2. The appropriate objective of an enterprise is _____
   (a) Maximization of Sales (b) Maximization of Owners Wealth
   (c) Maximization of Profit (d) Maximization of Production

3. Functions of the Treasurer is to manage ____
   (a) Company Assets (b) Firm's funds
   (c) Company Liabilities (d) Owner's Wealth

4. Financial Management is a ____ process
   (a) Dynamic (b) Continuous
   (c) Rigid (d) Flexible

5. Raising more capital than required denotes situation of ____
   (a) Overdraft (b) Excess of Capital
   (c) Over Liquidity (d) Tangibility

6. __ investment decision is known as Capital Budgeting
   (a) Short-term (b) Long-term
   (c) Medium-term (d) None of the above

7. Long-term finance are require to purchase ____ assets
   (a) Current (b) Fixed
   (c) Intangible (d) Variable

8. Higher is the risk higher is the ____
   (a) Risk (b) Return
   (c) Cost (d) Sales

9. Cost of capital refers to ____
   (a) Required rate of return (b) Floatation Cost
   (c) Dividend (d) Borrowing

10. ____ are estimated costs for the future
   (a) Future Cost (b) Explicit Cost
   (c) Historical Cost (d) Implicit Cost

11. ___ is combined cost of various source of capital
   (a) Future Cost (b) Implicit Cost
   (c) Composite Cost (d) Historical Cost

12. __ refers to the cost of specific cost of capital
   (a) Specific Cost (b) Implicit Cost
   (c) Composite Cost (d) Historical Cost

13. ____is also known as Opportunity Cost
   (a) Specific Cost (b) Implicit Cost
   (c) Composite Cost (d) Historical Cost

14. ___ may be defined as cost of obtaining funds
   (a) Cost of Capital (b) Capital Budgeting
   (c) Working Capital (d) Capital Structure

15. Which of the following has the highest cost of capital?
   (a) Equity Shares (b) Preference Shares
   (c) Debentures (d) Loans

16. __refers to the average cost of capital which has to be incurred to obtain additional funds required by a firm
   (a) Specific Cost (b) Marginal Cost
   (c) Composite Cost (d) Historical Cost

17. __ refers to the kind and proportion of different securities for raising funds
   (a) Capital Structure (b) Cost of Capital
   (c) Capital Budgeting (d) Auditing

18. In __ approach, the capital structure decision is relevant to the valuation of a firm
   (a) Net Income Approach (b) Net Operating Income Approach
   (c) MM Approach (d) Traditional Approach

19. In MM model, irrelevance of capital structure is based on ___
   (a) Cost of Debt and Equity (b) Arbitrage Process
   (c) Decreasing K_0 (d) Increasing K_0

20. Which of the following assumes constant K_d and K_e?
(a) Net Income Approach (b) Net Operating Income Approach
(c) MM Approach (d) Traditional Approach

PART – B (3X2=6 MARKS)

ANSWER ALL THE QUESTIONS

21. Define Financial Management.

22. What is Cost of Capital?

23. Define Capital Structure.

PART – C (3X8=24 MARKS)

ANSWER EITHER 'A' OR 'B' FROM THE FOLLOWING QUESTIONS

24a. Discuss in detail, the functions of financial management.

(OR)

24b. Describe in detail the functions of Treasurer.

25a. Victory Ltd. issued Rs. 200000 9% debentures at a premium of 10%. The floatation costs (issue expenses) were 2%. The tax rate is 40%. Compute the cost of debt before tax and after tax.

(OR)

25b. A Ltd. issues, 10,000 9% preference shares of Rs. 100 each. The shares are redeemable after 10 years at a premium of 5%. Floatation costs are 2%. Calculate the effective cost of redeemable preference share capital.

26a. The capital structure and after tax cost of different sources of funds are given below:

Sources of Funds	Amount (Rs.)	Proportion to Total	After Tax Cost %
Equity Share Capital	720000	.30	15
Retained Earnings	600000	.25	14
Preference Share Capital	480000	.20	10
Debentures	600000	.25	8

You are required to compute the weighted average cost of capital.

(OR)

26b. Discuss in detail, the factors which determine the capital structure of a firm.

* * * * *

Reg. No.....

[14CMP101]

KARPAGAM UNIVERSITY

(Under Section 3 of UGC Act 1956)
COIMBATORE – 641 021
(For the candidates admitted from 2014 onwards)

M.Com. DEGREE EXAMINATION, NOVEMBER 2014

First Semester

COMMERCE

CORPORATE FINANCE

Time: 3 hours Maximum : 60 marks

PART – A (10 x 2 = 20 Marks)
Answer any TEN Questions

1. Define Business Finance?
2. What is meant by Financial Management?
3. Mention the basic objectives of Financial Management?
4. List out the classification of Cost.
5. X Ltd issues 50,000 8% debentures at a premium of 10%. The tax rate is applicable to the company is 60%. Compute cost of debt capital.
6. Write a short note on Cost of Retained Earnings
7. Calculate the Financial Leverage.
   Sales Rs.6,000
   Variable Cost Rs.1,250
   Fixed Cost Rs.1,250
   Interest Rs.400
8. List out the Theories of Capital Structure.
9. Write a short note on the importance of Capital Structure.
10. List out the discounted cash flow Methods in Capital Budgeting.
11. What are the limitations of Capital Budgeting?
12. Define capital budgeting.
13. Give the meaning of Net Working Capital?
14. Write any two forms of dividend?
15. Write the formula for Walter's Model

PART B (5 X 8= 40 Marks)
Answer ALL the Questions

16. a) What is the importance of cost of capital? Discuss the problems determining in Cost of Capital?

Or

b) What are the types of computation of cost of capital? Elaborate with formulas.

17. a) What is meant by capital structure? What are the major Determinants of Capital Structure?

Or

b) The following items have been extracted from the liabilities side of the Balance Sheet of XYZ Company as on 31st December 2013.
   4, 00,000 Equity Shares of Rs.10 each Rs.40, 00,000
   Reserves and Surplus Rs.60, 00,000
   15% Non – Convertible Debentures Rs.20, 00,000
   14% Long Term Loans Rs.60, 00,000
   Other information about the company as relevant is given below

Year Ended	DPS (Rs.)	EPS (Rs.)	Market Price (Rs.)
31.12.2013	4.00	7.50	50.00
31.12.2012	3.00	6.00	40.00
31.12.2011	4.00	4.50	30.00

You are required to calculate the weighted average cost of capital using book Value weights E/p as the basis of cost of equity capital. Assume 50% tax rate.

18. a) Explain briefly the following methods of capital budgeting bringing out the advantages and disadvantages of each:
   i) Pay-back period method ii) Accounting Rate of Return Method

Or

b) Explain the term capital budgeting? Examine its need and importance in detail.

19. a) The following information is available in respect of return on investment , the cost of capital and earnings per share of ABC Ltd
   r = 10% E = Rs.40
   Determine the value of its shares using Gordon's Model, assuming the Following

	D/p Ratio	Retention	Ratio Cost of equity
(i)	20	80	20
(ii)	40	60	18
(iii)	60	40	16
(iv)	80	20	14

Or

b) What are the factors determining working capital requirements?

20. **Compulsory : -**
   Critically analyse the Functions of Financial Manager in a large scale Industrial Establishment.

Register No.: ……..

[17CMP101 / 17CCP101]

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed University Established Under Sec. 3 of UGC Act 1956)
Coimbatore – 641 021
(For the candidates admitted from 2017 onwards)
Second Internal Examination, October 2017

CORPORATE FINANCE
I M.Com. / I M.Com. (CA)
FIRST SEMESTER

Time: 2 Hours **Maximum: 50 Marks**

PART – A (20 X 1 = 20 Marks)

1. Financial Leverage is zero if ___
   (a) EBIT = Zero (b) EBIT=1
   (c) EPS =1 (d) EPS = 0

2. Operating leverage arises because of___
   (a) Fixed Cost of Production (b) Fixed Interest
   (c) Variable Cost (d) Sales

3. Business risk may be measured by ____
   (a) Financial Leverage (b) Operating Leverage
   (c) Combined Leverage (d) Composite Leverage

4. Financial risk can be measured by ___
   (a) Operating Leverage (b) Financial Leverage
   (c) Combined Leverage (d) Operating & Financial Leverage

5. Capital Budgeting is also known as ___
   (a) Cost of Capital (b) Capital Structure
   (c) Investment Decision Making (d) Dividend Decision

6. Payback Period ____
   (a) Cash Inflow / Cash Outflow (b) Profit / Cash Outflow
   (c) EBIT / EBT (d) Initial Invt. / Annual Cash Inflow

7. ____is the process of making investment decision in capital expenditure
   (a) Capital Budgeting (b) Capital Structure
   (c) Investment Decision Making (d) Dividend Decision

8. Capital Budgeting is also known as ___

(a) Cost of Capital (b) Capital Structure
(c) Investment Decision Making (d) Dividend Decision

9. _____ method is also called as pay off period method.
(a) Pay back period (b) Net Present Ratio
(c) Accounting Rate of Return (d) Rate of Return

10. A sound Capital Budgeting technique is based on:
(a) Accounting Profit (b) Cash flow
(c) Interest on Borrowings (d) Dividend Paid

11. The _ method taken into account the profitability and also the time value of money
(a) Pay back period (b) Net Present Value
(c) Accounting Rate of Return (d) Rate of Return

12. ___ is also known as accounting rate of return
(a) Accounting Rate of Return (b) Net Present Ratio
(c) Average Rate of Return (d) Pay Back Period

13. EPS stands for ___
(a) Earnings Per Share (b) Expectation Per Share
(c) Expectation Per Security (d) Expectation Per Stock

14. Net working capital indicates ----------concept
(a) Liquidity Position (b) Current Assets Position
(c) Current Liabilities Position (d) Profitability Position

15. Payment of dividend in the form of cash is known as ____
(a) Cash Dividend (b) Scrip Dividend
(c) Stock Dividend (d) Property Dividend

16. ABC analysis used in ___
(a) Inventory Management (b) Receivable Management
(c) Accounts Payable Management (d) Corporate Governance

17. What is Circulating Capital?
(a) Working Capital (b) Share Capital
(c) Deposits in the Bank (d) Current Assets

18. Dividends are earnings for shareholders and they expect reasonable earnings from their___
(a) Profit (b) Capital
(c) Investments (d) Property

19. Receivable management deals with ____

(a) Receipts of Raw Materials (b) Creditors Management
(c) Debtors Collection (d) Inventory Management

20.Net Working means____
(a) Current Assets – Current Liability (b) Current Assets + Current Liability
(c) Current Assets X Current Liability (d) Current Assets / Current Liability

PART – B (3X2=6 MARKS)

ANSWER ALL THE QUESTIONS

21. Explain the term leverage.

22. What do you understand by Capital Budgeting?

23. What do you mean by Working Capital?

PART – C (3X8=24 MARKS)

ANSWER EITHER 'A' OR 'B' FROM THE FOLLOWING QUESTIONS

24a. Calculate the operating, finance and combined leverage from the following information.

Sales	Rs. 50000
Variable Costs	Rs. 25000
Fixed Costs	Rs. 15000
Interest	Rs. 5000

(OR)

24b. A Company needs Rs. 600000 for construction of a new plant. The following three financial plans are feasible.

1. The company may issue 60000 equity shares of Rs. 10 each
2. The company may issue 30000 equity shares of Rs.10 each and 3000 debentures of Rs. 100 each bearing 8% coupon rate of interest
3. The company may issue 30000 equity shares of Rs. 10 each and 3000 preference shares of Rs. 100 each bearing 8% rate of dividend

The profit before interest and taxes (PBIT) is expected to be Rs.150000. Corporate Tax rate is 50%.

Calculate the earning per share under three plans. Which plan would you recommend and why?

25a. A Company has to choose one of the following two mutually exclusive projects. Investment required for each project is Rs.15000. Both the projects have to be depreciated on straight line basis. The tax rate is 50%.

Year	Profit Before Depreciation	
	Project A	Project B
1	4200	4200
2	4800	4500
3	7000	4000

4	7000	5000
5	2000	10000

Calculate Pay-back period

(OR)

25b. The Alpha Co. Ltd. is considering the purchase of a new machine. Two alternative machines (A and B) have been suggested, each having an initial cost of Rs. 400000 and requiring Rs. 20000 as additional working capital at the end of 1st Year. Earnings after taxation are expected to be as follows.

Year	Cash Inflows	
	Machine A	Machine B
1	40000	120000
2	120000	160000
3	160000	200000
4	240000	120000
5	160000	80000

The company has a target of return on capital of 10% and on this basis, you are required to compare the profitability of the machines and state which alternative you consider financially preferable?

Year	1	2	3	4	5
PV factor @ 10%	0.91	0.83	0.75	0.68	0.62

26a. From the following particulars, calculate.

(a) Maximum Level (b) Minimum Level (c) Re-order Level

Normal Usage	100 units per day
Minimum Usage	60 units per day
Maximum Usage	130 units per day
Economic Order Quantity	5000 units
Reorder Period	25 to 30 Days

(OR)

26b. Discuss the determinants of Dividend policy of Corporate Enterprises.

* * * * *

Reg. No.....

[15CCP101]

KARPAGAM UNIVERSITY

Karpagam Academy of Higher Education
(Established Under Section 3 of UGC Act 1956)
COIMBATORE – 641 021
(For the candidates admitted from 2015 onwards)

M.Com., DEGREE EXAMINATION, NOVEMBER 2015

First Semester

COMMERCE (COMPUTER APPLICATIONS)

CORPORATE FINANCE

Time: 3 hours Maximum : 60 marks

PART – A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

(Part - B & C 2 ½ Hours)

PART B (5 x 6 = 30 Marks)
Answer ALL the Questions

21. a. Elaborate the scope and functions of financial management

Or

b. Briefly explain the role and responsibilities of Finance manager

22. a. Determine the rationale behind the use of weighted average cost of capital.

Or

b. Calculate the effective cost of preference capital from the following circumstances:

i. A company raises preference share capital of Rs.1, 00,000 by issue of 10% preference shares of Rs.10 each. Calculate the cost of preference capital when they are issued at (i) 10% premium (ii) at 10% discount.

ii. A company has 10% redeemable preference shares of Rs.1, 00,000 redeemable at the end of 10th year of their issue. The underwriting costs came to 2%. Calculate the effective cost of preference capital.

23. a. A Firm is considering two financial plans with a view to examining their impact on Earnings Per Share (EPS). The total funds required for investment in assets are Rs. 6,00,000.

Financial Plans	Plan I	Plan II
Debt (Interest @ 10% p.a.)	5,00,000	2,00,000
Equity Shares (Rs. 10 each)	1,00,000	4,00,000
Total finances required	**6,00,000**	**6,00,000**
No. of equity shares	10,000	40,000

The earnings before interest and tax are assumed as Rs.50,000, Rs. 75,000 and Rs. 1,25,000. The rate of tax be taken at 50%. Comment.

Or

b. What basic principles will you advocate in the matter of deciding on a proper pattern of capital structure for a company?

24. a. Explain the term Capital Budgeting? Discuss the Significance and Methods of Capital Budgeting with suitable illustration?

Or

b. A Company has a investment opportunity costing Rs.50, 000 with the following expected cash flow after taxes

Year	1	2	3	4	5	6	7	8	9	10
Cash Flow (Rs.)	5,400	8,000	7,500	7,200	7,100	7,900	11,000	15,100	10,000	4,100

Using 10% as the cost of capital determine the following
(i) Payback Period Method (ii) NPV (10%) (iii)Profitability Index (10%)

Year	1	2	3	4	5	6	7	8	9	10
Discounting Factor @ 10%	.909	.826	.751	.683	.621	.564	.513	.466	.424	.385

25. a. Explain the various factors which influence the dividend decision of a firm

Or

b. Expandent Ltd, had 50,000 equity shares of Rs. 10 each outstanding on January 1. The shares are currently being quoted at par in the market. In the wake of the removal of dividend restraint, the company now intends to pay a dividend of Rs. 2 per share for the current calendar year. It belongs to aa risk-class whose appropriate capitalization rate is 15%. Using MM Model and assuming no taxes, ascertain the price of the company's share as it is likely to prevail at the end of the year (i) When dividend is declared, and (ii) When no dividend is declared. Also find out the number of new equity shares that the company must issue to meet its investment needs of Rs. 2 lakhs, assuming a net income of Rs. 1.1 lakhs and also assuming that the dividend is paid.

Reg. No.....

[16CCP101]

KARPAGAM UNIVERSITY

Karpagam Academy of Higher Education
(Established Under Section 3 of UGC Act 1956)
COIMBATORE – 641 021
(For the candidates admitted from 2016 onwards)

M.Com., DEGREE EXAMINATION, NOVEMBER 2016

First Semester

COMMERCE (COMPUTER APPLICATIONS)

CORPORATE FINANCE

Time: 3 hours

Maximum : 60 marks

PART – A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

(Part - B & C 2 ½ Hours)

PART B (5 x 6 = 30 Marks)
Answer ALL the Questions

21. a. Explain the objectives of Financial Management.

Or

b. What are the various functions of a finance manager?

22. a. What are the different types of Cost of Capital?

Or

b. Following information is available with regards to the capital structure of Edward Ltd.

	Amount	After tax cost of capital
Debentures	1,20,000	5%
Preference share capital	4,00,000	10%
Equity share capital	8,00,000	15%
Retained earnings	16,00,000	12%

You are required to calculate weighted average cost of capital (WACP)

23. a. Explain Modigliani and Miller approach to capital structure.

Or

b. Describe the Traditional approach to capital structure.

24. a. Project K requires an investment of Rs. 20 lakhs and yield profits after tax and depreciation as follows.

Year	1	2	3	4	5
Profit after tax & Depreciation	1,00,000	1,50,000	2,50,000	2,60,000	1,60,000

At the end of 5th year, the plant can be sold for Rs. 1, 60,000. You are required to calculate ARR.

Or

b. Discuss the importance of capital budgeting.

25. a. What are the advantages of having adequate working capital in a firm?

Or

b. Explain the various types of working capital.

PART C (1 x 10 = 10 Marks)
CASE STUDY (Compulsory)

26. There are two exclusive capital expenditure proposals before a professionally managed company. The cost of capital for the proposal is 15%. The finance director considers that the NPV method should be relevant, whereas the managing director feels that IRR method is most appropriate for choosing from the alternatives. Following are the details of the two proposals.

Year	Cash flows proposal A	(Rs. Lakhs) Proposal B
0	-200.	-200
1	35	16
2	80	10
3	90	10
4	70	4
5	20	4

You are required to calculate:

i. NPV and IRR of each project
ii. Recommend with reasons which project you would suggest.
