2018-19 Onwards (MR-18)	MALLA REDDY ENGINEERING COLLEGE (Autonomous)	B.Tech. IV Semester		
Code:80H04	ENGINEERING ECONOMICS AND ACCOUNTANCY (Common for EEE,ECE and IT)	L	T	P
Credits: 3		3	-	-

Prerequisites: NIL

Course Objectives:

EEA is a think beyond program which will make the student to examine the application of microeconomics theory as applied to the manager's responsibilities in an organization. To explain the basic principles of managerial economics, accounting and current business environment underlying business decision making. This course should emphasize the quantitative and qualitative applications of economic principle to business analysis

MODULE I: Business Environment and Managerial Economics [10 Periods]

Business Environment - Characteristic features of Business, Features and evaluation of Sole Proprietorship, Partnership, Joint Stock Company, Public Enterprises and their types, Latest trends in Business Environment (Entrepreneurship).

Managerial Economics - Definition, Nature and Scope of Managerial Economics– Demand Analysis: Demand Determinants, Law of Demand and its exceptions. Elasticity of Demand, Types, Significance of Elasticity of Demand, Demand Forecasting, Factors governing demand forecasting, methods of demand forecasting.

MODULE II: Theory of Production and Cost Analysis [10 Periods]

Theory of Production - Production Function – ISOquants and ISOcosts, MRTS, Least Cost Combination of Inputs, Cobb-Douglas Production function, Laws of Returns, Internal and External Economies of Scale.

Cost Analysis - Cost concepts, Opportunity cost, fixed vs. Variable costs, explicit costs Vs. Implicit costs, Out of pocket costs vs. Imputed costs. Break-even Analysis (BEA)- Determination of Break-Even Point (simple problems) - Managerial Significance and limitations of BEA.

MODULE III: Market structures and Pricing Policies [09 Periods]

A: Introduction to Markets & Market structures - Types of competition, Features of Perfect competition, Monopoly and Monopolistic Competition. Price-Output Determination in case of Perfect Competition and Monopoly.

B: Pricing Policies & Methods - Cost plus Pricing, Marginal Cost Pricing, Sealed Bid Pricing, Going Rate Pricing, PLC based pricing methods.

MODULE IV: Capital and Capital Budgeting [09 Periods]

Capital - Capital and its significance, Types of Capital, Estimation of Fixed and Working capital requirements, Methods and sources of raising finance.

Capital Budgeting - Nature and scope of capital budgeting, features of capital budgeting proposals, Methods of Capital Budgeting: Payback Method, Accounting Rate of Return (ARR) and Net Present Value Method (simple problems)

MODULE V: Financial Accounting and Ratios [10 Periods]

Financial Accounting - Introduction, Accounting principles, Accounting Cycle, Journal, Ledger, Trial Balance- Final Accounts (Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments).

Financial Analysis Through Ratios - Computation, Analysis and Interpretation of Liquidity Ratios (Current Ratio and quick ratio), Activity Ratios (Inventory turnover ratio and Debtor Turnover ratio), Capital structure Ratios (Debt- Equity ratio, Interest Coverage ratio), and Profitability ratios (Gross Profit Ratio, Net Profit ratio, Operating Ratio, P/E Ratio and EPS).

TEXT BOOKS

1. Aryasri, "**Managerial Economics and Financial Analysis**", TMH, 2nd edition, 2005.
2. Varshney & Maheswari, "**Managerial Economics**", 5th edition Sultan Chand, 2003

REFERENCES

1. H. Craig Peterson & W. Cris Lewis, "**Managerial Economics**", PHI, 4th Edition.
2. Domnick Salvatore, "**Managerial Economics In a Global Economy**", Thomson, 4th Edition.
3. Raghunatha Reddy & Narasimhachary, "**Managerial Economics& Financial Analysis**", 4th Edition Scitech.
4. S.N.Maheswari & S.K. Maheswari, "**Financial Accounting**", 6th Edition Vikas.
5. Dwivedi, "**Managerial Economics**", Vikas, 6th Edition.

E-RESOURCES

1. http://www.learnerstv.com/Free-Economics-video-lecture-courses.htm
2. http://nptel.ac.in/courses/110105067/
3. http://nptel.ac.in/courses/110107073/
4. http://nptel.ac.in/courses/110101005/
5. http://nptel.ac.in/courses/109104073/

2017-18 Onwards (MR-17)	MALLA REDDY ENGINEERING COLLEGE (Autonomous)	B.Tech. VI Semester		
Code:70H04	ENGINEERING ECONOMICS AND ACCOUNTANCY (Common to CE,EEE,ME,ECE,CSE,IT)	L	T	P
Credits: 2		2	-	-

Prerequisites: Nil

Course Objective:
EEA is a think beyond program which will make the student to examine the application of microeconomics theory as applied to the manager's responsibilities in an organization. To explain the basic principles of managerial economics, accounting and current business environment underlying business decision making. This course should emphasize the quantitative and qualitative applications of economic principle to business analysis.

MODULE I: Business Environment and Managerial Economics [08 Periods]
Business Environment- Characteristic features of Business, Features and evaluation of Sole Proprietorship, Partnership, Joint Stock Company, Public Enterprises and their types, Latest trends in Business Environment (Entrepreneurship).
Managerial Economics- Definition, Nature and Scope of Managerial Economics–Demand Analysis: Demand Determinants, Law of Demand and its exceptions. Elasticity of Demand, Types, Significance of Elasticity of Demand, Demand Forecasting, Factors governing demand forecasting, methods of demand forecasting.

MODULE II: Theory of Production and Cost Analysis [06 Periods]
Theory of Production- Production Function – ISOquants and ISOcosts, MRTS, Least Cost Combination of Inputs, Cobb-Douglas Production function, Laws of Returns, Internal and External Economies of Scale.
Cost Analysis- Cost concepts, Opportunity cost, fixed vs. Variable costs, explicit costs Vs. Implicit costs, Out of pocket costs vs. Imputed costs. Break-even Analysis (BEA)-Determination of Break-Even Point (simple problems) - Managerial Significance and limitations of BEA.

MODULE III: Market structures and Pricing Policies [06 Periods]
A: Introduction to Markets and Market structures
Types of competition, Features of Perfect competition, Monopoly and Monopolistic Competition. Price-Output Determination in case of Perfect Competition and Monopoly.
B: Pricing Policies and Methods
Cost plus Pricing, Marginal Cost Pricing, Sealed Bid Pricing, Going Rate Pricing, PLC based pricing methods.

MODULE IV: Capital and Capital Budgeting [06 Periods]
Capital- Capital and its significance, Types of Capital, Estimation of Fixed and Working capital requirements, Methods and sources of raising finance.
Capital Budgeting Nature and scope of capital budgeting, features of capital budgeting proposals, Methods of Capital Budgeting: Payback Method, Accounting Rate of Return (ARR) and Net Present Value Method (simple problems).

MODULE V: Financial Accounting and Ratios [06 Periods]
Financial Accounting Introduction, Accounting principles, Accounting Cycle, Journal, Ledger, Trial Balance- Final Accounts (Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments).
Financial Analysis Through Ratios Computation, Analysis and Interpretation of Liquidity Ratios (Current Ratio and quick ratio), Activity Ratios (Inventory turnover ratio and Debtor Turnover ratio),

Capital structure Ratios (Debt- Equity ratio, Interest Coverage ratio), and Profitability ratios (Gross Profit Ratio, Net Profit ratio, Operating Ratio, P/E Ratio and EPS).

TEXTBOOKS:

1. Aryasri, **"Managerial Economics and Financial Analysis"**, TMH, 2nd edition, 2005.(UNITS I,II,III,IV,V).
2. Varshney and Maheswari, **"Managerial Economics"**, 5th edition Sultan Chand, 2003.(UNITS, I,II,III).

REFERENCES:

1. H. Craig Peterson and W. Cris Lewis, **"Managerial Economics"**, PHI, 4th Edition.
2. Domnick Salvatore, **"Managerial Economics In a Global Economy"**, Thomson, 4th Edition.
3. Raghunatha Reddy and Narasimhachary, **"Managerial Economicsand Financial Analysis"**, 4th Edition Scitech.
4. S.N.Maheswari and S.K. Maheswari, **"Financial Accounting"**, 6th Edition Vikas.
5. Dwivedi, **"Managerial Economics"**, Vikas, 6th Edition.

E -RESOURCES

1. http://www.learnerstv.com/Free-Economics-video-lecture-courses.htm
2. http://www.onlinevideolecture.com/?course=mba-programs&subject=microeconomics
3. http://www.learnerstv.com/Free-Management-Video-lectures-ltv034-Page1.htm
4. http://www.learnerstv.com/Free-Management-Video-lectures-ltv637-Page1.htm
5. http://www.onlinevideolecture.com/?course=mba-programs&subject
6. http://nptel.ac.in/courses/110105067/
7. http://nptel.ac.in/courses/110107073/
8. http://nptel.ac.in/courses/110101005/
9. http://nptel.ac.in/courses/109104073/
10. Journals **:** Journal of Global Economics, Journal of Economics and Business, International Journal of Economics and Business Research, Journal of Finance and Business Studies.

Course Outcomes:

At the end of the course, students will be able to

1. Understand the concepts of managerial economics and their application in evaluating the demand.
2. Evaluate the production function and identifies the least cost combination to control the costs of production.
3. Understand the structures of various market types and their pricing policies.
4. Understand the types of business forms and also be able to evaluate the investments using capital budgeting techniques.
5. Understand the basic concepts of financial accounting and evaluation of company performance using ratio analysis.

Module-I INTRODUCTION

Managerial economics (meaning and nature)

Managerial economics is economics applied in decision making. It is the branch of economics whichserves as a link between abstract theory and managerial practice.

It is based on the economic analysis for identifying problems,organizing information and evaluating alternatives.

DEFINITIONS OF MANAGERIAL ECONOMICS

―Managerial economics is the of economic modes of thought to analyse business situation‖

-Mc.Nair and Meriam

―Managerial economics is the integration of economic theory with business practice for the purpose offacilitating decision making and forwardplanning by the management.‖

NATURE OF MANAGERIAL ECONOMICS

1. It is microeconomic in character as it concentrate only on the study of the firm not on the working of theeconomy
2. It takes help from the macroeconomics to understand the environment in which the firm operates‘
3. It is normative rather than positive i.e., it gives answer for the question what ought to be than what is ,was.
4. It is both conceptual and metrical.
5. It focuses mainly on the theory of the firm than on distribution‘
6. Knowledge of managerial economics helps in making wise choices.i.e., choices among scarcity of resources.
7. It is goal oriented i.e., aims at achievement of objectives.

SIGNIFICANCE OF MANAGERIAL ECONOMICS

1. It helps in decision making
2. Decisionmaking means a balance between simplification of analysis to be manageable and

complication offactors in hand

3. It helps the manager to become an more competent builder

4. It helps in providing most of the concepts that are needed for the analysis of business problems,the concepts such as elasticity of demand ,fixed, variable cost, SR and LR costs, opportunity costs,NPV etc.,

5. It helps in making decisions in the following.

What should be the product mix?
Which is the production technique?What is the i/p mix at least cost?
What should be the level of output and price?How to take investment decisions?
How much should the firm advertise

MANAGERIAL ECONOMICS RELATED WITH OTHER DISCIPLINES Managerial Economics and Traditional Economics

Economics and Managerial economics both are facing identical problems,i.e., problem of scarcity and resource allocation. Since labour and capital are always limited it must find way for effective utilizing of these resources.

MANAGERIAL ECONOMICS AND OPERATIONS RESEARCH

Both operations research and managerial economics are concerned with taking effective decisions, managerial economics is a fundamental academic subject which seeks to understand and to analyse the problems of business decision making while OR is an activity carried out by functional specialist within thefirm to help the manager to do his job of solving decision problems.

ITS MAIN CONTRIBUTION TO MANAGERIAL ECONOMICS

OR models like queuing,linear programming etc.., are widely used in managerial economics Model building, economic models are more general and confined to broad economic decision making

MANAGERIAL ECONOMICS AND MATHEMATICS

Mathematics is closely related to managerial because managerial economics ,being conceptual but also metrical. Its metrical property is used to estimate and predict the relevant economicfactors for decision making and forward planning

ITS MAIN CONTRIBUTION TO MANAGERIAL ECONOMICS

Geometry, algebra and calculus Logarithms and exponential, vectors and determinants, input-output tables etc.,Even **OR** can be included as a part of mathematical exercise Statistics is widely used in managerial economics. It is mainly needed for a correct judgment anddecision making

ITS MAIN CONTRIBUTION TO MANAGERIAL ECONOMICS

To handle the unforeseen circumstances the theory probability is mainly used.

MANAGERIAL ECONOMICS AND THE THEORY OF DECISION MAKING

The theory of decision making is relatively a new subject that has significance for managerial economics. Much of economic theory is based on the single goal MAXIMISATION OF PROFIT, but theory of decision making recognizes the multiplicity of goals and the pervasiveness of uncertainity

ROLE OF MANAGERIAL ECONOMIST IN BUSINESS

The task of organizing and processing information and then making an intelligent decision based upon two general forms

- *Task of making Specific decisionsTask of making General decisions*

- ***Specific decisions** include Production schedulingDemand forecasting*

Market research

Economic analysis of the industryInvestment appraisal
Security management appraisalAdvice on trade
Advice on foreign exchange managementPricing and related decisions
***General decisions** include*

- *Analysing the general economic condition of the economy*
- *Analyzing the demand for the product*
- *Analysing the general market condition of the economy*

FIRMS : TYPES, OBJECTIVES & GOALSMEANING OF FIRM

Definition of firm

A firm is the small business unit involved in producing the profit Business (company, enterprise or firm) is a legally recognized organization designed to provide goods or services, or both, to consumers, businesses and governmental entities.[1] Businesses are predominant in capitalist economies. Most businesses are privately owned. A business is typically formed to earn profit that will increase the wealth of its owners and grow the business itself. The owners and operators of a business have as one of their main objectives the receipt or generation of a financial return in exchange for work and acceptance of risk. Notable exceptions include cooperative enterprises and state-owned enterprises. Businesses can also be formed not-for-profit or be state-owned.

Types of firms

Sole proprietorship:

A sole proprietorship is a business owned by one person. The owner may operate on his or her own or mayemploy others. The owner of the business has personal liability of the debts incurred by the business.

Partnership:

A partnership is a form of business in which two or more people operate for the common goal which is often making profit. In most forms of partnerships, each partner has personal liability of the debts incurred by thebusiness. There are three typical classifications of partnerships: general partnerships, limited partnerships, and limited liability partnerships.

Corporation:

A corporation is either a limited or unlimited liability entity that has a separate legal personality from its members. A corporation can be organized for-profit or not-for-profit. A corporation is owned by multiple shareholders and is overseen by a board of directors, which hires the business's managerial staff. In addition to privately owned corporate models, there are state-owned corporate models.

Cooperative:

Often referred to as a "co-op", a cooperative is a limited liability entity that can organize for-profit or not-for- profit. A cooperative differs from a corporation in that it has members, as opposed to shareholders, who share decision-making authority. Cooperatives are typically classified as either consumer cooperatives or worker cooperatives. Cooperatives are fundamental to the ideology of economic democracy.

GOALS OF FIRMS:

Conventional theory of firm assumes profit maximization is the sole objective of business firms. But recent researches on this issue reveal that the objectives the firms pursue are more than one. Some important objectives, other than profit maximization are:

(a) Maximization of the sales revenue

(b) Maximization of firm‘s growth rate
(c) Maximization of Managers utility function
(d) Making satisfactory rate of Profit

(e) Long run Survival of the firm
(f) Entry-prevention and risk-avoidance

Profit Business Objectives:

Profit means different things to different people. To an accountant ―Profit‖ means the excess of revenue over all paid out costs including both manufacturing and overhead expenses. For all practical purpose, profit or business income means profit in accounting sense plus non-allowable expenses.

Economist‘s concept of profit is of ―Pure Profit‖ called ‗economic profit‘ or ―Just profit‖. Pure profit is a return over and above opportunity cost, i. e. the income that a businessman might expect from the second best alternatives use of his resources.

Sales Revenue Maximisation:

The reason behind sales revenue maximisation objectives is the Dichotomy between ownership & management in large business corporations. This Dichotomy gives managers an opportunity to set their goal other than profits maximisation goal, which most-owner businessman pursue. Given the opportunity, managers choose to maximize their own utility function. The most plausible factor in manager‘s utility functions is maximisation of the sales revenue.

The factors, which explain the pursuance of this goal by the managers are following:.

First: Salary and others earnings of managers are more closely related to sales revenue than to profits Second: Banks and financial corporations look at sales revenue while financing the corporation. Third: Trend in sales revenue is a readily available indicator of the performance of the firm.

Maximisation of Firms Growth rate:

Managers maximize firm‘s balance growth rate subject to managerial & financial constrains balancegrowth rate defined as:

G = GD – GC

Where GD = Growth rate of demand of firm‘s product & GC= growth rate of capital supply of capital to thefirm.

In simple words, A firm growth rate is balanced when demand for its product & supply of capital to the firmincrease at the same time.

Maximisation of Managerial Utility function:

The manager seek to maximize their own utility function subject to the minimum level of profit. Managersutility function is express as:

U= f(S, M, ID)

Where S = additional expenditure of thestaff M= Managerial emoluments

ID = Discretionary Investments

The utility functions which manager seek to maximize include both quantifiable variables like salary and slack earnings; non- quantifiable variables such as prestige, power, status, Job security professional excellence etc.

Long run survival & market share:

According to some economist, the primary goal of the firm is long run survival. Some other economists have suggested that attainment & retention of constant market share is an additional objective of the firm's. the firmmay seek to maximize their profit in the long run through it is not certain.

Entry-prevention and risk-avoidance, yet another alternative objectives of the firms suggested by some economistsis to prevent entry-prevention can be:

1. Profit maximisation in the long run
2. Securing a constant market share
3. Avoidance of risk caused by the unpredictable behavior of the new firms

MANAGERIAL DECISIONS:

A decision is an act requiring judgment that is translated into action.Decision making is much more comprehensive than problem solving.

The terms are interrelated, but not interchangeable.

The Significance of Decision Making

- ✓ Decision making is the one truly distinctive characteristic of managers.
- ✓ Decisions made by top managers commit the total organization toward particular courses of action.
- ✓ Decisions made by lower levels of management implement the strategic decisions of top managers in theoperating areas of the organization.
- ✓ Decisions invariably involve organizational change and the commitment of scarce resources.

Characteristics of Managerial Decisions

- ✓ Long-range organizational objectives
- ✓ Best choice from among a set of alternatives
- ✓ Decision involves organizational change
- ✓ Decision requires a commitment of resources

The Managerial
Decision-Making Process

Process components are decision-making functions.

Decision-making functions are highly interrelated and interdependent. The process is highly dynamic with several subprocesses.

The process can accommodate several concurrent Category II decisions.

Decision-Making Function No. 1Setting Managerial Objectives:

Objectives constitute the foundation for rational decision making. Objectives are the ends for the means of managerial decision making. Attainment of the objective is the ultimate measure of decision success.**Decision-Making Function No. 2**

Searching for Alternatives:

The limitations of time and money

The declining value of additional informationThe rising cost of additional information
Abort the search in the zone of cost effectiveness
Decision-Making Function No. 3 Comparing and Evaluating Alternatives: Alternatives result from the search.
There are usually three to five alternatives.
One alternative is to do nothing.
Alternatives are evaluated using criteria derived from the objective. Evaluation should include an anticipation of the likely outcome for eachalternative.
Evaluation should also anticipate obstacles or difficulties at the time ofimplementation.

Decision-Making Function No. 4The Act of Choice:
The choice is the culmination of the process, not all of it.
The choice confronts the decision maker with discernible constraints. The best alternative may not be readily apparent to the decision maker.The best choice is likely to ensue from the right approach.
The choice should be the alternative most likely to result in the attainmentof the objective.
Decision-Making Function No. 5Implementing Decisions:
Decision success is a function of decision quality and decision implementation.
Areas contributing to decision success:
Observance of operating constraints Influence of the decision maker Involvement of decision implementers Absence of conflict of interest **Decision-Making Function No. 6 Follow-Up and Control**
Follow-up and control is essential to ensure that an implemented decisionmeets its objective.
Performance is measured by observing the implemented decision in relationto its standard derived from the objective.
Unacceptable variance from standard performance should elicit timely and appropriate corrective action.

DECISION ANALYSIS:
Decision Analysis (DA) is the discipline comprising the philosophy, theory, methodology, and professional practice necessary to address important decisions in a formal manner. Decision analysis includes many procedures, methods, and tools for identifying, clearly representing, and formally assessing important aspects of a decision, forprescribing a recommended course of action by applying the maximum expected utility action to the managerial decision.

The **decision analysis (DA) cycle** is the top-level procedure for carrying out a decision analysis. The traditionalcycle consists of four phases:

- ✓ Basis Development
- ✓ Determinisitic Sensitivity Analysis
- ✓ Probabilistic Analysis
- ✓ Basis Appraisal.

Decision theory in economics, psychology, philosophy, mathematics, and statistics is concerned with identifying the values, uncertainties and other issues relevant in a given decision, its rationality, and the resulting optimal decision. It is very closely related to the field of game theory.

Normative and descriptive decision theory
Most of decision theory is normative or prescriptive, *i.e.*, it is concerned with identifying the best decision to take, assuming an ideal decision maker who is fully informed, able to compute with perfect accuracy, and fully rational.

Statistical decision theory

Several statistical tools and methods are available to organize evidence, evaluate risks, and aid in decision making. The risks of Type I and type II errors can be quantified (estimated probability, cost, expected value, etc.) and rational decision making is improved.

Module –II

DEMAND AND SUPPLY ANALYSIS

1.1 DEMAND Definition of demand

The amount of a particular economic good or service that a consumer or group of consumers will want to purchaseat a given price.

The demand curve is usually downward sloping, since consumers will want to buy more as price decreases. Demand for a good or service is determined by many different factors other than price, such as the price of substitute goods and complementary goods. In extreme cases, demand may be completely unrelated to price, or nearly infinite at a given price.
Along with supply, demand is one of the two key determinants of the market price.

Meaning of Demand

Demand:The term 'demand' is defined as the desire for a commodity which is backed by willingness to buy andability to pay for it.

The Law of Demand

The law of demand states that, if all other factors remain equal, the higher the price of a good, the lesspeople will demand that good.

In other words, the higher the price, the lower the quantity demanded. The amount of a good that buyers purchase at a higher price is less because as the price of a good goes up, so does the opportunity cost of buying that good.

As a result, people will naturally avoid buying a product that will force them to forgo the consumption of something else they value more. The chart below shows that the curve is a downward slope.

TYPES OF DEMAND:

1. **Direct and indirect demand:**

   Producers' goods and consumers' goods: demand for goods that are directly used for consumption bythe ultimate consumer is known as direct demand (example: Demand for T shirts). On the other hand demand for goods that are used by producers for producing goods and services. (example: Demand for cotton by a textile mill)

2. **Derived demand and autonomous demand:**

When a produce derives its usage from the use of some primary product it is known as derived demand. (example: demand for tyres derived from demand for car) Autonomous demand is the demand for a product that can be independently used. (example: demand for a washing machine)

3. **Durable and non durable goods demand:**

Durable goods are those that can be used more than once, over a period of time (example: Microwaveoven) Non durable goods can be used only once (example: Band-aid)

4. **Firm and industry demand:**

Firm demand is the demand for the product of a particular firm. (example: Dove soap) The demand for the product of a particular industry is industry demand (example: demand for steel in India)

5. **Total market and market segment demand:**

A particular segment of the markets demand is called as segment demand (example: demand for 21 laptops by engineering students) the sum total of the demand for laptops by various segments in India is thetotal market demand. (example: demand for laptops in India)

6. **Short run and long run demand:**

Short run demand refers to demand with its immediate reaction to price changes and income fluctuations. Long run demand is that which will ultimately exist as a result of the changes in pricing,promotion or product improvement after market adjustment with sufficient time.

7. **Joint demand and Composite demand:**

When two goods are demanded in conjunction with one another at the same time to satisfy a single want, it is called as joint or complementary demand. (example: demand for petrol and two wheelers) A composite demand is one in which a good is wanted for several different uses. (example: demand for iron rodsfor various purposes)

8. **Price demand, income demand and cross demand:**

Demand for commodities by the consumers at alternative prices are called as price demand. Quantity demanded by the consumers at alternative levels of income is income demand. Cross demand refers to the quantity demanded of commodity 'X' at a price of a related commodity 'Y' which may be a substitute or complementary to X.

DETERMINANTS OF DEMAND

i. General factors

- Change in the number of buyers

- Change in consumer incomes Change in consumer tastes

•Change in the prices of complementary and substitute goodsAdditional factors related to luxury goods and durables

- Change in consumer expectations in future income

Change in consumer expectations of futureprices Additional factors related to market demand

1. **Price of the commodity**

The consumer will buy more of a commodity when its price declines and vice versa,because it increases his purchasing power. He can therefore buy more of it.Price and the Demand vary inversely.

2. **Income of the consumer**

The consumer will buy more of a commodity when his income increases and viceVersa.Both demand and income of the consumer move in the same direction.It may be reverse for inferior goods here demand will increase with decrease in the income and vice-versa.

3. **Price of the related goods**

When a change in the price of one commodity influences the demand of the other commodity and so the commodities are interrelated. These related commodities are of two types: substitutes and complements.

When the price of one commodity and the quantity demanded of other commodity are move is same direction, it is called as substitutes

When the price of one commodity and the quantity demanded of other commodity are move is opposite direction, it is called as complementary

4. **Taste and preferences**

If the consumer taste and preferences are favour of a commodity results in greater demand,And if it against the commodity it results in smaller demand for the commodity.

5. Additional factors such as expectation in income and prices

In case the consumer expects a higher income in future ,he spends more at present andthereby the demand for the good increases and vice versa.

Similarly if the consumer expects future prices of the good to increase he would rather like to buy the commodity now more than on later, This will increase the demand for the commodity.

DEMAND FUNCTION:

Demand function -- a behavioral relationship between quantity consumed and a person's maximum willingnessto pay for incremental increases in quantity. It is usually an inverse relationship where at higher (lower) prices, less (more) quantity is consumed. Other factors which influence willingness-to-pay are income, tastes and preferences, and price of substitutes

Individual Demand function

Qdx = f(Px, Y, P1……Pn-1, T, A ,Ey, Ep, u)Where
Qdx= qty demanded for the product XPx = price of the product
Y = level of household income

P1….Pn-1 = price of all the other related productsT = tastes of the consumer

A = advertising

Ey = consumer‘s expected future incomeEp= consumer‘s expected future price
U= all those determinants that are not covered in the list determinants

Market Demand function

Qdx = f(Px, Y, P1……Pn-1, T, A ,Ey, Ep, P, D, u)

Qdx,Px,Y,P1…Pn-1,T,A, Ey,Ep,U are the same as the individual demand functionP = population
D = distribution of consumers in various categories such as income, age, sex etc.,

ELASTICITY OF DEMAND

If price rises by 10% - what happens to demand?

We know demand will fallBy more than 10%?
By less than 10%?

Elasticity measures the extent to which demand will change

Elasticity is the ratio of the percent change in one variable to the percent change in another variable. It is a tool for measuring the responsiveness of a function to changes in parameters in a unit-less way. Frequently used elasticities include price elasticity of demand, price elasticity of supply, income elasticity of demand, elasticity of substitution between factors of production and elasticity of intertemporal substitution

PRICE ELASTICITY OF DEMAND

Price elasticity of demand measures the percentage change in quantity demanded caused by a percent change in price. As such, it measures the extent of movement along the demand curve. This elasticity is almost always negative and is usually expressed in terms of absolute value. If the elasticity is greater than 1 demand is said to be elastic; between zero and one demand is inelastic and if it equals one, demand is unit-elastic.

Proportionate change in qty demanded of good x

E=

Proportionate change in price of good x Calculating the Percentage Change in Quantity Demanded

The formula used to calculate the percentage change in quantity demanded is: [QDemand(NEW) - QDemand(OLD)] / QDemand(OLD)

Calculating the Percentage Change in Price

Similar to before, the formula used to calculate the percentage change in price is: [Price(NEW) - Price(OLD)] / Price(OLD)

PEoD = (% Change in Quantity Demanded)/(% Change in Price)

ELASTIC DEMAND - a change in price, results in a greater than proportional change in the quantitydemanded ED>1.

INELASTIC DEMAND - a change in price results in a less than proportional change ED<1.

UNITARY DEMAND - a change in price results in n equal proportional change ED=1. PERFECTLY ELASTIC DEMAND - demand changes even when price remains unchanged. ED= ∞

PERFECTLY INELASTIC DEMAND - change in price does not result in any change.ED=0

Income elasticity of demand

Income elasticity of demand measures the percentage change in demand caused by a percent change in income. A change in income causes the demand curve to shift reflecting the change in demand. YED is a measurement of how far the curve shifts horizontally along the X-axis. Income elasticity can be used to classify goods as normal or inferior. With a normal good demand varies in the same direction as income. With an inferior good demand and income move in opposite directions.(Represented by 'YED')[2]

The Income Elasticity of Demand: responsivenessof demand to changes in incomes

A positive sign denotes a normal good A negative sign denotes an inferior good

MEASURING THE INCOME ELASTICITY

Income elasticity of demand (Yed) measures the relationship between a change in quantity demanded and achange in real income

Yed = % change in demand

% change in income

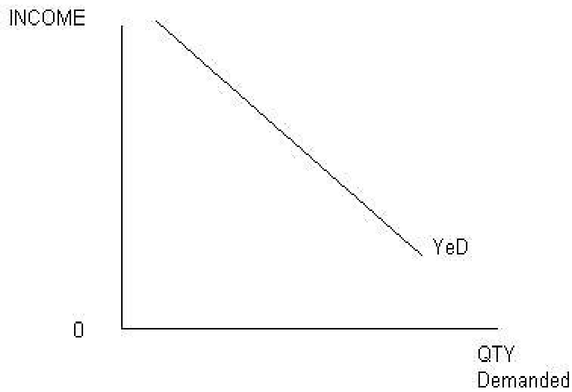
TYPES OF INCOME ELASTICITYPOSITIVE INCOME ELASTICITY

A rise in income will cause a rise in demandA fall in income will cause a fall in demand

NEGATIVE INCOME ELASTICITY

An increase in income will result in a decrease in demand. A decrease in income will result in a rise in demand.
ALSO known as INFERIOR GOODS

Diagram of negative income elasticity



ZERO INCOME ELASTICITIES

This occurs when a change in income has NO effect on the demand for goods.

A rise of 5% income in a rich country will leave the Demand for toothpaste unchanged

2.5.3. Cross Elasticity:

The responsiveness of demand of one good to changes in the price of a related good – either a substitute or a complement

In economics, the cross elasticity of demand or cross-price elasticity of demand measures the responsiveness of thedemand for a good to a change in the price of another good.

It is measured as the percentage change in demand for the first good that occurs in response to a percentage changein price of the second good. For example, if, in response to a 10% increase in the price of fuel, the demand of new cars that are fuel inefficient decreased by 20%, the cross elasticity of demand would be
$-20\%/10\% = -2$.

DEMAND FORECASTING METHODS

There are several assumptions about forecasting:

1. There is no way to state what the future will be with complete certainty. Regardless of the methods that we use there will always be an element of uncertainty until the forecast horizon has come to pass.

2. There will always be blind spots in forecasts. We cannot, for example, forecast completely new technologies for which there are no existing paradigms.
3. Providing forecasts to policy-makers will help them formulate social policy. The new social policy, in turn, will affect the future, thus changing the accuracy of the forecast.

i. OPINION POLLING METHODS

a. EXPERTS OPINION METHOD

Genius forecasting - This method is based on a combination of intuition, insight, and luck. Psychics and crystal ball readers are the most extreme case of genius forecasting. Their forecasts are based exclusively on intuition.
Science fiction writers have sometimes described new technologies with uncanny accuracy

b. CONSUMER 'S SURVEY METHOD

In this method consumer's are contacted personally to disclose their future plans so that we can able to forecast the future because they are ultimate targeters/buyers

c. COMPLETE ENUMERATION SURVEY
Here all the units of consumers are taken into account without any cutshorts

So here large number of consumers will be there to get the unbiased information .The main Advantage of this method is its accuracy and its main drawback is it is time consuming one.

d. SURVEY METHOD

Here from the total population certain number of units will be selected as sample units, then the opinion collection will be made. This method is less tedious and less costly than the above method.

ii. STATISTICAL METHODS

Fitting trend line by observation

This method of estimating trend is elementary,easy and quick.It involves merely plotting of annual sales on graph and then estimating just by observation where the trend line lies.

a. Trend extrapolation - These methods examine trends and cycles in historical data, and then use mathematical techniques to extrapolate to the future. The assumption of all these techniques is that the forces responsible for creating the past, will continue to operate in the future. This is often a valid assumption when forecasting short term horizons, but it falls short when creating medium and long term forecasts. The further out we attempt to forecast, the less certain we become of the forecast

b. **Simulation methods** - Simulation methods involve using analogs to model complex systems. Theseanalogs can take on several forms. A mechanical analog might be a wind tunnel for modeling aircraft performance. An equation to predict an economic measure would be a mathematical analog. A metaphorical analog could involve using the growth of a bacteria colony to describe human population growth. Game analogs are used where the interactions of the players are symbolic of social interactions

c. **Trend Analysis:** Uses linear and nonlinear regression with time as the explanatory variable, it is used where pattern over time have a long-term trend. Unlike most time-series forecasting techniques, the Trend Analysis does not assume the condition of equally spaced time series.

d. **Simple Moving Averages**: The best-known forecasting methods is the moving averages or simply takes a certain number of past periods and add them together; then divide by the number of periods. Simple Moving Averages (MA) is effective and efficient approach provided the time series is stationary in both mean and variance. The following formula is used in finding the moving average of order n, MA(n) for a period t+1,

e. **Exponential Smoothing Techniques:** One of the most successful forecasting methods is the exponential smoothing (ES) techniques. Moreover, it can be modified efficiently to use effectively for time series with seasonal patterns. It is also easy to adjust for past errors-easy to prepare follow-on forecasts, ideal for situations where many forecasts must be prepared, several different forms are used depending on presence of trend or cyclical variations. In short, an ES is an averaging technique that uses unequal weights; however, the weights applied to past observations decline in an exponential manner

f. **Least-Squares Method:** To predict the mean y-value for a given x-value, we need a line which passes through the mean value of both x and y and which minimizes the sum of the distance between each of the points and the predictive line. Such an approach should result in a line which we can call a "best fit" to the sample data. The least-squares method achieves this result by calculating the minimum average squared deviations between the sample y points and the estimated line. A procedure is used for finding the values of a and b which reduces to the solution of simultaneous linear equations. Shortcut formulas have been developed as an alternative to the solution of simultaneous equations..

g. **Regression and Moving Average**: When a time series is not a straight line one may use the moving average (MA) and break-up the time series into several intervals with common straight line with positive trends to achieve linearity for the whole time series. The process involves transformation based on slope and then a moving average within that interval. For most business time series, one the following transformations might be effective

MEANING OF SUPPLY

Supply of a commodity refers to the various quantities of the commodity which a seller is willing and able to sell at different prices in a given market at a point of time, other things remaining the same. Supply is what the seller is able and willing to offer for sale. The Quantity supplied is the amount of a particular commodity that a firm is willing and able to offer for sale at a particular price during a given time period.

DETERMINANTS OF SUPPLY

1. The cost of factors of production: Cost depends on the price of factors. Increase in factor cost increasesthe cost of production, and reduces supply.
2. The state of technology: Use of advanced technology increases productivity of the organization andincreases its supply.
3. External factors: External factors like weather influence the supply. If there is a flood, this reducessupply of various agricultural products.
4. Tax and subsidy: Increase in government subsidies results in 43 more production and higher supply.
5. Transport: Better transport facilities will increase the supply.
6. Price: If the prices are high, the sellers are willing to supply more goods to increase their profit.
7. Price of other goods: The price of other goods is more than 'X' then the supply of 'X' will be increased.

SUPPLY FUNCTION

Sx = f(Px,Py, Pz,… ;Pf ,O,T)

Sx=Amount supplied of good xPx= Price of good X
Py,Pz= Prices of other goods in the marketPf = Prices of factors of production
O = objective of the producer

T = State of technology used by the producer to produce good x

ELASTICITY OF SUPPLY

Responsiveness of producers to changes in the price of their goods or services. As a general rule, if prices rise sodoes the supply.

Elasticity of supply is measured as the ratio of proportionate change in the quantity supplied to the proportionate change in price. High elasticity indicates the supply is sensitive to changes in prices, low elasticity indicates little sensitivity to price changes, and no elasticity means no relationship with price. Also called price elasticity of supply.

Price elasticity of supply measures the relationship between change in quantity supplied and a change in price.The formula for price elasticity of supply is:

Percentage change in quantity supplied / Percentage change in price

Kinds Of Supply Elasticity

1. **Price elasticity of supply:**
   Price elasticity of supply measures the responsiveness of changes in quantity supplied to a change in price.
2. **Perfectly inelastic:**
   If there is no response in supply to a change in price. (Es = 0)
3. **Inelastic supply:**
   The proportionate change in supply is less than the change in price (Es =0-1)
4. **Unitary elastic:**
   The percentage change in quantity supplied equals the change in price (Es=1)
5. **Elastic:**
   The change in quantity supplied is more than the change in price (Ex= 1- ∞)
6. **Perfectly elastic:**
   Suppliers are willing to supply any amount at a given price (Es=∞) 44 The major determinants of elasticity of supply are availability of substitutes in the market and the time period, Shorter the period higher will be the elasticity.

FACTORS THAT DETERMINE ELASTICITY OF SUPPLY

The elasticity of supply depends on the following factors
The value of price elasticity of supply is positive, because an increase in price is likely to increase the quantitysupplied to the market and vice versa. The elasticity of supply depends on the following factors:

SPARE CAPACITY

How much spare capacity a firm has - if there is plenty of spare capacity, the firm should be able to increase outputquite quickly without a rise in costs and therefore supply will be elastic

STOCKS

The level of stocks or inventories - if stocks of raw materials, components and finished products are high then the firm is able to respond to a change in demand quickly by supplying these stocks onto the market - supply will be elastic

EASE OF FACTOR SUBSTITUTION

Consider the sudden and dramatic increase in demand for petrol canisters during the recent fuel shortage. Could manufacturers of cool-boxes or producers of other types of canister have switched their production processes quickly and easily to meet the high demand for fuel containers?

If capital and labour resources are occupationally mobile then the elasticity of supply for a product is likely to be higher than if capital equipment and labour cannot easily be switched and the production process is fairly inflexible in response to changes in the pattern of demand for goods and services.

TIME PERIOD

Supply is likely to be more elastic, the longer the time period a firm has to adjust its production. In the short run, the firm may not be able to change its factor inputs. In some agricultural industries the supply is fixed and determined by planting decisions made months before, and climatic conditions, which affect the production, yield.

Economists sometimes refer to the momentary time period - a time period that is short enough for supply to be fixed i.e. supply cannot respond at all to a change in demand.

Module-III

A production function is a function that specifies the output of a firm, an industry, or an entire economy for all combinations of inputs. This function is an assumed technological relationship, based on the current state of engineering.

CONCEPT OF PRODUCTION FUNCTION

The production function relates the output of a firm to the amount of inputs, typically capital and

labor

In a general mathematical form, a production function can be expressed as:

Q = f(X1,X2,X3,...,Xn)

where:

Q = quantity of output

X1,X2,X3,...,Xn = quantities of factor inputs (such as capital, labour, land or raw materials). This general form does not encompass joint production; that is a production process that has multiple co-products or outputs

COBB-DOUGLAS PRODUCTION FUNCTION

A standard production function which is applied to describe much output two inputs into a production process make. It is used commonly in both macro and micro examples.

For capital K, labor input L, and constants a, b, and c, the Cobb-Douglas production function is: f(k,n) = bkanc
If a+c=1 this production function has constant returns to scale. (Equivalently, in mathematical language, it wouldthen be linearly homogenous.) This is a standard case and one often writes (1-a) in place of c. Log-linearization simplifies the function, meaning just that taking logs of both sides of a Cobb-Douglass function gives one better separation of the components.

In the Cobb-Douglass function the elasticity of substitution between capital and labor is 1 for all values of capitaland labor

STAGES IN PRODUCTION FUNCTION

To simplify the interpretation of a production function, it is common to divide its range into 3 stages. In Stage 1 (from the origin to point B) the variable input is being used with increasing output per unit, the latter reaching a maximum at point B (since the average physical product is at its maximum at that point). Because the output per unit of the variable input is improving throughout stage 1, a price-taking firm will always operate beyond thisstage.

In Stage 2, output increases at a decreasing rate, and the average and marginal physical product are declining. However the average product of fixed inputs (not shown) is still rising, because output is rising while fixed input usage is constant. In this stage, the employment of additional variable inputs increases the output per unit of fixed input but decreases the output per unit of the variable input. The optimum input/output combination for the price- taking firm will be in stage 2, although a firm facing a downward-sloped demand curve might find it most profitable to operate in Stage 1. In Stage 3, too much variable input is being used relative to the available fixed inputs: variable inputs are over-utilized in the sense that their presence on the margin obstructs the production process rather than enhancing it. The output per unit of both the fixed and the variable input declines throughout this stage. At the boundary between stage 2 and stage 3, the highest possible output is being obtained from the fixed input

RETURNS TO SCALE

Returns to scale: the change in percentage output resulting from a percentage change in all the factors ofproduction. They are increasing, constant and diminishing returns to scale.

Increasing returns to scale may arise: if the output of a firm increases more than in proportionate to an increase in all inputs. For example the input factors are increased by 50% but the output has doubled (100%).

Constant returns to scale: when all inputs are increased by a certain percentage the output increases by the same percentage. For example input factors are increased by 50% then the output has also increased by 50 percentages. Let us assume that a laptop consists of 50 components we call it as a set. In case the firm purchases 100 sets they can assemble 100 laptops but it is not possible to produce more than 100 units.

Diminishing returns to scale: when output increases in a smaller proportion than the increase in inputs it is known as diminishing return to scale. For example 50% increment in input factors lead to only 20% increment in the output.

It is classified into three stages; let us understand the stages in terms of returns to scale.

Stage I:

The total production increased at an increasing rate. We refer to this as increasing stage where the totalproduct, marginal product and average production are increasing.

Stage II:

The total production continues to increase but at a diminishing rate until it reaches the next stage. Marginal product, average product are declining but are positive. The total production is at the maximum level at the end of the second stage with a zero marginal product.

Stage III:

In this third stage total production declines and marginal product becomes negative. And the average production also started decline. Which implies that the change in input factors there is a decline in the over all production along with the average and marginal. Our multiplier must always be positive, and greater than 1, since we want to look at what happens when we increase production.

PRODUCTION OPTIMIZATION

Benefits

1. An accurate forecast of future cash flows and associated risks

2. Cost savings by avoiding unnecessary attention to areas that are non-critical, and improved focus on areasof higher value

3. Discovery of enhancement opportunities during the conceptual and design phase, rather than later in theproject's life-cycle, when the cost of change is considerably higher

4. Systematic identification of key technological risks for a specific concept, and setting of priorities forfurther technology development, qualification and testing (to reduce and manage these risks)

5. Improved insight into technical and managerial issues that may cause critical failures and production losses

6. A road map on how to improve production capacities and production availability based on risk and cost-benefit assessments.

Important parameters include

a. Production capacity profiles

b. Demand profiles and product prices

c. Physical asset layout and design
d. Equipment reliability performance

e. Maintenance and repair activities including spare part strategies

f. Operation and mobilisation activities.

LEAST COST INPUT:

Optimal Input Level
Given the marginal revenue product and marginal factor cost, one can compute the optimal amount of the variableinput for using it in the production process.
An economic activity should be expanded as long as the marginal benefits exceed the marginal costs. The optimal point occurs at the point where the marginal benefits are equal to the marginal costs.
$MRPx = MFCx$

Single Input System

Profit maximization requires production at a level where the marginal revenue is equal to the marginal cost. Because the only variable in the system is input L, the marginal cost of productionis as follows:

MC =ΔTC/ΔOutputMC =PL/MPL

Since marginal revenue should be equal to the marginal cost at the profit-maximizing level,

A profit-maximizing firm always employs an input upto the point where its marginal revenue product equals itscost.

1. The firm can employ as much labor as it needs by paying workers $50 per period (the labor market is consideredperfectly competitive).
2. The firm can sell all the ore it can produce at a price of $10 per ton MRP = MFC = $50
3. In a case of less than six workers, MRP > MFC and the addition of more workers will increase revenue. Beyondsix, the opposite is true.

The Production Function with Two Variable Inputs

In the ore-mining example, assume that both capital and labor are now variable.

1. Production Isoquant

A production isoquant is either a geometric curve or an algebraic function representing all the various combinations of the two inputs that can be used in producing a given level of output. It can also be defined as a curve (a locus of points) showing all possible combinations of inputs physically capable of producing a given fixedlevel of output.

2. Marginal Rate of Technical Substitution

It is the rate at which one input may be substituted for another input in the production process. It can also be defined as the rate at which one input is substituted for another along an isoquant. The rate of change of one variable with respect to another variable is given by the slope of a curve relating the two variables. Thus, the rate of change of input Y with respect to X, i.e. the rate at which Y may be substituted for X in the production process is given by the slope of the curve relating Y to X. This is the slope of the isoquant.

Since the slope is negative and one wishes to express the substitution rate as a positive quantity, a negative sign isattached to the slope.

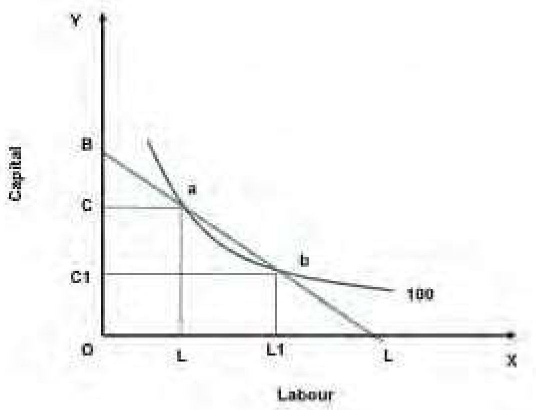
MRTS =Y1 - Y2/X1 - X2= ΔY/ ΔX

OQUANT

In economics, an isoquant (derived from quantity and the Greek word iso, meaning equal) is a contour line drawn through the set of points at which the same quantity of output is produced while changing the quantities of two or more inputs. While an indifference curve mapping helps to solve the utility- maximizing problem of consumers, the isoquant mapping deals with the cost-minimization problem of producers. Isoquants are typically drawn on capital-labor graphs, showing the technological tradeoff between capital and labor in the production function, and the decreasing marginal returns of both inputs. Adding one input while holding the other constant eventually leads to decreasing marginal output, and this is reflected in the shape of the isoquant. A family of isoquants can be represented by an isoquant map, a graph combining a number of isoquants, each representing a different quantity of output. Isoquants are also called equal product curves.

An isoquant shows the extent to which the firm in question has the ability to substitute between the two different inputs at will in order to produce the same level of output. An isoquant map can also indicate decreasing or increasing returns to scale based on increasing or decreasing distances between the isoquant pairs of fixed output increment, as you increase output. If the distance between those isoquants increases as output increases, the firm's production function is exhibiting decreasing returns to scale; doubling both inputs will result in placement on an isoquant with less than double the output of the previous isoquant. Conversely, if the distance is decreasing as output increases, the firm is experiencing increasing returns to scale; doubling both inputs results in placement on an isoquant with more than twice the output of the original isoquant.

As with indifference curves, two isoquants can never cross. Also, every possible combination of inputs is on an isoquant. Finally, any combination of inputs above or to the right of an isoquant results in more output than any point on the isoquant. Although the marginal product of an input decreases as you increase the quantity of the input while holding all other inputs constant, the marginal product is never negative in the empirically observed range since a rational firm would never increase an input to decrease output.



MANAGERIAL USES OF PRODUCTION FUNCTION:

A detailed study of cost analysis is very useful for managerial decisions. It helps the management

1. To find the most profitable rate of operation of the firm.

2. To determine the optimum quantity of output to be produced and supplied.

3. To determine in advance the cost of business operations.

4. To locate weak points in production management to minimize costs.

5. To fix the price of the product.

6. To decide what sales channel to use.

7. To have a clear understanding of alternative plans and the right costs involved in them.

8. To have clarity about the various cost concepts.

9. To decide and determine the very existence of a firm in the production field.
10. To regulate the number of firms engaged in production.

11. To decide about the method of cost estimation or calculations.

12. To find out decision making costs by reclassifications of elements, reprising of input factors etc, so as to fitthe relevant costs into management planning, choice etc.

COST CONCEPTS:

Cost Determinants

The cost of production of goods and services depends on various input factors used by the organization and itdiffers from firm to firm. The major cost determinants are:

1. **Level of output:** The cost of production varies according to the quantum of output. If the size of production islarge then the cost of production will also be more.

2. **Price of input factors**: A rise in the cost of input factors will increase the total cost of production.

3. **Productivities of factors of production:** When the productivity of the input factors is high then the cost ofproduction will fall.

4. **Size of plant:** The cost of production will be low in large plants due to mass production with mechanization.

5. **Output stability:** The overall cost of production is low when the output is stable over a period of time.

6. **Lot size:** Larger the size of production per batch then the cost of production will come down because theorganizations enjoy economies of scale.

7. **Laws of returns:** The cost of production will increase if the law of diminishing returns applies in the firm.

8. **Levels of capacity utilization:** Higher the capacity utilization, lower the cost of production.

9. **Time period:** In the long run cost of production will be stable.

10. **Technology**: When the organization follows advanced technology in their process then the cost of productionwill be low.

3.7 COST CONCEPTS:

1. Money Cost and Real Cost

When cost is expressed in terms of money, it is called as money cost. It relates to money outlays by a firm on various factor inputs to produce a commodity. In a monetary economy, all kinds of cost estimations and calculations are made in terms of money only.

.Hence, the knowledge of money cost is of great importance in economics. Exact measurement of money cost ispossible.

When cost is expressed in terms of physical or mental efforts put in by a person in the making of a product, it is called as real cost. It refers to the physical, mental or psychological efforts, the exertions, sacrifices, the pains, the discomforts, displeasures and inconveniences which various members of the society have to undergo to produce a commodity. It is a subjective and relative concept and hence exact measurement is not possible.

2. Implicit or Imputed Costs and Explicit Costs

Explicit costs are those costs which are in the nature of contractual payments and are paid by an entrepreneur to the factors of production [excluding himself] in the form of rent, wages, interest and profits, utilityexpenses, and payments for raw materials etc. They can be estimated and calculated exactly and recorded in the books of accounts. Implicit or imputed costs are implied costs. They do not take the form of cash outlays and as such do not appear in the books of accounts. *They are the earnings of owner employed resources.*

3. Actual costs and Opportunity Costs

Actual costs are also called as outlay costs, absolute costs and acquisition costs. They are those costs that involve financial expenditures at some time and hence are recorded in the books of accounts. *They are the actual expenses incurred for producing or acquiring a commodity or service by a firm.* For example, wages paid to workers, expenses on raw materials, power, fuel and other types of inputs. They can be exactly calculated and accounted without any difficulty.

Opportunity cost of a good or service is measured in terms of revenue which could have been earned by employing that good or service in some other alternative uses.

4. Direct costs and indirect costs

Direct costs are those costs which can be specifically attributed to a particular product, a department, or a process of production. For example, expenses on raw materials, fuel, wages to workers, salary to a divisional manager etc are direct costs. On the other hand, indirect costs are those costs, which are not traceable to any one unit of operation. They cannot be attributed to a product, a department or a process.

For example, expenses incurred on electricity bill, water bill, telephone bill, administrative expenses etc.

5. Past and future costs.

Past costs are those costs which are spent in the previous periods. On the other hand, future costs are those which are to be spent. in the future. Past helps in taking decisions for future.

6. Marginal and Incremental costs

Marginal cost refers to the cost incurred on the production of another or one more unit.
It implies additional cost incurred to produce an additional unit of output It has nothing to do with fixed cost and is always associated with variable cost. Incremental cost on the other hand refers to the costs involved in the production of a batch or group of output. They are the added costs due to a change in the level or nature of business activity.

For example, cost involved in the setting up of a new sales depot in another city or cost involved in the production of another 100 extra units.

7. Fixed costs and variable costs.

Fixed costs are those costs which do not vary with either expansion or contraction in output. They remain constant irrespective of the level of output. They are positive even if there is no production. They are also called as supplementary or over head costs.

On the other hand, *variable costs are those costs which directly and proportionately increase or decreasewith the level of output produced*. They are also called as prime costs or direct costs.

8. Accounting costs and economic costs.

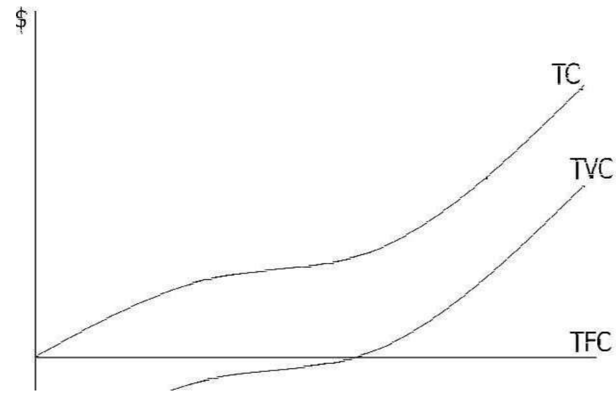
Accounting costs are those costs which are already incurred on the production of a particular commodity. It includes only the acquisition costs. They are the actual costs involved in the making of a commodity. On the otherhand, *economic costs are those costs that are to be incurred by an entrepreneur on various alternative programs.* It involves the application of opportunity costs in decision making.

SHORT RUN AND LONG RUN COST CURVES

Short-run cost curves are normally based on a production function with one variable factor of production that displays first increasing and then decreasing marginal productivity. Increasing marginal productivity is associated with the negatively sloped portion of the marginal cost curve, while decreasing marginal productivity is associated with the positively sloped portion. The average fixed cost (AFC) curve is the costof the fixed factor of production divided by the quantity of units of the output,

While the average variable cost (AVC) curve cost traces out the per unit cost of variable factor of production. The U-shaped average total cost (ATC) curve is derived by adding the average fixed and variable costs. The marginal cost (MC) intersects both the AVC and ATC curves at their minimum points. Declining average total costs are explained as the result of spreading the fixed costs over greater quantities and, at low quantities, the result of the increasing marginal productivity, in addition. Increasing average costs occur when the effect of declining marginal productivity overwhelms the effect of spreading the fixed costs.

The long-run cost curves, usually presented in a separate diagram, are also expressed most commonly in their average, or per unit, form, represented here in Figure 2. The long-run average cost (LRAC) curve isshown to be an envelope of the short-run average cost (SRAC) curves, lying everywhere below or tangent tothe short-run curves. The firm is constrained in the shortrun in selecting the optimal mix of factors ofproduction and so will never be able to find a cheaper mix than can be found in the long-run when there are no constraints. If there are a discrete number of plant sizes available, the LRAC will be the scalloped curve obtained by joining those parts of the



ESTIMATION OF COST:

Cost Calculations
Using the above abbreviations and Q for the quantity of output:ATC = TC/Q
AFC = TFC/Q AVC = TVC/Q
MC = change in TC/change in Q

Example: Let's suppose you are making 50 bottles of wine each week. You know that your fixed costs add up to \$300, and your variable costs amount to \$900. You also know that if you were to make extra 5 bottles, your total cost would rise by \$60. What is your total cost; average total cost; average total cost; average variable cost; average fixed cost;and marginal cost?
Answer: Total cost = \$300 + \$900 = \$1200ATC = \$1200/50 = \$24
AVC = \$900/50 = \$18AFC = \$300/50 = \$6 MC = \$60/5 = \$12

Module –IV

PRICE:

The price of a product or service is the number ofmonetary units a customer has to pay to receiveone unit of thatproduct or service‘ (Simon 1989).

This was the traditional definition, but in the1990s a broader interpretation of the priceconcept becamecustomary. Illustrative of this

broader view is Hutt and Speh‘s observation that_the cost of an industrial good includes muchmore than the seller‘s price‘ (Hutt and Speh 1998)

PRICING:

Pricing is the process of determining what a company will receive in exchange for its products. Pricing factors are manufacturing cost, market place, competition, market condition, and quality of product. Pricing is also a key variable in microeconomic price allocation theory. Pricing is a fundamental aspect of financial modeling and is oneof the four Ps of the marketing mix. The other three aspects are product, promotion, and place. Price is the only revenue generating element amongst the four Ps, the rest being cost centers.

Pricing is the manual or automatic process of applying prices to purchase and sales orders, based on factors such as: a fixed amount, quantity break, promotion or sales campaign, specific vendor quote, price prevailing on entry, shipment or invoice date, combination of multiple orders or lines, and many others. Automated systems require more setup and maintenance but may prevent pricing errors. The needs of the consumer can be converted into demand only if the consumer has the willingness and capacity to buy the product. Thus pricing is very importantin marketing.

PRICING UNDER DIFFERENT OBJECTIVES AND DIFFERENT MARKET STRUCTURESPerfect Competition

Economists in general recognize four major types of market structures (plus a larger

number of subtypes):
- Perfect Competition
- Monopoly
- Oligopoly
- Monopolistic competition

Perfect Competition

where "p" stands for perfect, pure or price, whichever you may like.

A p-competitive structure is defined by four characteristics. For an industry to have a pcompetitive structure, it must have all four of these characteristics, which are as follows:
- Many buyers and sellers
- A homogenous product
- Sufficient knowledge
- Free entry

These all are characteristics that favor price competition.

Many Buyers and Sellers

The idea is that the sellers and buyers are small relative to the size of the market, so thatno one of them can "fix the price." If there are "many small sellers," it makes it much harder for any seller or group of sellers to "rig the price." Similarly, if there are "many small buyers," there is little opportunity for buyers to "rig the price" in their own favor. **Homogeneity**

If the product (or service) of one seller differed significantly from that of another seller, then each seller would probably be able to retain at least some of the customers, even at a very high price. These would be the customers who just prefer this seller's product (or service) to that of someone else. The assumption of homogenous productsserves to rule that out.

Knowledge

Some versions of the "perfectly competitive" structure include "perfect knowledge" as one of its characteristics. But, of course, "perfect knowledge" never exists in reality.

Perfect information is little less clear than the other assumptions-- we can hardly assumethat people know everything there is to know.

Free Entry

Free entry means that new companies can set up in business to compete with establishedcompanies whenever the new competitors feel that the profits are high enough to justify the investment. This is, first and foremost, a legal condition. That is, in a "perfectly competitive" market, there are no government restrictions on the entry of new competition.

Let us sum up the four characteristics of p-competition:

1. Many small sellers-- The more the sellers, the more substitutes the consumer has.
2. Homogenous products-- When the product is homogenous, then the substitutes are "perfect substitutes."
3. Sufficient knowledge-- When customers know the prices offered by other sellers, theywill be better able to switch, increasing elasticity further.
4. Free entry-- In the long run, companies may even enter the market to provide still more substitutes.

Other Market Forms

The other three market structure models can be defined in terms of the ways in whichthey deviate from the characteristics of p-competition.

In a "monopoly," there is just one seller of a good or service for which there is no closesubstitute.

In an “oligopoly,” there are two or more, but only a few firms.

In “monopolistic competition,” the products are not homogenous but are "differentiated."We do not have a standard model for "insufficient knowledge," but, at least in some cases, that seems to work similarly to "product differentiation."

Market Structure	Seller Entry Barriers	Seller Number	Buyer Entry Barriers	Buyer Number
Perfect Competition	No	Many	No	Many
Monopolistic competition	No	Many	No	Many
Oligopoly	Yes	Few	No	Many
Oligopsony	No	Many	Yes	Few
Monopoly	Yes	One	No	Many
Monopsony	No	Many	Yes	One

The correct sequence of the market structure from most to least competitive is perfect competition, imperfectcompetition,oligopoly, and pure monopoly.

The main criteria by which one can distinguish between different market structures are: the number and size of producers and consumers in the market, the type of goods and services being traded, and the degree to which information can flow freely.

PRICE DISCRIMINATION.

- **Price discrimination** occurs when a firm charges a different price from different groups of consumers for anidentical good or service, for reasons not associated with costs.

Objectives of Price Discrimination:

- Firms will be able to increase revenue. This will enable some firms to stay in business which otherwise would have made a loss.
- Increased revenues can be used for research and development which benefit consumers
- Some consumers will benefit from lower fares. Eg.old people benefit from lower train companies,old people are more likely to be poor
- The other objective to the consumer of price discrimination are – price discrimination is likely to increase

output and make the good or service available to more people and the increased competition in the market leads tolower prices and more choice.

Types of Price Discrimination:

First degree price discrimination:

- In first degree price discrimination, price varies by customer's willingness or ability to pay.
- This arises from the fact that the value of goods is subjective.

Second degree price discrimination:

- In second degree price discrimination, price varies according to quantitysold. Larger quantities are available at a lower unit price.

Peak and Off-Peak Pricing:

- Peak and off-peak pricing are common in the telecommunications industry, leisure retailing and in the travelsector.
- Telephone and electricity companies separate markets by time: There are three rates for telephone calls: adaytime peak rate, and an off peak evening rate and a cheaper weekend rate.

Third degree price discrimination:

- In third degree price discrimination, price varies by attributes such as location or by customer segment, or in themost extreme case, by the individual customer's identity.

Disadvantages of Price Discrimination:

1. Some consumers will end up paying higher prices.
2. Those who pay higher prices may not be the poorest

5.4 PRICING METHODS IN PRACTICE:

Pricing policies are the decisions by a company determining prices to be charged for its products. There are a number of different pricing policies or strategies which a firm may adopt in order to achieve its pricing objectives.

i. **Skim pricing**:

- It uses high prices to obtain a high profit and quick recovery of the development costs in the early stages of a product‟s life before competition intensities.

ii. **Penetration pricing**:

- Is the use of lower than normal prices to increase market share. It is also useful to establish a new product in a market which is expected to have a long-life and potential for growth.

iii. **Mixed pricing:**

- It is a policy which initially uses skim pricing and then, as competition increases, price cutting, sometimes even below cost, to penetrate the market, increases market share and eliminate competition.

iv. **Destructive pricing**:

- It involves reducing the price of an existing product or selling a new product at an artificially low price in order to destroy competitor‟s sales.

v. **Differential or discrimination pricing**:

- It is the use of different prices for the same product when it is sold in different locations or market segments.

the additional

- Whilst small buyers or those located in remote areas may be charged a higher price to cover distribution costs.

vi. Absorption pricing:

- It involves the use of lower than normal prices ether to launch a new product or to periodically boost the sales of existing products.

vii. **Marginal cost pricing**:

- It is something used when a firm has some spare capacity which it wishes to use without diverting a way from its regular business.
- Essentially, a firm incurs fixed costs such as rent, whether or not it is operating at full capacity.

viii. **Negotiable pricing**:

- It is common in industrial markets.

- The price is individually calculated to take account of costs, demand and any specific customer requirement.

ix. **Single pricing**:

- It involves a policy of charging one price to everyone. Examples include standard bus fares, prices of books etc.

x. **Market pricing**:

- It is determined by the interaction of demand and supply.
- The seller has little control over the price in this situation which is likely to fluctuate daily.

xi. **Sealed-bid pricing**:

- It is widely used in government, public sector and other private markets where suppliers are invited to tender(offer a fixed price) for the supply of specified goods or services.

Module –V
FINANCIAL ACCOUNTING (ELEMENTARY TREATMENT)

Balance Sheet and related concepts – Profit & Loss Statement and related concepts – Financial Ration Analysis – Cash flow analysis – Funds flow analysis – Comparative financial statements – Analysis & Interpretation of Financial statements. Investments – Risks and return evaluation of investment decision –m Average rate of return – Payback period – Net present Value – Internal rate of return

Introduction to the profit and loss account

Richard Bowett introduces the important concept of the profit and loss account:

Introduction - the Meaning of Profit

The starting point in understanding the profit and loss account is to be clear about the meaning of "profit".

Profit is the incentive for business; without profit people wouldn't‘t bother. Profit is the reward for taking risk;generally speaking high risk = high reward (or loss if it goes wrong) and low risk = low reward. People won‘t take risks without reward. All business is risky (some more than others) so no reward means no business. No business means no jobs, no salaries and no goods and services.

This is an important but simple point. It is often forgotten when people complain about excessive profits andrewards, or when there are appeals for more taxes to pay for eg more policemen on the streets.

Accounting Principles:
Principle refers to the fundamental belief (or) a general truth which are established does not change
Accounting concepts

- Business entity concept
- Money measurement/Enterprise concepts
- Going concern/ continuity concept
- Cost concepts
- Dual aspects of Concepts
- A/c ing Period concepts
- Revenue
- Expenditure

- Realization concept or Revenue
- Objective evidence concept
- Accrual concept

Accounting conventions

- Consistency
- Full disclosure
- Conservation
- Materiality

Parts of the Profit and Loss Account

The Profit & Loss Account aims to monitor profit. It has three parts.

1) The Trading Account.

This records the money in (revenue) and out (costs) of the business as a result of the business' _trading' ie buying and selling. This might be buying raw materials and selling finished goods; it might be buying goods wholesale and selling them retail. The figure at the end of this section is the Gross Profit.

2) The Profit and Loss Account proper

This starts with the Gross Profit and adds to it any further costs and revenues, including overheads. These further costs and revenues are from any other activities not directly related to trading. An example is incomereceived from investments.

3) The Appropriation Account. This shows how the profit is _appropriated' or divided between the threeuses mentioned above.

Uses of the Profit and Loss Account.

1) The main use is to monitor and measure profit, as discussed above. This assumes that the information recording is accurate. Significant problems can arise if the information is inaccurate, either through incompetence or deliberate fraud.

2) Once the profit(loss) has been accurately calculated, this can then be used for comparison ie judging how well

the business is doing compared to itself in the past, compared to the managers‘ plans and compared to otherbusinesses.

3) There are ways to _fix‘ accounts. Internal accounts are rarely _fixed‘, because there is little point in the managers fooling themselves (unless fraud is going on) but public accounts are routinely _fixed‘ to create a good impression out to the outside world. If you understand accounts, you can usually (not always) spot these _fixes‘ and take them out to get a true picture.

5.4 CASH FLOW STATEMENT

Complementing the balance sheet and income statement, the cash flow statement (CFS), a mandatory part of a company's financial reports since 1987, records the amounts of cash and cash equivalents entering and leaving a company. The CFS allows investors to understand how a company's operations are running, where its money is coming from, and how it is being spent. Here you will learn how the CFS is structured and how to use it as part ofyour analysis of a company.

A cash fl ow statement is one of the most important fi nancial statements for a project or business. The statement can be as simple as a one page analysis or may involve several schedules that feed information intoa central statement.

A cash fl ow statement is a listing of the fl ows of cash into and out of the business or project. Think of it as yourchecking account at the bank. Deposits are the cash infl ow and withdrawals (checks) are the cash outfl ows. Thebalance in your checking account is your net cash fl ow at a specifi c point in time.

The Structure of the CFS

The cash flow statement is distinct from the income statement and balance sheet because it does not include the amount of future incoming and outgoing cash that has been recorded on credit. Therefore, cash is not the same asnet income, which, on the income statement and balance sheet, includes cash sales and sales made on credit. (To learn more about the credit crisis, read Liquidity And Toxicity: Will TARP Fix The Financial System?)

Cash flow is determined by looking at three components by which cash enters and leaves a company: coreoperations, investing and financing,

Operations

Measuring the cash inflows and outflows caused by core business operations, the operations component of cash flow reflects how much cash is generated from a company's products or services. Generally, changes made in cash, accounts receivable, depreciation, inventory and accounts payableare reflected in cash from operations.

Cash flow is calculated by making certain adjustments to net income by adding or subtracting differences in revenue, expenses and credit transactions (appearing on the balance sheet and income statement) resulting fromtransactions that occur from one period to the next. These adjustments are made because non-cash items are calculated into net income (income statement) and total assets and liabilities (balance sheet). So, because not all transactions involve actual cash items, many items have to be re-evaluated when calculating cash flow from operations.

For example, depreciation is not really a cash expense; it is an amount that is deducted from the total value of anasset that has previously been accounted for. That is why it is added back into net sales for calculating cash flow. The only time income from an asset is accounted for in CFS calculations is when the asset is sold.

Changes in accounts receivable on the balance sheet from one accounting period to the next must also be reflected in cash flow. If accounts receivable decreases, this implies that more cash has entered the company from customerspaying off their credit accounts - the amount by which AR has decreased is then added to net sales. If accounts receivable increase from one accounting period to the next, the amount of the increase must be deducted from net sales because, although the amounts represented in AR are revenue, they are not cash.

An increase in inventory, on the other hand, signals that a company has spent more money to purchase more raw materials. If the inventory was paid with cash, the increase in the value of inventory is deducted from net sales. A decrease in inventory would be added to net sales. If inventory was purchased on credit, an increase in accounts payable would occur on the balance sheet, and the amount of the increase from one year to the other would be added to net sales.

The same logic holds true for taxes payable, salaries payable and prepaid insurance. If something has been paid off, then the difference in the value owed from one year to the next has to be subtracted from net income. If thereis an amount that is still owed, then any differences will have to be added to net earnings.

Investing

Changes in equipment, assets or investments relate to cash from investing. Usually cash changes from investingare a "cash out" item, because cash is used to buy new equipment, buildings or short-term assets such as marketable securities. However, when a company divests of an asset, the transaction is considered "cash in" forcalculating cash from investing.

Financing

Changes in debt, loans or dividends are accounted for in cash from financing. Changes in cash from financing are "cash in" when capital is raised, and they're "cash out" when dividends are paid. Thus, if a company issues a bond to the public, the company receives cash financing; however, when interest is paid to bondholders, the company is reducing its cash.

Analyzing an Example of a CFS

Cash Flow Statement
Company XYZ
FY Ended 31 Dec 2003

all figures in USD

Cash Flow From Operations		
Net Earnings		2,000,000
Additions to Cash		
Depreciation		10,000
Decrease in Accounts Receivable		15,000
Increase in Accounts Payable		15,000
Increase in Taxes Payable		2,000
Subtractions From Cash		
Increase in Inventory		(30,000)
Net Cash from Operations		2,012,000
Cash Flow From Investing		
Equipment		(500,000)
Cash Flow From Financing		
Notes Payable		10,000
Cash Flow for FY Ended 31 Dec 2003		**1,522,000**

5.0 FINANCIAL STATEMENT ANALYSIS

MEANING

‖Tearing apart‖ the financial statements and looking at the relationships

Who analyzes financial statements?

Internal users (i.e., management) External users (emphasis of chapter)
METHODS OF FINANCIAL STATEMENTS ANALYSIS

Horizontal Analysis Vertical Analysis Common-Size StatementsTrend Percentages
Ratio Analysis

HORIZONTAL ANALYSIS(COMPARATIVE STATEMENTS)

Using comparative financial statements to calculate dollar or percentage changes in afinancial

Statement item from one period to the next.

CLOVER CORPORATION

Compa ra tive Ba la nce She e tsDe ce mbe r 31, 1999 a nd 1998

Increase (Decrease)

	19 99	199 8	Amou nt
Asse ts			
Curre nt a sse ts:			
Ca sh	12, 00 0	23, 500	
Accounts re ce iva ble , ne t	60,000	40,00 0	
Inve ntory	80,000	1,00,0 00	
Pre pa id e x pe nse s	3,000	1,200	
Tota l curre nt a sse ts	1,55,00 0	1,64,7 00	
Prope rty a nd e quipme nt:			
La nd	40,000	40,00 0	
Buildings a nd e quipme nt, ne t	1,20,00 0	85,00 0	
Tota l prope rty a nd e quipme nt	1,60,00 0	1,25,0 00	
Tota l a sse ts	3,1 5,0 00	2,8 9,7 00	

CLOVER CORPORATION

Comparative Balance Sheets

35

December 31, 1999 and 1998

VERTICAL ANALYSIS (COMMON SIZE STATEMENTS)

For a single financial statement, each item

is expressed as a percentage of a significant total,

e.g., all income statement items are expressed as a percentage of sale

ER CORPORATION

Comparative Income Statement s

For the Years Ended December 31, 1999 and 1998

Increase (Decrease)

Net sales				
Cost of goods sold	**3,60,000**	**3,15,000**	**45,000**	
Gross margin	**1,60,000**	**1,65,000**	**(5,000)**	
Operating expenses	**1,28,600**	**1,26,000**	**2,600**	
Net operating income	**31,400**	**39,000**	**(7,600)**	
Interest expense	**6,400**	**7,000**	**(600)**	
Net income before taxes	**25,000**	**32,000**	**(7,000)**	

Less income taxes (30%)	**7,500**	**9,600**	**(2,100)**	
Net income				

5.3 RATIO ANALYSIS							
Expression	of logical	relationships	between			financial statement	of a single

(e.g., percentage relationship between revenue and net income)

Gross profit ratios

Net profit ratio

Operating profit ratio

Operating ratio

Specific expense ratio

Return on investment

Return of equity

Earnings per share

□ nIterest coverge ratio.

Activityratios:

Debt or turnover ratio

Debt or velocity ratio

Credit or turnover ratio

Credit or velocity ratio

Stock turnover ratio

Stock velocity ratio

Working capital turnover ratio

Fixed asset turnover ratio.

Balancesheetratios:

Current ratio

Liquidity ratio

UNIT VI
6.1 INVESTMENTS

6.3 Capital Budgeting

It is the process of making investment decision in capital expenditures. Capital expenditure defined as an expenditure the benefits of which are expected to be received more than one year. It is incurred in one point oftime and the benefits are received in different point of time in future.

- Cost of acquisition of permanent asset as land and building, plant and machinery, goodwill
- Cost of addition, expansion and improvement or alteration in fixed assets
- Cost of replacement of permanent assets

- Research and development project cost etc.

Why the capital budgeting is considered as most important decision over the others?

- The capital budgeting is the decision of long term investments, which mainly focuses the acquisition orimprovement on fixed assets.
- The capital budgeting decision is a decision of capital expenditure or long term investment or long termcommitment of funds on the fixed assets.

Principles

- Decisions are based on cash flow not accounting income
- The capital budgeting decisions are based on the cash flow forecasts instead of relying on the accounting income.these are the incremental cash flows that is additional cash flows that will occur if the project undertaken compare to if the project is not undertaken
- Timing of cash flows
- To estimate the timing of cash flows as accurately as possible.it is used the concept of time value ofmoney,the time at which the cash flows occur significantly impacts at the present value of the project.
- Financing cost should be ignored
- Cash flow should be considered
- Opportunity cost are also considered

Need and importance/Nature

(1) Large investment
- Involve large investment of funds
- Fund available is limited and the demand for funds exceeds the existing resources
- Important for firm to plan and control capital expenditure

(2) Long term commitment of funds
- Involves not only large amount of fund but also long term on permanent basis.
- It increases financial risk involved in investment decision.
- Greater the risk greater the need for planning capital expenditure.

(3) Irreversible Nature

- Capital expenditure decision are irreversible
- Once decision for acquiring permanent asset is taken, it become very difficult to dispose of these assets withoutheavy losses.

(4) Long-term effect on profitability

- Capital expenditure decision are long-term and have effect on profitability of a concern

- Not only present earning but also the future growth and profitability of the firm depends on investment decisiontaken today
- Capital budgeting is needed to avoid over investment or under investment in fixed assets.

(5) Difficulties of investment decision

- Long term investment decision are difficult to take because (i) decision extends to a series of year beyond thecurrent accounting period
- (ii) uncertainties of future
- (iii) higher degree of risk

(6) National importance

- Investment decision taken by individual concern is of national importance because it determines employment,economic activities and economic growth.

Identifying Relevant Cash Flows &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.

Identification of Various Investments Screening or Matching the Available Resources
Evaluation of Proposals

Fixing PropertyFinal Approval
Implementation

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 department 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 pay back period proposal, net discovered present value method, accounting rate of return and risk analysis.

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,

(a) Profitability,
(b) Economic
(c) Financial

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.

7. **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.

Evaluation Of Investment Proposals Traditional methods or Non-Discounted method8.2.1Net Present Value method
Internal Rate of Return method

Rate of return method or accounting method

Time-adjusted method or discounted methods

(i) Net Present Value method

(ii) Internal Rate of Return method

(iii)Profitability Index method

Pay-back period method

This method represent the period in which total investment in permanent asset pays back itself. It measure the period of time for the original cost of a project to be recovered from the additional earning of a project itself.

Investment are ranked according to the length of the payback period, investment with shorter paybackperiod is preferred.

How the payback period is calculated?

The payback period is ascertained in the following manner

- Calculate annual net earnings(profit) before depreciation and after taxes, these are called annual cashinflow
- Divide the initial outlay(cost) of the project by the annual cash inflow, where the project generates constantannual cash inflow

Payback period = cash outlay of the project or original cost of the asset
Annual cash inflows

- Where the annual cash inflows (profit before depreciation and after taxes) are unequal the payback period is foundby adding up the cash inflows until the total is equal to the initial cash outlay of the project.

Selection criterion

Lesser the pay back period is better for acceptance of the project

Improvement of Traditional Appraoch To Payback Period:PPPI =

Post payback profitability = Annual cash inflow (estimated life-payback period)

$$\frac{post\ pay\ back\ profit}{investment} \times 100$$

Payback Reciprocal Method

Payback Reciprocal method = $\frac{Annual\ csh\ inflow\ (or)\ Total\ investment}{Cash\ outlay\ of\ project} = \frac{10000}{50000} = 0.2$

Discounted payback period : - (time value of money in consider)Merits

- ❖ It is a simple method to calculate and understand
- ❖ It is a method in terms of years for easier appraisal

Demerits

- It is a method rigid
- It has completely discarded the principle of time value of money
- It has not given any due weight age to cash inflows after the payback period
- It has sidelined the profitability of the project.

Average Rate of Return method (ARR)

This method takes in to account the earnings expected from the investment over their whole life. It isknown as accounting rate of return.
The project which gives the higher rate of return is selected when compared to one with lower rate of
return.

Selection criterion of the projects:

Highest rate of return of the project only is given appropriate weightage.

The Accounting rate of return can be computed as follows

$$\text{Accounting Rate of Return (ARR)}= \frac{\text{Annual Return}}{\text{Original Investment}}\times 100$$

$$\text{Accounting Rate of Return (ARR)}= \frac{\text{Average Annual Return}}{\text{Average Investment}}\times 100$$

Average annual return= Average profit after depreciation and taxation of the entire life of project i.e. for many number of years

$$\text{Average Investment} = \frac{\text{Opening Investment} + \text{Closing Investment}}{2}$$

$$= \frac{\text{Opening Investment} - \text{Scrap}}{2}$$

.

Merits

- It is simple method to compute the rate of return
- Average return is calculated from the total earnings of the enterprise through out the life of the firm
- The entire rate of return is being computed on the basis of the available accounting data

Demerits

- Under this method, the rate of return is calculated on the basis of profits extracted from the books but not on thebasis of cash inflows
- The time value of money is not considered
- It does not consider the life period of the project
- The accounting profits are different from one concept to another which leads to greater confusion in determiningthe accounting rate of return of the projects

Net present value method(NPV)

It is a modern method of evaluating investment proposals. It takes into consideration time value of moneyand calculates the return on investment by introducing the factor of time element.

- First determine the rate of interest that should be selected as the minimum required rate of return
- Compute the present value of total investment outlay
- Compute the present value of total cash inflows
- Calculate Net Present Value by subtracting the present value of cash inflow by present value of cashoutflow.
- NPV = is positive or zero the project is accepted
- NPV= is negative then reject the proposal
- In order for ranking the project the first preference is given to project having maximum positive net presentvalue

NPV= Present value of cash inflow – present value of cash outflow/Initial investmentSelection criterion of Net present value method

Initial Outlay <Present value of Benefits=> +ve NPV:- Project can be accepted

Initial Outlay> Present value of Benefits<= -ve NPV:-Project can be rejected

Internal Rate of Return Method (IRR)

Under the internal rate of return method, the cash flows of a project are discounted at a suitable rate by hitand trial method, which equates the net present value so calculated to the amount of investment.

- Determine the future net cash flows during the entire economic life of the project. The cash inflows areestimated for future profits before depreciation but after taxes
- Determine the rate of discount at which the value of cash inflow is equal to the present value of cashoutflows
- Accept the proposal if the internal rate of return is higher than or equal to the cost of capital or cut off rate.
- In case of alternative proposals select the proposal with the highest rate of return.

Profitability index method or Benefit cost Ratio (P.I)

It is also called Benefit cost ratio is the relationship between present value of cash inflow and present valueof cash outflow

PI (Gross) = present value of cash inflows

~~Present value of cash ou~~tflows/ Initial InvestmentPI (net) = NPV (Net Present Value)

Initial investment

The proposal is accepted if the profitability index is more than one and is rejected the profitability index is lessthan one
The various projects are ranked; the project with higher profitability index is ranked higher than other.

Profitability Index Method (or) Benefit cost Ratio: -

$$PI = \frac{PVCI}{PV\ of\ cash\ out\ flows}$$

h outflow.

1. Calculate the average rate of return for Projects X and Y from the following

	Project X	Project Y
Investments	Rs.40,000	Rs.60,000
Expected Life	4 years	5 years

Projected net income (after interest, depreciation and taxes)

Year	Project X Rs	Project Y Rs
1.	4,000	6,000
2.	3,000	6,000
3.	3,000	4,000
4.	2,000	2,000
5.	——-	2,000
	12,000	20,000

- If the required rate of return is 10% which project should be undertaken?
- Average Rate of Return = Original Investment / Average Annual Income X100
- The first step is to find out the average annual income of the two different projects X and Y
- Average Annual Income Total income throughout the Project / Life of the Project
- Average Annual Income (Project X) = Rs. 12,000 / 4 years = Rs. 3,000
- Average Annual Income (Project Y) = Rs. 20,000 / 5 years = Rs. 4,000
- The next step is to find out the Average rate of return:
- Average rate of return (Project X) = Rs. 3,000 / Rs.40,000 X100 =7.5%
- Average rate of return (Project Y) = Rs.5,000/ Rs. 60,000 X 100 = 8.33%
- Both the projects are lesser than the given required rate of return. These two projects are not advisable to investonly due to lesser accounting rate of return.

2. Calculate the NPV of 2 projects and suggest which of 2 projects should be accepted assuming adiscount rate 10%

Particular	Project 'X'	Project 'Y'
Initial investment	20000	30000
Estimate life	5 yrs	5 yrs
Scrap value	1000	2000

The profit before dep. & Tax, cash flows are as follows

Year	**1**	**2**	**3**	**4**	**5**
Project X	5000	10000	10000	3000	2000
Project Y	20000	10000	5000	3000	2000

Solution Project 'X'

S.No.	**Cash inflow**	**PV @ 10%**	**PV of cash inflows**
1	5000	0.909	4545
2	10000	0.826	8260
3	10000	0.751	7510
4	3000	0.683	2049
5	2000	0.620	1240
6	1000 (scrap value)	0.620	620
		Total PV of cash in flows	**24224**

NPV = PV cash of inflow - PV of cash outflows

= 24224 - 20000 NPV = 4224

	120000						

Project Y

S.NO.	Cash in flow	PV@ 10%	PV of cash inflows
1	20000	0.909	18180
2	10000	0.826	8260
3	5000	0.751	3755
4	3000	0.683	2049
5	2000	0.620	1240
6	2000 (scrap value)	0.620	1240
		Total PV of cashinflows	**34724**

NPV = PV of cash inflow - PV of cash outflowsNPV = 34724 – 30000
NPV = 4724

Comment:

NPV of project y is higher than the NPV of project x. Hence, it is suggested that project y should beselected.

3. Initial outlay Rs. 50000, life of an asset 5 years Annual cash flow Rs. 12500, Calculate IRRPresent value Factor = $\frac{Initial\ outlay}{Annual\ cash\ flow} = \frac{50000}{12500} = 4$
Present value of annuity table 8 % approximatelyIRR = 8 %

Illustration

When the annual cash flows over the life of the asset. Initial investment Rs. 60000, Life of the Assets 4 years
1st year - 15000 2nd year – 200003rd year – 30000

4th year -20000 Calculate the IRR

Discount 10%				12%		14%		15%	
							P. VALUE		
							13155		
							15380		
							20220		
							11840		
							60595		

Workings:

15% = 715 (60000 – 59285)

14% = 595 (60595 – 60000)

$14 + \frac{595}{715+595} \times (15 - 14)$

$14 + \frac{595}{1310} \times (1)$

14+0.45 (1) IRR = 14.45 %

ENGINEERING ECONOMICS AND ACCOUNTING

Question Bank Part A

TWO MARK & SIXTEENMARK QUESTIONS AND ANSWERSUNIT – I

1. Define Managerial Economics

By combining the basic definition of the two terms "Manager" and "Economics" you get the definition of "managerial economics" . "Managerial Economics" is the study of directing resources in a way that itmost efficiently achieves the managerial goals.

Managerial Economics is also the application of the tools of economics analysis in decision makingin actual business situations.

2. What is meant by Micro economic analysis ?

Micro economic analysis deals with the problems of an individual firm, industry or consumer etc. It helps in dealing with issues which go on within the firm such as putting the resources available with the firm to itsbest use, allocating resources within various activities of the firm to its best use, allocating resources within various activities of the firm and also deals with being technically and economically efficient.

3. What is meant by Prescriptive approach ?

Prescriptive or normative approach tells "How things ought to be done". **4. What is meant bydescriptive approach ?**

Descriptive approach tells "how things are done".

5. Scope of Managerial Economics:

The following aspects constitute the scope of managerial economics:

1. Objectives of a business firm
2. Demand analysis and forecasting
3. Cost analysis
4. Production management
5. Supply analysis
6. Pricing decisions, policies and practices
7. Profit management
8. Capital budgeting and investment decisions
9. Decision theory under uncertainty
10. Competition

6.Give the Objectives of a business firm

The objectives of a business firm may be varied. Apart from generating profits a firm has many otherobjectives like being a market leader , being a cost leader, achieving superior efficiency, achieving superior quality, achieving superior customer responsiveness etc.

7.What is meant by Supply Analysis?

Supply analysis deals with the various aspects of supply of a commodity. Certain important aspects of supply analysis are supply schedule, curves and function, elasticity of supply, law of supply and its limitations andfactors influencing supply.

8.What is meant by Capital Budgeting ?

Capital budget is the planning of expenditure on assets.

9.Use of Engineering Economics:

Engineering economics accomplishes several objectives. It presents the aspects of traditional economicsthat are relevant for business and engineering decision making in real life.

10.Define Logistics:

It is the movement of goods from one place to the other.

11.Define Inbound Logistics:

It is the movement of raw materials to the factory premises.

12.Define Outbound logistics:

It is the movement of finished goods to wholesaler or retail outlets and to the final consumers.

13. Define Statistics:

Statistics provide the basis for empirical testing of theory. Generalizations or theory cannot be accepted forpractice unless these theories are checked against the data from the reality. This way, theories become more practical and useful in real life business situation.

14. Define Economics and define the divisions of Economics:

Economics has two divisions namely micro economics and macro economics. Micro economics is thebranch of economics where the unit of study is an individual or a firm while macro economics is branch of economics where the unit of study is aggregative in character and considers the entire economy.

15. Define Accounting:

Accounting can be defined as the recording of financial operations of an organization. Managerialdecisions on profits and sales etc. derive input largely from the accounting statement of a firm.

16. Define Managerial Economics and Mathematics:

Many of the theories in mathematics will find use in economics. Concepts such as calculus, vectors, logarithms and exponentials, determinants and matrix, algebra etc are some to name a few. Managerial economics is metrical in character. It estimates various economic relationships prediction relevant economic quantities and uses them in decision making and planning for the future. So mathematics becomes an important tool in managerial economics.

17. Define Operations research:

Operations research was developed as science during the Second World War to solve the complex operations problems of planning and resource allocation in defence and in basic industries which specifically supplied military equipments. These theories find high usage in various field of management to solve problems pertaining to logistics, both inbound and outbound and also the movement of material within the factory premisesetc.

18. Define a competitor.

The competitors of the firm are also likely to react or even pro-act to any decisions made by the firm. Competitors always try to navigate the competitive advantage gained by the firm. Thus managers will have to make wise investments in projects that will be hard to be imitated by the competition.

19.Define Decision theory under uncertainty:

Most of the business decisions taken by the managers are done under uncertainty. Uncertainties pertaining to demand, cost, price, profit, capital etc prevail most of the time when decisions are made. This makesthe whole decision making process difficult and complex. The tools used in economic analysis have been modifiedand refined so as to take into account the uncertainty and thus help decisions making in logical and scientific manner.

20.Define Profit Management:

All business firms are motivated and committed to produce profits. Profits are one of the tangible yardsticks to measure the performance of the firm and the managers concerned. It also signifies the health of thefirm. Profits are influenced by various factors such as cost of production, revenues and other factors both internaland external to the firm. Profits are hard to predict.

21.Define Pricing Decisions

A firm's profitability and success greatly depend on the pricing decisions and the pricing policies of the firm. The patronization of the firm's products by the customers, the competition faced by the product along withthe profits of the firm, largely depends on the price of the product. Pricing also depends on the environment in which the firm operates, competitions, customers etc.

22.Define Production Management:

When a manager organizes and plans the firm's production functions i.e. when he tries to convert the rawmaterials to finished product, he faces a number of economic problems. The study of 'production function' describes the input output relationship.

23.Define Cost Analysis:

One way to earn higher profits is by controlling the cost involved in producing the product. Study of costis necessary for making efficient and effective managerial decisions. If a detailed cost analysis and estimation is done, the firm can move upon effective profit management and sound pricing practices.

24.What are the Macro economic Conditions:

(a) The economy in which firms operate is predominantly a free enterprise economy.
(b) The present day economy is undergoing rapid technological and economic changes and,
(c) The government intervening in the economic affairs has increased in the recent times and is likely to go up further.

25. What are the Common points in Managerial Economics ?

1. Managerial economics deals with the decision making by managers, executives and engineers ofeconomic nature.
2. Managerial economics is goal oriented.
3. Managerial Economics is both conceptual and metrical.4.Managerial economics is pragmatic.

-

1. Discuss the nature & scope of managerial economics.**Nature of managerial economics:**

1. Applied economics theory

- Application of macro &micro economics
- Decision making
- Forward planning

2. Pragmatic

- Making decisions &actions
- Improve the decision making

3. Multidisciplinary

- Statistics
- Management
- Operational research mathematics
- Accounting psychology

4. Descriptive &prescriptive (Cause &effect relationship)Predict the outcome
5. Appliedscience

- Formulation of theoriesCause &effect relationship

Scope of managerial economics.

- Allocation of resources
- To use micro economic concepts
- Effective decision making
- Fundamental questions
- What to produce?
- How to produce
- For when to produce?
- Production &cost analyst
- Market structure
- Profit & non-profit organization

2. Briefly explain about firm& Discuss about the types of firmFirms:

It is a unit that produces a goods (or) services for a sale.

Types of firms

Private sector (owned by private people)

1. Sole proprietorship (single owner)
2. Partnership (more than one people)
3. Joint stock (companies act)
4. Cooperatives. (Voluntary organization with non-profit motives)

Public sector (owned by public people)

- Corporate board(government invests in amount)
- Corporate company(govt controls economic activities)
- Department(specific purpose related to social utility)

Joint sector (combination of private & public sector)

Discuss about the disciplines of managerial economics.

Managerial economics & Economics

- Managerial economics & theory of Decision making
- Managerial economics & Operations research
- Managerial economics& Statistics
- Managerial economics &Accounting
- Managerial economics & Computer science
- Managerial economics & Sociology

4. **Discuss about various subjects involved in managerial economics.**

- Managerial economics & Economics

- Managerial economics & theory of Decision-making
- Managerial economics & Operations research
- Managerial economics& Statistics
- Managerial economics &Accounting
- Managerial economics & Computer science
- Managerial economics &Sociology.

5. **Briefly explain about importance of Managerial Economics**

- Allocation of resources
- To use micro economic concepts
- Effective decision making
- Fundamental questions
- What to produce?
- How to produce
- For when to produce?
- Production &cost analyst
- Market structure & Profit & non -profit organization

6. **i. Briefly explain about the types of decision making.**

- Major&supplementary decisions

- Organizational &personal decisions
- Basic&routine decisions
- Programmed & non programmed decision
- Group&individual decision
- Policy&operating decision

ii. **List out the steps involved in decision making .**

Identifying the problem

↓ Analyzing the problem

↓

Developing the alternative solution to the problems

↓

Evaluating the alternatives(Qualitative & Quantitative)

↓

Deciding the best course of action(Past Experience, Experimentation &Research and analysis)

UNIT – II
DEMAND AND SUPPLY ANALYSIS

1. Define Demand.

Demand indicates the quantities of products (goods service) which the firm is willing and financially ableto purchase at various prices, holding other factors constant.

2. **Define Determinants of Demand:**

An individual's demand for a commodity depends on his desire and capability to purchase it. Apart from the desire to purchase, there are many other factors which influence the purchase of a product (demand). These areknown as demand determinants.

3. **What is meant by Tastes and preferences of Consumers:**

The change of tastes and preferences of consumers in favor of a commodity will result in a greater demandfor the commodity. The opposite also holds good i.e. if the tastes and preferences of consumer change against the commodity, the demand will suffer.

4. **What are the two kinds of Consumers expectations?**

Consumers have two kind of expectations one pertains to their future income and the second is related tothe future prices of the goods and its related goods.

5. **Define Advertising**

Advertisements provide information about the presence of quality products in the market and inducescustomer's to buy more. It also promotes the latest preferences of the general public to masses.

6. **Define the Law of Demand:**

The relation of price to quantity demanded / sales is known as the law of demand. Law of demandstates that the higher the price is the lower the demand is and vice versa, holding other factors as constant.

7. **Define the price quantity relation.**

This price quantity relation can be expressed as demand being a function of price

D=f(p).

8. **What Highlights of the law of demand:**

1. The relationship between price and quantity demanded is inverse.
2. Price is the independent variable and demand the dependent variable.
3. Law of demand assumes that except for price and demand, other factors remain constant.

9. **What is Demand Shift: (Change in demand)**

Factors shift the demand for a particular product either on the right side of the demand curve or tothe left side of the demand curve based on the changes in price. These factors, other than the price of a good thatinfluence demand are known as demand shifters. The shift in the demand either to the left or right is called the demand shift.

10. **What are the Exceptions to law of demand:**

1. In share markets on would have noticed that the rise in price of the shares increases, the sales of the shares while decrease in the price of the shares results in decrease of sale of the shares.
2. Some goods which act as status symbol and have a snob appeal fall under this category. Here when the price of the product rises then the appeal of the product also rises and thus the demand. Some example are diamonds and antiques.
3. Finally, ignorance on the part of the consumer may cause the consumer to buy at a higher price, especially when the rise in price is taken to mean an improvement in quality and a reduction in price

as deterioration in quality.

11. Define Individual demand :

The quantity of a product demanded by an individual purchaser at a given price is known as individualdemand.

12. Define Market demand :

The total quantity demanded by all the purchasers together is known as the market demand.

13. What are the types of Demand function

1. Consumption function
2. Product consumption function
3. Differences in regional incomes
4. Income expectation and demand

14. What are the Characteristics of demand function ?

1. The long run relationship between consumption and income is some what stable, and expenditure on consumption is usually about 85 to 90% of the income.
2. The consumption function is highly unstable in short runs and the relationship between income and consumption cannot be predicted by any mathematical formula.
3. During the periods of economic prosperity, there is an absolute increase in the expenditure on consumption, but decrease as a percentage of income during periods of depression, the consumption declines absolutely but the expenditure on the consumption increases as a percentage of income.
4. In the periods of economic recovery, the rate of increase in consumption is higher than the rate of the decline in consumption in times of recession.

15. Define Product consumption function:

This function can be defined as the relationship between the total income of the consumer and salesof particular products. It means that when there is a change in income there is a change in the demand for particular products.

16. Define Income expectations and Demand:

Expectations are related to people's estimates of the level and durability of the future economic conditions. The demand for many consumer durables (household appliances like TV, Washing machine, etc) isoften sensitive to general expectations regarding income level.

17. What are the features of advertising demand relationship ?

1. Even when there is no advertising effort done, there will be a certain amount of sales possiblefor a particular product by virtue of its presence in the market.
2. There is a direct relationship between advertising and sales. Thus when there is an increased spending on advertisements. It will bring in more sales.
3. Increase in advertisements will lead to more than proportionate increase in sales only to a point. After that any increase in advertisement will have only less than proportionate effect on sales.

18. Define Elasticity of Demand:

Elasticity of demand is defined as 'the percentage change in quantity demanded caused by one percent change in the demand determinant under consideration, while other determinants are held constant'.

19. Define demand determinant

It is the degree of change in demand to the degree of change in any of the demand determinants.

20. What are the Various Elasticities ?

1. Price elasticity of demand
2. Income elasticity of demand
3. Cross elasticity of demand
4. Promotional elasticity
5. Exportations elasticity of demand

21. Define Price Elasticity of Demand

Price elasticity of demand can be defined as “the degree of responsiveness of quantity demanded toa change in price”.

22. What are the Types of price elasticity:

1. Perfectly elastic demand
2. Absolutely inclastic demand or perfectly inelastic demand
3. Unit elasticity of demand
4. Relatively elastic demand
5. Relatively inelastic demand

23. Define Absolutely inelastic demand or perfectly inelastic demand (ep=):

Absolutely inelastic demand is where a change in price howsoever large, causes no change in the quantitydemanded of a product. Here, the shape of the demand curve is vertical.

24. Define Relatively elastic demand (ep>1):

It is where a reduction in price leads to more than proportionate change in demand. Here the shape of thedemand curve in flat.

25. What are theFactors determining price elasticity of Demand ?

The elasticity of demand depends on the following factors namely

1. Nature of the product
2. Extent of usage
3. Availability of substitutes
4. Income level of people
5. Proportion of the income spent of the product
6. Urgency of demand and
7. Durability of a product.

<u>16 MARKS</u>

1. i. Define law of demand &explain the types of demand.

According to Marshall, The amount demanded increases with a fall in price and diminishes with a rice inprice, other remaining constant.

Types of Demand

- ✓ Individual & Market demand
- ✓ Firm and Industry product
- ✓ Autonomous & Derived demand
- ✓ Demand for durable and non durable demand
- ✓ Short term and long term demand
- ✓ Joint demand and composite demand
- ✓ Direct demand and Indirect demand
- ✓ Total market and Market segment demand
- ✓ Negative demand

ii.Why does demand curve sloping Downwards ?

- **substitution effect**
- income effect
- new consumer creating demand
- price effect
- different uses

2. Write a note on elasticity of supply & it's types

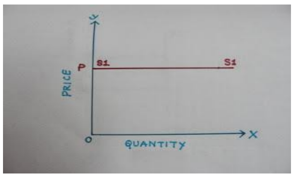
It is a measure of degree of responsiveness of supply to the change in price E(s) = Proportional change in supply

$$E(s) = \frac{\text{Proportional change in supply}}{\text{Proportional change in price}}$$

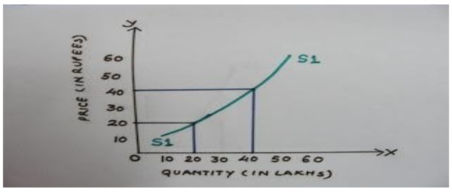
Types of Elasticity of supply

1.Completely (Perfectly) Inelastic supply: In this case the quantity supplied does not react to the changes inthe price. The increase or decrease in the price does not change the quantity supplied.

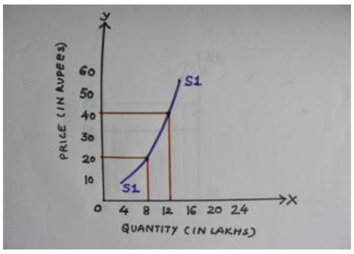
2.Completely (Perfectly) Elastic supply: When a minuscule change in price results in infinite change in the quantity supplied then it is a case of completely elastic supply. For instance when there is marginal rise in theprice, then the quantity supplied rises infinitely.



Unitary Elastic supply: When the proportionate change in quantity supplied is equal to the proportionate change in the price of the commodity then we call it as unitary or unit elasticity of supply.



4.Relatively Inelastic supply: When the percentage change in quantity supplied is less than the proportionatechange in price than it is a case of relatively inelastic supply.



3. **.Briefly explain about various factors determining the demand.**

- ✓ Price of the commodity
- ✓ Taste & Preference
- ✓ Advertisements & Sales Propaganda
- ✓ Growth of Population
- ✓ Tax rate
  - ✓ Pattern of saving Income of the consumer

- ✓ Price of related goods
- ✓ Consumer's Expectations
- ✓ Weather conditions
- ✓ Availability of credit
- ✓ Circulation of money

4. **Describe concept of demand elasticity .**
It denotes a measure of the rate at which demand changes in response to the change in prices

1. Price Elasticity of demand
2. Income Elasticity of demand
3. Cross elasticity of demand
   4. Promotional elasticity of demand1.Price Elasticity of demand

Perfectly Elastic demand (E=∞)Demand change but price does not change Perfectly Inelastic demand (E=0)

If the demand for a commodity does not change in spite of an increase or decrease in its price Unitary Elastic demand (E=1)

Change in demand is exactly proportionate to the change in price2.Income Elasticity of Demand
It is defined as the percentage change in the quantity demanded of a good divided by the percentage change inthe income of the consumer,

3. Cross elasticity of demand

A change in demand for one good in response to a change in the price of another good .

$$Ec = \frac{\Delta Qx}{\Delta Py} * \frac{Py}{Qx}$$

4. Advertising and promotional elasticity of demand

It is a measure of the responsiveness of demand for a commodity to the change in outlay on advertisementsand other promotional efforts

$$Ea = \frac{\Delta Dx}{\Delta A} * \frac{A}{Dx}$$

5. Discuss in detail about the Measurement of Price Elasticity of Demand

1. **Percentage Method**
   It measures the percentage change in the quantity of a commodity demanded resulting from a given percentagechange in its price

$$Ep = \frac{\%\ \text{change in } q}{\%\ \text{change in } P} * \frac{p}{q}$$

2. **Point Method or Geometric Method**
   It measures the elasticity of demand on different points of a demand curve. It is a variant proportionate method.

$$Ep = \frac{P.\Delta Q}{Q.\Delta P}$$

3. **Arc Method**
   segment of a demand curve between two points is called Arc.

$$Ep = \frac{\Delta Q}{Q1+Q2} + \frac{\Delta P}{P1+P2}$$

Where
ΔQ= change in quantity demanded
ΔP= Change in price of the commodityP1= Original price
P2=New Price Q1=Original quantityQ2=New quantity

4. **Total outlay Method**
   It is measured on the basis of change in total outlay or total expenditure in response to change in the priceof the commodity
   Types:
   Unitary Elasticity: Small changes in price unaffected the total outlay **Elastic demand:** Small changes in price increases the total outlay **Inelastic demand:** Small changes in price decreases the total outlay

5. **Revenue Method**
   It refers to the sale proceeds of a firm.

$$Ep = \frac{A}{A-M}$$

Where,
Ep=Stands for elasticity of demandA=Stands for average revenue M=Stands for Marginal revenue
2.Income Elasticity of Demand

It is defined as the percentage change in the quantity demanded of a good divided by the percentage change in theincome of the consumer,

Ey= ΔQ Y
______________+ _______
ΔY Q

Where,

Ey= stands for income elasticityQ=stands for quantity demandedY=stands for income

ΔQ= Gives change in quantity demanded

ΔY = Gives change in income

Types of Income Elasticity of demand

1. **High Income elasticity :** If Income increases in high and quantity demand also good increases
2. **Unitary Income elasticity:** Changes in income and quantity demanded are same
3. **Low Income elasticity:** If Income increases in low and quantity demand also good increases **4.Zero Income elasticity:** No change in quantity demanded by the changes in income **5.Negative Income elasticity:** Increase in income results in decreases in quantity demanded

3. **Cross elasticity of demand**

A change in demand for one good in response to a change in the price of another good .

Ec= ΔQx Py
______________* _______
ΔPy Qx

Where,

Ec=stands for cross elaticity

ΔQx= changes in quantity demandedPy=original price of good y

ΔPy=small changes in price of yQx=changes in quantity demanded

Applications of cross elasticity in management

a. **In Production**
b. **Demand forecasting and pricing**
c. **In international trade and balance of payments**

4. **Advertising and promotional elasticity of demand**

It is a measure of the responsiveness of demand for a commodity to the change in outlay on advertisements andother promotional efforts

Ea= ΔDx A
______________* _______
ΔA Dx

Factors determining advertising elasticity of demand

- ✓ Type of commodity
- ✓ Market share
- ✓ Rival's reactions
- ✓ State of economy

- ✓ Effect of advertising in terms of time

6. Tools of Forecasting Techniques

1. Qualitative model

a. Delphi Technique

A systematic forecasting method that involves structured interaction among a group of experts on a subject.

The Delphi Technique typically includes at least two rounds of experts answering questions and giving justification for their answers, providing the opportunity between rounds for changes and revisions.

b. Nominal group technique

The **nominal group technique** (NGT) is a group process involving problem identification, solution generation,and decision making.

c. Marketing research method

The process or set of processes that links the consumers, customers, and end users to the marketer through information — information used to identify and define marketing opportunities and problems and improveunderstanding of marketing as a process.

d. Sales force composite method

A technique used by production managers to project the future demand for a good or service based on the total amount thateach salesperson anticipates being able to sell in their region.

2. Quanitative model

Time Series Models

Last period Method

Uses last period's actual value as a forecast

$$F_t = A_{t-1}$$

Ft = Forecast demand for period t

At-1= Actual demand in previous period

b. Simple Average Method

$$F_t = \frac{\sum_{t=1}^{n} A_t}{n} \quad \text{(OR)}$$

$$F_t = \frac{A_1+A_2+A_3+A_3+A_4+\ldots+A_n}{n}$$

Ft =Forecasted demand for period tAt= Actual demand for period t

n= Total no of periods

c. Moving average method

Uses an average of a specified number of the most recent observations, with each observation receiving a differentemphasis (weight)

$$ft = \frac{At\text{-}1 + At\text{-}2 + At\text{-}3 + At\text{-}4 + At\text{-}5 + \ldots Atn}{n}$$

Where

Ft- Forecasted demand for period t

At- Actual demand for period t

n- Total no of periods

d. Exponential smoothing method

A weighted average procedure with weights declining exponentially as data become older.

$$F_t = F_{t-1} + \alpha(A_{t-1} - F_{t-1})$$

Where

F_t – Forecasted demand for period t

F_{t-1} –forecasted demand for previous method

α- Smoothening constant

A_{t-1}- Actual demand for previous demand

e. Trend Project(Past data/ Predicting the future)

This method is a version of the linear regression technique.Y = a + bX

Where

X represents the values on the horizontal axis (time) Y represents the values on the vertical axis (demand).

2. Cause and Effect Model

a. Correlation and Regression method

Linear regression is a mathematical technique that relates one variable, called an *independent variable,* toanother, the *dependent variable,*

Y = a + bX

Y- independent variableX- Dependent variable a- the intercept

B- slope of the line

b. Econometric Method

It includes endogenous –determined within the model (controlled variables) and exogenous variable-determinedoutside the model(uncontrolled variables)

eg., Money

C. Input and output method

It helps to determine Or forecast the demand of a particular product or services.

d. End use method

It has theoretical and practical method or value. It is influenced by the technological , structural and other changes.

UNIT III

Say some of the main cost concepts.

Actual costs and opportunity costs

2) Incremental costs and sunk costs
3) Explicit costs and implicit costs
4) Past costs and future costs
5) Accounting costs and economic costs
6) Direct cost and indirect cost
7) Private costs and social costs
8) Controllable costs and non controllable costs
9) Replacement costs and original costs
10) Shutdown costs and abandonment costs
11) Urgent costs and postponable costs
12) Bussiness costs and full sosts
13) Fixed costs and variable costs
14) Short run and long run costs
15) Incremental costs and marginal costs

2. **What are actual costs and opportunity costs ?**

   Actual costs which a firm incurs for producing or acquiring a product or a service. As example for this isthe cost on raw materials, labor, rent, interest.

3. **What are incremental costs and sunk costs ?**

   Incremental cost is the additional cost due to change in the level of nature or business activity. Sunk costsare the costs that are not altered by a change in quantity produced and cannot be recovered.

4. **What are Explicit costs and implicit costs ?**

   Explicit or paid out costs are those expenses which are actually paid by the firm. Implicit costs are thetheoretical costs in the sense that they go unrecognized by the accounting system.

5. **What are past costs and future costs ?**

   Past costs are the actual costs incurred in the past are generally contained in the financial accounts. Futurecosts are costs that are expected to occur in some future period or periods.

6. **What are accounting costs and economic costs ?**

   Accounting costs are the actual outlay costs. Economic cost relate to the future,

7. **What is direct and indirect cost ?**

   Direct cost are traceable cost or assignable cost are the ones that have direct relationship with a unit of operation like a product, a process or a product, or a department of the firm. On the otherhand, indirect costs or non traceable costs or common or non assignable costs are the costs whose course cannot be easilyand definitely traced to the plant.

8. **What are private costs and social costs ?**

   Private costs are those which are actually incurred or provided for the business activity by an individual orthe business firm. Social costs on the otherhand are the total costs to the society on account of production of a good.

9. **What are controllable and non controllable costs ?**

   Controllable costs are those which are capable of being controlled or regulated by the managers ant = d itcan be used to assess the managerial efficiency in controlling the cost in his department. Non controllablecosts are those which cannot be subjected to administrative controls and supervision.

10. What are replacement costs and original costs ?

Original costs or the historical costs are the costs paid for assets such as land, building, cost of plant, equipment and materials. Replacement costs are the costs that the firm incurs if it wants to replace oracquire the same assets now.

11. What is shut down cost and abandonment cost ?

Shutdown costs are costs in which the firm incurs if it temporarily stop its operation. Abandonment costsare the costs of retiring altogether a fixed asset from use.

16) what are incremental cost and marginal cost?

Incremental cost is important when dealing with decisions where discrete alternatives are to be compared.marginal cost deals with unity unit output.

17) what are the determinants of cost?

1) level of output

2) price of inputs.

3) size of plant

4) output stability

5) production lot size

6)level of capability utilization

7) technology

8) learning effect

9) breadth of product range.

10) geographical location

18) what are the two aspects in cost output relationships?

1) cost output relationship in short run.2)cost output relationship in long run.

19) what are the terms involved in cost output relationship?

1) Average fixed cost.

2) Average variable cost.

3) Average total cost.

20) what is level of capacity utilization?

The higher the capacity utilization fixed cost per unit of output in bound to be low.

21) what is output stability?

Stability of output leads to savings in various kinds of hidden cost interruption and learning.

22) what is size of plants?

Production costs are usually lower in bigger plants than smaller plants.

23) what is cost?

Cost is the money spent on producing and selling a product to the customers.the cost of a product starts from the raw materials through production costs till selling costs include the cost in maintaining outlets.

24) what is the significance of cost in managerial decision making?

Study of costs is essential for making a choice from among the competing production plans.productiondecisions are not possible without their respective cost considerations.

25) what is price of input?

If the price of the raw materials labor,power increases then naturally the cost of production goes up.this costof productions varies directly with the prices of inputs.

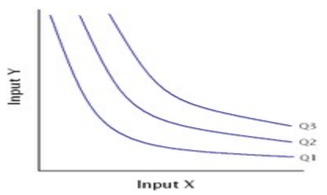
1. Briefly explain about types of production function with illustration

production function with one variable input

- Increasing return
- Negative return
- Decrasing return

production function with two variable input

- iso quants



- 2 factors of production vs capital & labour
- It slope downwards from left to right
- It can't be horizontal or vertical
- Iso quants all convex to the origin
- Never touch x axis
- Never touch y axis

production function with all variable input

- increasing return to scale
- Decreasing return to scale
- constant return to scale

- **Production function with 2 variable inputIso quant curve:**

It represent the different combination of inputs producing a particular quantity of output.

Assumption

- *Two factor of production vs capital* &labour
- Two factor can substitute each other up to a certain limit
- Shape of ISO quant depends upon the extent of substitutability of 2 inputs
- Technology is given over a period of time

Isoquant map

An isoquant map is a set of isoquants that shows the maximum attainable output from any given combination inputs.

Types of iso quantsLinear Isoquant:

This type assumes perfect substitutability of factors of production: a given commodity may beproduced by using only capital, or only labour, or by an infinite combination of K and L.

Input-Output Isoquant:

This assumes strict complement [that is, zero substitutability] of the factors of production. Theisoquant take the shape of a right angle. This type of isoquant is also called 'Leontief isoquant' after Leontief, who invented the input-output analysis.

Smooth , Convex Isoquant:

This form assumes continuous substitutability of K and L only over a certain range, beyond whichfactors cannot substitute each other. The isoquant appears as a smooth curve convex to the origin.

Long run production function with all variable (Laws of return to scale)

Return to scale refers to the relationship between changes in output and proportionatechanges in all factors of production

Assumptions

- All factors are variable
- Workers work with given tools and implementation
- Technical changes are absent
- There is perfect competition
- Product is measured in quantities.

Increasing Returns to Scale

Increasing returns to scale is closely associated with economies of scale.
It occurs when a firm increases its inputs, and a more-than-proportionate **increase in production results**
For example, in year one a firm employs 200 workers, uses 50 machines, and produces 1,000 products. In year two it employs 400 workers, uses 100 machines (inputs doubled), and produces 2,500products (output more than doubled).

Decreasing Returns to Scale

Decreasing returns to scale is closely associated with diseconomies of scale. Decreasing returns toscale happens when the firm's output rises proportionately less than its inputs rise.

For example, in year one, a firm employs 200 workers, uses 50 machines, and produces 1,000 products. In year two it employs 400 workers, uses 100 machines (inputs doubled), and produces 1,500products (output less than doubled).

Constant Returns to Scale

Constant returns to scale occurs when the firm's output rises proportionate to the increase in inputs.
Constant or same output.

2. Briefly explain about the types of cost concepts.

- Types of cost concepts

Actual costs and Opportunity Costs

- Actual costs are also called as outlay costs, absolute costs and acquisition costs.
- They are those costs that involve financial expenditures at some time and hence are recorded in the booksof accounts.
- o They are the actual expenses incurred for producing or acquiring a commodity or service by a firm.
- o For example, wages paid to workers, expenses on raw materials, power, fuel and other types of inputs.They can be exactly calculated and accounted without any difficulty.

Opportunity cost of a good or service is measured in terms of revenue which could have been earned byemploying that good or service in some other alternative uses.

Direct costs are those costs which can be specifically attributed to a particular product, a department, or a processof production.

indirect costs are those costs, which are not traceable to any one unit of operation. They cannot be attributed to aproduct, a department or a process
Explicit costs are those costs which are in the nature of contractual payments and are paid by an entrepreneur to the factors of production [excluding himself] in the form of rent, wages, interest and profits, utility expenses, andpayments for raw materials etc.
Implicit or imputed costs are implied cost.They do not take the form of cash outlays and as such do not appear inthe books of accounts. They are the earnings of owner employed resources.
Accounting costs are those costs which are already incurred on the production of a particular commodity.Itincludes only the acquisition costs.
Economic costs are those costs that are to be incurred by an entrepreneur on various alternative programs.

It involves the application of opportunity costs in decision makinii). How to estimate the cost?

- accounting concept
- engineering concept
- statistical cost

3. Explain about cost out put relation in short run &long run with neat sketch.

- Short-run cost curves are normally based on a production function with one variable factor of production that displays first increasing and then decreasing marginal productivity.Increasing marginal productivity is associated with the negatively sloped portion of the marginal cost curve, while decreasing marginalproductivity is associated with the positively sloped portion. The average fixed cost (AFC) curve is the costof the fixed factor of production divided by the quantity of units of the output, while the average variable cost (AVC) curve cost traces out
- the per unit cost of variable factor of production.The U-shaped average total cost (ATC) curve is derivedby adding the average fixed and variable costs. The marginal cost (MC) intersects both the AVC and ATC curves at their minimum points. Declining average total costs are explained as the result of spreading the fixed costs over greater quantities and, at low quantities, the result of the increasing marginal productivity, in addition. Increasing average costs occur when the effect of declining marginal productivity overwhelms the effect of spreading the fixed costs.

LONG RUN:

- The long-run cost curves, usually presented in a separate diagram, are also expressed most commonly in their average, or per unit, form, represented here in Figure 2. The long-run average
- cost (LRAC) curve is shown to be an envelope of the short-run average cost (SRAC) curves, lying everywhere below or tangent to the short-run curves.

- The firm is constrained in the shortrun in selecting the optimal mix of factors of production and so will never be able to find a cheaper mix than can be found in the long-run when there are no constraints. If thereare a discrete number of plant sizes available, the LRAC will be the scalloped curve obtained by joining those parts of the SRAC curves that represent the lowest cost of production for a given quantity.

4. **Explain in detail about Total, Average & Marginal Costs.**
   The cost concepts made use of in the cost behavior are Total cost, Average cost, andMarginal cost.
   TC=TFC+TVC
   AC=TC/Q
   Marginal Cost is the addition to the total cost due to the production of an additional unit of product.
   -If both AFC and 'AVC' fall, 'ATC' will also fall.

- 'ATC' will fall where the drop in 'AFC' is more than the raise in 'AVC'.
- 'ATC' remains constant is the drop in 'AFC' = rise in 'AVC'
- 'ATC' will rise where the drop in 'AFC' is less than the rise in 'AVC'

Long Run Costs

The long run is a planning and implementation stage for producers. They analyze the current andprojected state of the market in order to make production decisions.
Examples : changing the quantity of production, decreasing or expanding a company, and entering orleaving a market.

Estimation of costs Accounting approaches

It is classified as fixed, variable and semi variable on the basis of judgment and inspection
Fluctuation in output
Maintenance of proper accounts

Engineering Approaches

It includes the physical units of various inputs as plant size, materials etc.,Statistical Approaches
It includes

- multiple correlations
- Queuing theory
- Input and output analysis

5. **Calculate the Total, Average and Marginal Costs for the following data.**

Output (Q)	TFC	TVC	TC=TFC+TVC	AFC (TFC/Q)	AVC (TVC/Q)	AC (TC/Q)	
1	60	20	80	20	60	80	
2	60	36	96	18	30	48	
3	60	48	108	16	20	36	
4	60	64	124	16	15	31	

UNIT-IV

1) what are the two factors in pricing strategies?

1) external factors

2) internal factors

2)what are the external factors in pricing strategies?

i. The competition in the market

ii. The elasticity of supply and demand

iii. Trends of the market

iv. purchasing power of buyers.

v. government policies towards prices.

3)what are the two factors in pricing strategies?

1) The costs

2) Management policy towards the gross margin and the sales turnover

4)what are the determinants?

1) objectives of business2)competition

3)product and promotional strategies 4)Nature of price sensitivity 5)influrnce of middle men 6)Routinisation of pricing 7)Government regulation

5)What is objectives of business?

The fundamental objective of a firm is to survive in the business and then thrive.The pricing strategy adoptedby a firm is very much by these factors.

6)what is competition in pricing strategy?

To come out with a pricing policy that will be advantages to the firm,managers require a perfect understandingof the competitive environment in which the firm is placed.

7)what are product and promotional strategies?

i. product itself

ii. pricing

iii. promotion activities

iv. distribution of products through the channel to the consumer.

8)what is nature of price sensitivity?

We know that many factors contribute to the increase of price sensitivity,but managers should not ignore thefactors that minimize price sensitivity .when designing pricing strategies.

9)what is influence of middlemen?

Middlemen are the ones who stock the finished product of the manufacturer to sell it to the customers.these arealso called the channel for distribution.

10) What is routinization of price?

This strategy of pricing relies on the tried and trusted pricing strategies which the organization has followed all along. This pricing practice is often routinized but the extend varies from company to company andfrom product to product.

11) What is the government regulation in pricing?

Inorder to safeguard the interests of the public the government acts on their behalf to prevent the abuse ofthe monopolistic power and collusion among business.

12) Say some of the objectives of the pricing policy?

i. profit maximization.

ii. long term welfare of the firm.

iii. facing competition.

iv. flexibility to economic changes.

v. satisfying rate of returns.

13) What are the cost oriented pricing method?

i. cost plus pricing or full cost pricing.

ii. marginal cost pricing or incremental or direct cost pricing.iii.target pricing or rate pricing.
iv. programme pricing.

14) What are the competition oriented pricing method?

i.going rate pricing. ii.loss reader pricing.iii.customery pricing.
iv.price leadership pricing. v.trade association pricing. vi.cyclical pricing. vii.imitative pricing. viii.turnover pricing.

15) What are the praising based methods?

i.administered pricing.ii.dual pricing.
iii.price discrimination or differential pricing.

16) What are cost oriented pricing methods?

i) cost plus.

ii) marginal cost pricing.

iii) target pricing.

17) What is going rate pricing method?

In going rate pricing the emphasis is on the market situation unlike the full cost pricing where the emphasis was on costs.

18) What is leadership pricing method?

The pricing strategy is widely used in retailing buiness. Because the names has the word loss in it thispolicy may be confused with the pricing which results in losses.

19) What is customary pricing method?

In case of some products their prices get more or less. This does not happen due to deliberate action on the seller's part but it happens as the results of the product prevailing in the market for a long period of time.

20) What is price leadership method?

In any industry, out of all the firms operating industry, atleast one firm will have its cost ofproduction lower than all other firms.

21) What is trade association pricing method?

The kind of pricing arises out of an unsaid understanding agreement between the firms operating in the market.

22) What is the cycling pricing method?

The pricing method which is done to capitalize on the cycles of the season in nature and the cyclein the economy are known as cyclical pricing.

23) What is imitative pricing method?

It is very similar to the loss leader pricing method. This pricing policy is often used in retail business.

24) What is turnover pricing method?

Turnover is the word which denotes the sales of the product. The higher the turnover means higher the sales.

25) What is dual pricing method?

Usually the firms which produce essential commodities have part of their product underadministrating pricing and part of the product is solid in the free market.

26) What is price?

Price is the source of revenue for the firm and it decides the health of the firm.the customer acceptance orrejection of a product is most of the time predominantly influenced by price.

27) What are the external factors influencing the précising decision?

i.the ccompetition in the market. ii.the elasticity of supply and demand.iii.trends of the market. iv.purchasing power of buyers. v.government policies towards prices.

<u>16 MARKS</u>

1. Describe the term price discrimination with diagrammatical representation.

Price discrimination occurs when a firm charges a different price from different groups of consumersfor an identical good or service, for reasons not associated with costs.

Objectives of Price Discrimination:

- Firms will be able to increase revenue. This will enable some firms to stay in business which otherwise would have made a loss.
- Increased revenues can be used for research and development which benefit consumers
- Some consumers will benefit from lower fares. Eg.old people benefit from lower tra in comparison, old people are more likely to be poor
- The other objective to the consumer of price discrimination ~~ar~~price discrimination is likely to increase output and make the good or service available to more people and the increased competition in themarket leads to lower prices and more choice.

Types of Price Discrimination:

First degree price discrimination:

In first degree price discrimination, price varies by customer's willingness or ability to pay. This arises from the fact that the value of goods is subjective.

Second degree price discrimination:

In second degree price discrimination, price varies according to quantity sold. Larger quantities are available at a lower unit price.

Peak and Off-Peak Pricing:

Peak and off-peak pricing are common in the telecommunications industry, leisure retailing and in thetravel sector.

Telephone and electricity companies separate markets by time: There are three rates for telephone calls: adaytime peak rate, and an off peak evening rate and a cheaper weekend rate.

Third degree price discrimination:

In third degree price discrimination, price varies by attributes such as location or by customersegment, or in the most extreme case, by the individual customer's identity.

Disadvantages of Price Discrimination:

1. Some consumers will end up paying higher prices.
2. Those who pay higher prices may not be the poorest

2. Briefly explain common pricing practices in retail trade

Pricing policies are the decisions by a company determining prices to be charged for its products. There are a number of different pricing policies or strategies which a firm may adopt in order to achieve its pricing objectives.

i. **Skim pricing**:

- It uses high prices to obtain a high profit and quick recovery of the development costs in the early stages of a product‟s life before competition intensities.

ii. **Penetration pricing**:

- Is the use of lower than normal prices to increase market share. It is also useful to establish a new product in the market which is expected to have a long-life and potential for growth.

iii. **Mixed pricing:**

- It is a policy which initially uses skim pricing and then, as competition increases, price cutting, sometimes even below cost, to penetrate the market, increases market share and eliminate competition.

iv. **Destructive pricing**:

- It involves reducing the price of an existing product or selling a new product at an artificially low price in order to destroy competitor‟s sales.

v. **Differential or discrimination pricing**:

- It is the use of different prices for the same product when it is sold in different locations or market segments.
- Whilst small buyers or those located in remote areas may be charged a higher price to cover the additional distribution costs.

vi. Absorption pricing:

- It involves the use of lower than normal prices ether to launch a new product or to periodically boost the sales of existing products.

vii. **Marginal cost pricing**:

- It is something used when a firm has some spare capacity which it wishes to use without diverting a way from its regular business.
- Essentially, a firm incurs fixed costs such as rent, whether or not it is operating at full capacity.

viii. **Negotiable pricing**:

- It is common in industrial markets.
- The price is individually calculated to take account of costs, demand and any specific customer requirement.

ix. **Single pricing**:

- It involves a policy of charging one price to everyone. Examples include standard bus fares, prices of books etc.

x. **Market pricing**:

- It is determined by the interaction of demand and supply.
- The seller has little control over the price in this situation which is likely to fluctuate daily.

xi. **Sealed-bid pricing**:

- It is widely used in government, public sector and private markets, where suppliers are invited to tender(offer a fixed price) for the supply of specified goods or services.

3. Enumerate in detail about the cost based Pricing Methods in Practice

- Cost Oriented Pricing
- Competition oriented Pricing
- Pricing based on other economic economic conditions

Cost Oriented Pricing

1. Full cost Pricing

P = Direct cost+ Overhead cost+ Profit Margin

2. Marginal Cost

It refers to the cost of Producing one more unit or one unit less.Contribution =Sales- Variable cost

Profit =Contribution + Fixed cost

3. Profit Volume Ratio PV Ratio= Contribution

______________________ * 100

Sales

Advantages

- Easy method
- Maximizing the profit'
- Reduces cost

Competition oriented Pricing

1. **Going rate Pricing-** general pricing structure of industry and firm
2. **Loss Leader Pricing**: fixing low price for popular product
3. **Customary Pricing** : New model based on customer
4. **Leadership Pricing**: Price lower than other firm
5. **Trade Association Pricing**– avoid uncertainty
6. **Cyclic Pricing**- Introduction, Growth, Maturity, Decline
7. **Imitative Pricing-** Imitate the price set by others
8. **Turnover Pricing**- To make huge profit

Pricing based on other economic economic conditions

1. Administrated Pricing-Top level management
2. Dual Pricing- free market

Price Determination in Long Run Quantity supply & Output are fixed Avaerage revenue is the straight line**Price Determination in Short Run**

- Firm cannot alter its assets
- Fixed cost remain constant
- Increase in Production leads to increase in variable costs

4. Explain the method of pricing based on strategy.a.Stay-out Pricing:

o When a firm is not certain about the price at which it will be able to sell its product, it starts with a very high price.

o If at this high price quotation it is not able to sell, it then lowers the price of itsproduct.

o It will keep on lowering the price till it is able to sell the targeted amount of theproduct.

b. Price lining:

o Here, price of one product in the total range of the products is fixed.

o Price of rest of the commodities is automatically determined by the relationship between the commodity whose price has been fixed and the rest of the commoditiesin the range.

c. Psychological Pricing (or, Odd number and round number pricing):

o This is not truly a method of pricing but of price-tagging.

o Here a firm fixes the price of its product in a manner which gives the impression ofbeing low.
o For example, if the price of a product is fixed at Rs. 89.90 rather than Rs. 90, it mayhave the psychological impact on consumers that price is in 80s rather than in 90s.
This may have some impact on sales.

d. Limit Pricing:

o A firm (or firms) may also try to establish a price that reduces or eliminates the threatof entry of new firms into the industry. This is called „limit pricing".

o For limit price to be effective some of collusion is necessary among existing firms.

e. Resale Price Maintenance:

o Resale price maintenance is common in cases of popular or branded products.

o The manufacturers of such products fix and stipulate the price of the products at which the product is to be resold by the individual retailer.
o This is done to maintain a uniform selling price of the branded produces at all the outlets of their sale.

f. Peak-load pricing:

o A firm that uses the same facility to supply many markets at different points of time can increase its profits by the use of peak-load pricing.
o Peak-load pricing essentially involves charging higher price from consumers wanting to consume the service during the peak demand period and lower price from those
who consume during off-peak period.

g. Multi-product Pricing:

o Pricing that reflects the inter-relationship among multiple products of a firm that are complements or substitute of each other.

h. Public Utility Rate Regulation:

o The method of pricing a service owned and operated by the State.

5. Discuss the determinants of price.Internal Factors:

i. Organizational factors:

Pricing decisions occur on two level in the organization.

Overall price strategy is dealt with by top executives and the actualmechanics of pricing are dealt with the lower levels in the firm.

ii. Marketing mix factors:

Marketing experts view price as only one of the many important elements of the marketing mix. (product, price, place and promotion). A
shift in any one of the elements has an immediate effect on the otherthree.

iii. Product differentiation:

Generally, the more differentiated a product is from competitveOfferings, the more leeways a firm has in setting prices.

iv. Costs:

Price are determined solely by costs in that the firm wishes to take itsrelevant costs that goes in it. However, in deciding the price of a new product, the firm should think what prices are realistic, considering current demand and competition inthe market.

v. Objectives:

The variety of possible pricing objectives was discussed earlier in this chapter. A firm should define its objectives as specifically as possible sothat they can be acted upon.

External Factors

i. Demand:

The market of demand for a product or service obviously has a big impacton pricing. Demand in turn in affected by the number and size of competitors.

ii. Competition:

Before a firm cam make pricing decisions. It must have a sense of not onthe price of a product.

iii. Suppliers:

Suppliers of raw materials and other goods can have a significant effect on the price of a product.The fluctuations in prices of their supplies to the firm may an impact on the prices of finished goods.

iv.Buyers:

The various buyers that buy a firm"s products and service may have an influence in the pricing decision.

v. Economic conditions:

Inflation, recession, shortage and stagflation all have an impact on pricesin most decision.

vi.Government:

The government keeps a close watch on pricing in the private sector.Regulatory pressure effectively discourages private companies fromwinning too large a share of the market and controlling prices.

Module-V

1) What is balance sheet?

The balance sheet provides the financial position of a company at any given point of time.

2) Say some of the important financial statements?

i. profit and loss account.ii.balance sheet.
iv.fund flow statement.

3) What are the contents of a balance sheet?

i. assets ii.liabilities.

4) Say some of the types of assets?

i. fixed assets. ii.investments. iii.current assets. iv.loans and advances.
v.miscallaneous expenditure

5) What is fixed assets?

Their life period is very long, these are purchased for carrying out the operation in a company. Using thisthe company can generating revenue.

6) What is investment?

The long term and short term financial securities owned by a company comes under this category. Herelomg term investments means buying shares of the other companies.

7) What is current assets?

Any asset that can be converted into cash within one year of time is called as current asset. They would beconverted into cash at the end of the operating cycle of a firm.

8) What are the items come under this current assets?

i. cash. ii.debtors. iii.inventories.

9) What is loans and advances?

It is the amont that a company loans to its employees, advances given to supplies, government contractorsand other agencies it is also include prepaid expenses.

10) What are the types of liabilities?

i. share capital. ii.resreves and surpluses. iii.secured loans. iv.unsecured loans. v.current liabilities.

11) What is meant by share capital?

It includes both equity share capital and preference share capital. Equity share holders are the owners of acompany they take risk and their dividend is not fixed but is case of preference share capital the dividend rate is fixed.

12) What is meant by Reserves and Surpluses?

It is nothing but the profit that is retained by accompany not by not paying it as dividend to theshareholders.

13) What are the types of reserves ?

i. revenue reserve.ii.caapital reserve.

14) What is meant by secured loans?

Loan amount borrowed by the firm by pledging assets (ie) securities are provided for these loans.

15) What is meant by unsecured loans?

In this case nosecurity is provided examples are fixed deposits, loans and advances.

16) What is meant by current liabilities?

This consists of amount that is to the suppliers when goods are purchased on a credit basis, advancepayments received accured expenses, provisions for tax.

17) What is meant by income statement?

The companies act does not any particular way in which the profit and loss account or the incomestatement has to be prepared. This statement reflects the performance of a company over a period of time.

18) Who are all the users of financial statement?

i. management.

ii. shareholders, investors, anlyst.iii.lenders
iv.suppliers. v.customers. vi.employees.
vii.government and regularity agencies.viii.others

19) What is meant by cash flow statement?

A firm would enter into trouble if it spends more cash than it is able to generate. The firm should generateadequate capital for it survival.

20) How the cash flow of a business can be classified?

a. operating activities

b. investing activities

c. financing activities

21)what is meant by ratio analysis?

It is one of the powerful tool for financial statement analysis. Ratio is nothing but the relationship betweentwo or more items.

22) What are the different ways of carrying out analysis?

a. past ratio

b. competitors ratio

c. industrial ratio

d. projected ratio

23) What is meant by past ratio?

The current financial years ratios can be compared with the previous years ratio to find whether thefinancial position has improved over the years or not.

24) What is meant by competitors ratio?

The ratio of a company can be compared with the ratio of the competitors and with the market leader.

25) What is meant by industry ratio?

The ratios of a firm can be compared with the ratios of the industry to which the particular firm belongs to.

1. **What is balance sheet? State the uses and importance and draw the format of abalance sheet?**
   It is a statement of assets and liabilities of business as on a given date.

   Uses and importance:

- Understand the debt equity position
- To know the working capital position
- Cash position of the company
- Debtor's position
- Creditor's position
- Shareholders fund of the company.

Liabilities	Amount	Assets	Amount
Sharecapital	Xxx	Building	Xxx
Debenture	Xxx	Furniture	xxx
Longtermloan	Xxx	Land	Xxx
Creditors	Xxx	Machine	Xxx

BOD	Xxx	Longtermin vestment	Xxx
Billspayable	Xxx	Debtors	Xxx
Shorttermlo an	Xxx	Shorterminv estment	Xxx
Outstanding expenses	Xxx	Cashinhand	Xxx
		Cashatbank	Xxx
		Closingstoc k	Xxx
		Prepaidexpe nses	Xxx
Total	xxx	Total	Xxx

2. What are the different financial ratios?Profitability ratios:

Gross profit ratios

Net profit ratio

Operating profit ratio

Operating ratio

Specific expense ratio

Return on investment

Return of equity

Earnings per share

□ nIterest coverge ratio.

Activityratios:

Debt or turnover ratio

Debt or velocity ratio

Credit or turnover ratio

Credit or velocity ratio

Stock turnover ratio

Stock velocity ratio

Working capital turnover ratio

Fixed asset turnover ratio.

Balancesheetratios:

Current ratio

Liquidity ratio

Debt equity ratio

Proprietary ratio

Absolute liquidity

3. Explain the limitation of financial statements?(Nov 2010)

Limited use of single ratio

Lack adequate standards

□ nIherent limitations of accounting

Change of accounting procedures

Window dressing

Personal bias

Price level changes are not considered

□ Ignorance of qualitative factors.

4. Discuss in detail about the Accounting Principles & concepts Accounting Principles:

Principle refers to the fundamental belief (or) a general truth which are established does not change

Accounting concepts

- Business entity concept
- Money measurement/Enterprise concepts
- Going concern/ continuity concept
- Cost concepts
- Dual aspects of Concepts
- A/c ing Period concepts
- Revenue
- Expenditure
- Realization concept or Revenue
- Objective evidence concept
- Accrual concept

Accounting conventions

- Consistency
- Full disclosure
- Conservation
- Materiality

Define Accountimng & State the Objectives and Functions of Accounting.

Meaning: (American Institute of Certified Public Accountant)

Accounting is the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and event which are in part at least of a financial character and interrupting the results of there e of.,

Objectives of Accounting:

- ✓ To keep systematic records
- ✓ To protect business Properties
- ✓ To ascertain the operational Profit & Loss
- ✓ To ascertain the financial position of business
- ✓ To facilitate rational decision making

Functions of Accounting:

Input:

- ✓ Economic events measured in financial terms

Process:

- ✓ Recording

- ✓ Classifying
- ✓ Summarizing
- ✓ Analyzing
- ✓ Interpreting

Output:

Communicating information to users(Legal Requirememnyts)

Need for Accounting:

- ✓ To know the business transaction
- ✓ What he owns
- ✓ What he owes
- ✓ Whether he has earned a profit or suffered loss of account of running a business
- ✓ What is his financial position

Module-VI

1. **What are the methods of capitial budgeting ?** Traditional Methods Payback period Accounting rate of return.(or) Average rate of return Discounted cash flow method. Internal rate of return Net present value method.
2. **What is meant by pay back method.** Payback method is based on the period of investment result, of an investment which can give the shortest duration of beneficiary that can be choosen by the capital budgeting decision.
3. **. What is meant by NPV?** NPV means net present value of any investment.,It is the difference ofpresent value of the future cash inflows and the original investment.
4. **Give the significance of capital budgeting?** They involve substantial capital outlay They affect the future of the business.
5. **Write down the advantages and disadvantages of IRR method?**

Advantages
Recognize time value of money

Helps the management in selecting the most profitable project

Disadvantages

- ➢ Complicated to calculate by trial and error method
- ➢ Assumes that the funds received at the end of each year can be invested at thesame rate ofreturn
- ➢ Does not provide weightage of the volume of funds committed in the project

6. What is the uses of capital budgeting?
- ➢ investment committee functions and structure;
- ➢ investment philosophy and objectives;
- ➢ attitude to risk and process for managing risk;
- ➢ decision rights; and process for evaluating and managing investments

7. **Give the formula for calculating Pay Back Period.**

PBP= initial investment/annual cash inflow

8. **What do you mean by capital budgeting?**
   It is concerned with designing and carrying through a systematic investment programmed for acquiringfixed assets like land etc
9. **Give the meaning of Internal rate of Return.**
   The internal rate of return (IRR) is defined as the discount rate that gives a net presentvalue (NPV) of zero. It is a commonly used measure of investment efficiency.

4. Explain in detail about the Capital budgeting Process

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

Identification of Various Investments

↓

Screening or Matching the Available Resources

↓

Evaluation of Proposals

↓

Fixing Property

↓

Final Approval

↓

Implementation

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 department analyse thevarious 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. Hereresources referred as the financial part of the proposal. This reduces the gap between the resources and the investment cost.

3. E valuation: After screening, the proposals are evaluated with the help of various methods, s uch aspay back period proposal, net discovered present value method, accounting rate of return and risk analysis.

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

(c) Financial

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.

7. Performance review of feedback: The final stage of capital budgeting is actual results comparedwith 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.

5. Enumerate in detaii the Evaluation Of Investment ProposalsTime-adjusted method or discounted methods

(i) Net Present Value method

(ii) Internal Rate of Return method(iii)Profitability Index method

Pay-back period method

This method represent the period in which total investment in permanent asset pays back itself. It measure the period of time for the original cost of a project to be recovered from the additional earning of a project itself.

Investment are ranked according to the length of the payback period, investment with shorter paybackperiod is preferred.

How the payback period is calculated?

The payback period is ascertained in the following manner

- Calculate annual net earnings(profit) before depreciation and after taxes, these are called annual cashinflow
- Divide the initial outlay(cost) of the project by the annual cash inflow, where the project generates constantannual cash inflow

Payback period = cash outlay of the project or original cost of the asset
Annual cash inflows

- Where the annual cash inflows (profit before depreciation and after taxes) are unequal the payback period is foundby adding up the cash inflows until the total is equal to the initial cash outlay of the project.

Selection criterion

Lesser the pay back period is better for acceptance of the project

Improvement of Traditional Appraoch To Payback Period:PPPI $= \frac{post\ pay\ back\ profit}{investment} \times 100$

Post payback profitability = Annual cash inflow (estimated life-payback period)

Payback Reciprocal Method

Payback Reciprocal method = $\frac{Annual\ csh\ inflow\ (or)\ Total\ investment}{Cash\ outlay\ of\ project} = \frac{10000}{50000} = 0.2$

Discounted payback period : - (time value of money in consider)Merits

- ❖ It is a simple method to calculate and understand
- ❖ It is a method in terms of years for easier appraisal

Demerits

- ❖ It is a method rigid
- ❖ It has completely discarded the principle of time value of money
- ❖ It has not given any due weight age to cash inflows after the payback period
- ❖ It has sidelined the profitability of the project.

Average Rate of Return method (ARR)

This method takes in to account the earnings expected from the investment over their whole life. It isknown as accounting rate of return.

The project which gives the higher rate of return is selected when compared to one with lower rate of return.

Selection criterion of the projects:

Highest rate of return of the project only is given appropriate weightage.

The Accounting rate of return can be computed as follows

$$\text{Accounting Rate of Return (ARR)} = \frac{\text{Annual Return}}{\text{Original Investment}} \times 100$$

$$\text{Accounting Rate of Return (ARR)} = \frac{\text{Average Annual Return}}{\text{Average Investment}} \times 100$$

Average annual return= Average profit after depreciation and taxation of the entire life of project i.e. for many number of years

$$\text{Average Investment} = \frac{\text{Opening Investment} + \text{Closing Investment}}{2}$$

$$= \frac{\text{Opening Investment} - \text{Scrap}}{2}$$

.Merits

- It is simple method to compute the rate of return
- Average return is calculated from the total earnings of the enterprise throughout the life of the firm
- The entire rate of return is being computed on the basis of the available accounting data

Demerits

- Under this method, the rate of return is calculated on the basis of profits extracted from the books but not on thebasis of cash inflows
- The time value of money is not considered
- It does not consider the life period of the project