CHAPTER 1
INTRODUCTION TO MICRO ECONOMICS

The word 'Economics' originates from the greek word 'Oikonomia' which means household. It is divided into two parts.

(a) Oikos which means house

(b) Nomia which means management.

Thus Economics means house management. Economics is based on the concept of self interest. It is based on two fundamental facts that

(a) Human beings have unlimited wants and

(b) Resources (means) are scarce and they have alternative uses.

Thus Economics is study of allocation of resources in such a manner that (at the micro level) the individuals are able to maximize their gains and (at the macro level) the society is able to maximize its social welfare. The root cause of emergence of Economics as a subject matter of study is the basic economic problem The Economics problem is the problem of choice (or the problem of allocation of resources to alternative uses)

1.   DEFINITION OF ECONOMICS:-

(a) Wealth related definition –

Adam smith is known as father of Economics. He wrote a book.

"An enquiry into the nature and causes of wealth of Nations" which is popularly known as "Wealth of Nations" in 1776.

Adam Smith defines Economics "A science which studies the nature and causes of wealth of Nations".

According to J.B. Say – "Economics is a science which deals with wealth"

According to F.A. Walker "political Economy or Economics is the name of that part of knowledge which relates to wealth".

Features –

1. Importance to the creation of wealth in an economy. The classical economists believed that economic prosperity of any nation depends only on the accumulation of wealth.

2. These definitions show that economics also deals with an inquiry into the causes behind the creation of wealth.

3. The term 'wealth' does not have a universally accepted meaning. However, these definition have indicated that wealth of a nation includes only material manufactured goods. It is for this reason that to Adam smith, labour was 'productive' if it produced material goods. In contrast, those who produced non-tangibles services like teaching, music, etc. were non-productive. These persons were 'parasites' living on the wealth produced by others. This led Adam Smith to conclude that for increasing the wealth   of a nation, the use of labour should be primarily for "productive purposes"

Criticism:-

(i) Ignored creation of immaterial Wealth like services of a doctor, lawyer, CA etc.

(ii) Ignored social welfare

(b) Science of material well being " Welfare definition:-

Alfred Marshall defines Economics as "political Economy or Economics is the study of mankind in ordinary business of life. It examines that part of individual and social actions which are most closely connected with attainment and with the use of material, requisites of well being. Thus it is on the one side study of wealth and on the other and important side a part of the study of the man". Alfred Marshall published his book 'Principles of Economics' in 1890.

A.C. Pigou defines Economics as "The range of our inquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money".

Features:-

(1) These definations indicate that economics studies only the material aspects of well-being. Thus, these definitions emphasise the materialstic aspects of economic welfare.

(2) These definitions show that economics deals with the study of man in the ordinary business of life. Thus, economics enquires how an individual gets his income and how he uses it.

(3) These definitions stressed on the role of man in the creation of wealth or income.

Criticism:-

(1) It ignores creation of immaterial wealth like services of doctors, C.A., teachers etc.

(2) Very difficult to state which things would lead to welfare and which will not.

(c) Science of choice making –

"Lionel Robbins" wrote a Book "An essay on the Nature and significance of Economic science" in 1931. He defines economics as-

"Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses" –

Followings fundamental propositions are involved in this definition:-

Economics is a science:-

Economics is a science because it contains a systematized body of knowledge as regard to human behaviour to optimize certain objective functions under given constraints.

Unlimited ends:-

Ends refer to human wants. The wants of human being are unlimited. If one want is satisfied another want would crop up. Since wants are unlimited and resources with which these wants can be satisfied are limited, a choice has to be made between more urgent and less urgent wants. problem of choice making and scarcity goes together

Scarce means:-

The means of resources needed to satisfy wants are limited or scarce. The scarcity of resources is with reference to the needs. If resources to satisfy wants were unlimited or not scarce economic problem would not have arisen. Economic goods are considered scarce resources because they do not exist in adequate quantity to satisfy social requirements.

Alternative use of means or choice:-

Resources are not only scarce or limited but they are also having alternative uses. For example, money can be used to buy a book or to see the movie. A suitable cost-benefit analysis will guide the choice of the right alternative. The 'Fundamental premise of Economics" is individuals to choose the alternative for which they believe the net gain to be greatest. Thus Economics is a science of choice.

Criticism:-

(1) Concept of welfare is not explicitly mentioned.

(2) The definition makes economics a human science instead of social science.

(3) The definition is narrow and restricted in scope. It does not talk about economic growth or economic development. It is impersonal and colourless.

(4) Rational decision-making requires that one's choice be consistent with one's goals. It fails to deal with what is good or bad for society's welfare and what should be done to attain good ends.

(d) Science of Dynamic Growth and development: - Paul A. Samuelson

"Economics is the study of how men and society choose, with or without use of money, to employ scarce productive resources which could have alternative uses, to produce various commodities over time and distribute them for consumption now and in the future amongst various people and groups of society."

He wrote a book 'Economics: an introductory analysis' which was first published in 1948.

Economics is the study of how men & society choose, with or without the use of money to employee scarce productive resources which could have alternative uses, to produce various commodities over time & distribute them for consumption now & in the future amongst various proper & groups of society.

– **PAUL A. SAMUELSON.**

The above definition is very comprehensive because it does not restrict to material well-being or money measure as a limiting factor. But it considers economic growth over time.

Prof Henry Smith also gave an all inclusive definition of Economics. According to him, Economics, is the "the study of how in a civilized society one obtains the share of what other people have produced and of how the total product of society changes and is determined"

Jacob Viner has given a pragmatic definition of Economics. According to him, "Economics is what Economists do". In other words, what economists do and what they have been doing.

Conclusion: -

Economics is a science that studies those activities, which are, concerned with the efficient consumption, production, exchange and distribution of scarce Resources.

The purpose of economics is to achieve maximum satisfaction of wants and increasing of welfare as well as economic growth.

BUSINESS ECONOMICS

Business Economics may be dened as the use of economic analysis to make business decisions involving the best use of an organization's scarce resources. Joel Dean dened Business Economics in terms of the use of economic analysis in the formulation of business policies. Business Economics is essentially a component of Applied Economics as it includes application of selected quantitative techniques such as linear programming, regression analysis, capital budgeting, break even analysis and cost analysis.

Our approach in this text is to focus on the heart of Business Economics i.e. the Micro Economic Theory of the behaviour of consumers and firms in competitive markets. This theory provides managers with a basic framework for making key business decisions about the allocation of their firm's scarce resources.

NATURE OF BUSINESS ECONOMICS
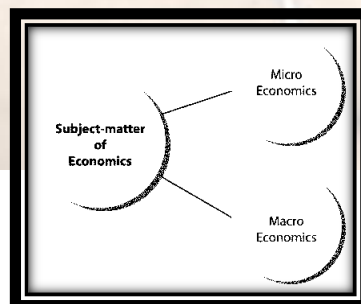
MICRO-ECONOMICS

1. Micro-economic studies the various element of the economic system on individual basis.
2. It analyses the economic behavior of an individual, firm or industry in the national economy.
3. Microeconomics examines how the individual units (consumers or firms) make decisions as to how to efficiently allocate their scarce resources. Here, the focus is on a small number

of or group of units rather than all the units combined, and therefore, it does not explain what is happening in the wider economic environment.

4. "Micro-economics is the study of particular firms, particular households, individual price, wages, income, individual industries and particular commodities" – **Prof. Boulding**

5. Micro-economic studies –
   (a) Product pricing:
   (b) Consumer behavior:
   (c) Economic Conditions of a Section of the People:
   (d) Factor Pricing:
   (e) Study of firms:
   (f) Location of a Industry

6. Example of Micro economics
   a. Lock out in TELCO
   b. Finding the causes of failure of x and co.

7. It is basically concerned with determination of output and price for an individual firm or industry. It is also known as price theory.

2.   MACRO-ECONOMICS

1. It is the study of the overall economic phenomena or the economy as a whole, rather than its individual parts..

2. It analyzes the behavior of national aggregates including national income, aggregate consumption, savings, investment, total employment, general price level, & country's balance of payment.

3. It analyzes the overall economic environment in which the firms, governments and households make decisions. However, it should be noted that this economic environment represents the overall effect of the innumerable decisions made by millions of different consumers and producers.

4. Macroeconomics examines the forest & not the trees. Thus it analysis and establishes the functional relationship between large aggregates- **Mc Connel**

5. Macro Economics studies –
   (a) National Income & Output;
   (b) General price Level;
   (c) Balance of Trade & Payment
   (d) External value of Money;
   (e) Saving & Investment;
   (f) Employment & Economic Growth

6. Example of Macro economics
   (a) Per capita income of India.
   (b) Underemployment in agricultural sector.
   (c) Total savings in India.
   (d) Determining the GNP of India.
   (e) Identifying the causes of inflation in India.
   (f) Analyze the causes of failure of industry in providing large-scale employment.
   (g) The national economy's annual rate of growth
   (h) Increase in the corporate income tax rate will affect the national unemployment

6. It is basically concerned with determination of aggregate output and general price level in the economy as a whole. It is also known as theory of income and employment.

Nature of Business Economics

Business Economics enables application of economic logic and analytical tools to bridge the gap between theory and practice.

 The following points will describe the nature of Business Economics:

Business Economics is a Science: Business Economics integrates the tools of decision sciences such as Mathematics, Statistics and Econometrics with Economic Theory to arrive at appropriate strategies for achieving the goals of the business enterprises. It follows scientic methods and empirically tests the validity of the results.

Based on Micro Economics: A business manager takes decisions in order to ensure the long-term survival and profitable functioning of the organization. Since Business Economics is concerned more with the decision making problems of individual establishments, it relies heavily on the techniques of Microeconomics.

Incorporates elements of Macro Analysis: A business unit does not operate in a vacuum. It is affected by the external environment of the economy in which it operates such as, the general price level, income and employment levels in the economy and government policies with respect to taxation, interest rates, exchange rates, industries, prices, distribution, wages and regulation of monopolies. All these are components of Macroeconomics. A business manager must be acquainted with these and other macroeconomic variables, present as well as future, which may influence his business environment.

Business Economics is an art as it involves practical application of rules and principles for the attainment of set objectives.

Use of Theory of Markets and Private Enterprises: Business Economics largely uses the theory of markets and private enterprise. It uses the theory of the firm and resource allocation in the backdrop of a private enterprise economy. **Pragmatic in Approach**: Micro-Economics is abstract and purely theoretical and analyses economic phenomena under unrealistic assumptions. In contrast, Business Economics is pragmatic in its approach as it tackles practical problems which the firms face in the real world.

Interdisciplinary in nature: Business Economics is interdisciplinary in nature as it incorporates tools from other disciplines such as Mathematics, Operations Research, Management Theory, Accounting, marketing, Finance, Statistics and Econometrics.

Normative in Nature: Economic theory has developed along two lines – positive and normative.

A **positive or pure science** analyses *cause and effect relationship* between variables in an objective and scientific manner, but it does not involve any value judgement. In other words, it states 'what is' of the state of affairs and not what 'ought to be'.

It is descriptive in nature in the sense that it describes the economic behaviour of individuals or society without prescriptions about the desirability or otherwise of such behaviour.

 A **normative science** involves *value judgements*. It is prescriptive in nature and suggests 'what should be' a particular course of action under given circumstances. Welfare considerations are embedded in normative science.

(a) Example of positive science:

(a) Planned economies allocate resources via government departments.

(b) Most transitional economies have experienced problems of falling output and rising prices.

(c) There is a greater degree of consumer sovereignty in the market.

(d) Faster economic growth should result if an economy has a higher level of investment.

(e) Higher levels of unemployment will lead to higher level of inflation.

(f) The average level of growth in the economy was faster in the 1980s.

(g) Analysis of the relationship between the price and quantity demanded. (Law of demand)

Example of normative science:
(a) Reducing inequality should be major priority for mixed economy
(b) Changing the level of interest rates is a better way of managing the economy than using taxation and government Expenditure.

3. CENTRAL ECONOMIC PROBLEMS

Human wants are unlimited and productive resources are scarce. An economy without scarcity is not found in the real world all wants cannot be satisfied with the scarce resources Thus there is problem of use of scarce resources. This is generally called 'the central economic problem'. The central economic problem may be of four types-
1.   What to produce?
2.   How to produce?
3.   For whom to produce?
4.   What provision should be made for economic growth?

(1) What to produce :–
Human wants are unlimited and resources are limited to satisfy human wants. The question arises what kind of goods are to be produced and in what quantity these goods to be produced. Kind of goods relate to consumer goods like bread, clothes or capital goods such as machines, equipments etc.
Quantum of goods means how much of different goods to be produced. The guiding principle is to allocate resources in a way that generates maximum aggregate utility.

(2) How to produce :-
This problem is related to the choice of technique for producing a commodity. An economy has to choose between
(a) Labour intensive technique-Under this technique, production depends more on use of labour.
(b) Capital-intensive technique-Under this technique, production depends more on use of machines.
The economy has to decide about technique of production on the basis of cost of Labour and capital. Labour surplus economies choose labour intensive technique and capital surplus economies choose capital-intensive technique. Efficient technique of production is that which uses minimum possible input for a given amount of output. So that cost per unit of output is minimized.

(3) For whom to produce:-
Problem of "for whom to produce" means how the national product i.e., national income is to be distributed among the factors of production that helped to produce it. It is rent, wages, interest and profits. Which determine the distribution of goods among the various individuals in the society? It has to decide about the share of different people in the national goods and services.

(4) What provision should be made for Economic Growth:-
A society would not like to use all its scarce resources for current consumption only. It has to decide how much saving and investment should be made for future progress. Increase in the current level of consumption provides slower economic growth in the future. larger production of capital goods would lead to higher production in future.
It is to be noted here that 'when are goods produce' is not central problem of an economy.

4. TYPES OF ECONOMIES

Market Economy or capitalist Economy	Centrally Planned Economy or Command Economy
1. It is a free economy where central problems are solved by the forces of supply and demand in the market.	1. It is an economy under control of the government. Supply and demand forces are regulated or controlled by the government.
2. There is no limit to private ownership of property. The owners of the productive factors like land, factories, machinery are under private ownership. They are free to use them in the manner they like.	2. Private ownership of property is under scanner of the government. Ceiling on the ownership of property may be imposed to reduce the gulf between the rich and the poor. [Note: in a fully planned economy, also called command economy, (of which there is not example of present) private ownership of property is not allowed at all.]
3. Maximisation of profit is the principal objective of production activity.	3. Maximisation of social welfare is the principal objective of production activity.
4. Growth of the economy is left to the market forces.	4. Growth of the economy proceeds according to the planned programmes (as Five Year Plans in India)
5. There is no direct participation of the government in the process of production.	5. The government plays on active role in the process of production.
6. People in this economy are free to spend their income as they like. This is known as consumer sovereignty.	6. Consumer's sovereignty gets restricted by selective production of goods.
7. There is generally a wide gap of income between the rich and poor.	7. Equality of income is an important feature.

How capitalist economies solve their central problems
- **How are central Problem solved in different Economies-**

(1) Market Economy:
- **What to produce-** The produces will produce those goods which are more in demand because these goods offer high price and high profit to the producer.
- **How to produce-** The producers will use those imputes which keep their cost of production as low as possible so that they maximize their profits.
- **For whom to produce-** Producers will produce goods for those people who can afford to pay higher price and poorer selection of the society is often ignored.

(2) Centrally Planned Economy: In this economy discussion regarding what, how and for whom are taken by a central authority. Profit maximization is not the consideration and those goods and services are produced which the central authority finds most beneficial for the society.

(3) Mixed Economy: It shares the merits of market economy or well as centrally planned economy. Decisions regarding what, how and for whom to produce are taken on the basis of market forces as well as on the basis of social consideration.

- Deciding about consumption, saving & investment- Consumption and savings are done by consumers and investments are done by entrepreneurs Consumers savings are governed by the rate of interest prevailing in the market. Higher the interest rate, higher is the saving. Investment decisions depend upon the rate of return on capital. The greater the profit expectation. (i.e. the return on capital), the greater will be the investment in a capitalist

economy. The rate of interest on savings and the rate of return on capital are prices of capital.

MIXED ECONOMY –

In a mixed economy the aim is to develop a system which tries to include the best features of both the controlled economy and the market economy while excluding the demerits of both. It appreciates the advantages of private enterprise and private property with their emphasis on self-interest and profit   motive.

Features of a mixed economy

(b) Co-existence of private and public sector: The first important feature of a mixed economy is the co-existence of both private and public enterprise. In a mixed economy, there are three sectors of industries:

(a) Private sector– Production and distribution are managed and controlled by private individuals and groups. Industries in this sector are based on self-interest and profit motive.

(b) Public sector – Industries in this sector are not primarily profit-oriented but are set up by the state for the welfare of the community.

(c) Combined sector – A sector in which both the government and the private enterprises have equal access, and join hands to produce a commodity, leading to the establishment of joint sectors.

(ii) Existence of Economic Planning : A mixed economy is a planned economy, i.e. an economy in which the government has a clear and definite economic plan. Public sector enterprises have to work according to a plan and to achieve the objectives laid down. Allocation of resources in a mixed economy should be better since it attempts to combine the productive efficiency of capitalism and distributive justice of socialism.

(iii) Administered Price: In a mixed economy, a dual system of pricing exists. In private sector, prices of goods & factors of production are determined through the free play of market forces demand and supply. In public sector, the state determines prices of various products.

Mixed Economy is described by Schumpeter as "capitalism in the oxygen tent". According to him it is only a trick of the capitalists to cheat the working class by offering them some temporary advantage like social security uplift of the depressed classes.

QUESTION BANK

1. Economists regard decision making as important because:
    a) The resources required to satisfy our unlimited wants and needs are nite, or scarce.
    b) It is crucial to understand how we can best allocate our scarce resources to satisfy society's unlimited wants and needs.
    c) Resources have alternative uses.
    d) All the above.

1. "An inquiry into the nature and causes of wealth of nations" is the definition given by:
    (a) Adam Smith   (b) Alfred Marshall   (c) Lord Robbins   (d) Samuelson

2. Which of the following types of economics says nothing about the ends
    (a) Positive   (b) Negative   (c) Applied   (d) Normative

3. The science which tells about "what has happened and what is happening" is
    (a) Normative   (b) Positive   (c) Applied   (d) Negative

4. In which types of economic system can efficiency be achieved only when demand for various products is accurately estimated and resources allocated accordingly?
    (a) Command economy   (b) Mixed economy
    (c) Developing economy   (d) Free market economy

5. The definition of economics on the basis of science of material well being was given by:
    (a) Adam Smith   (b) Alfred Marshall   (c) Lionell Robbins   (d) Samuelson

6. As per ….. economics is the science of choice making or scarcity
    (a) Adam Smith   (b) Alfred Marshall   (c) Lionell Robbins   (d) Samuelson

7. Which of the following doesn't mean economic activity:
    (a) Production   (b) Exchange   (c) Consumption   (d) None of above

8. "Study of economic activities of a ….. economic unit is done under Micro economic"
    (a) Single   (b) Multi   (c) Large   (d) None of the above

9. In Macro economics we study about:
    (a) Aggregates   (b) National Income   (c) Demand & Supply   (d) Both a & b above

10. Which of the following is not a variable of Micro Economics:
    (a) Employment   (b) Production   (c) Consumer behaviour   (d)   Cost   of Production

11. Which of the following is not a variable of Macro Economics:
    (a) Aggregate Supply   (b) National Income   (c) Aggregate Demand   (d) Supply

12. The economics should be …… between ends.
    (a) Neutral   (b) Positive   (c) Negative   (d) None of above

13. Which of the following statements is true about positive and normative science?
    (a) Positive economics is not concerned with moral judgments
    (b) Positive economics says only about the ends
    (c) A normative statement does not include ethical values
    (d) Positive economics is concerned with moral judgments

14. …… is the other name of Microeconomics
    (a) Product theory   (b) Price theory   (c) Production theory   (d)   Estimation theory

15. Science which tell us about what should be is
    (a) Normative   (b) Positive   (c) Applied   (d) Negative

16. In……economy resources and capital is allocated in the most efficient way according to standard microeconomics frame work
    (a) Free market economy   (b) Regulated market economy
    (c) Controlled market economy   (d) Command market economy

17. In market economy consumers and producers determine their choices based on:
    (a) Price and production　　　　　　(b) Government controls
    (c) Demand and supply　　　　　　　(d) Income and expenditure
18. In .... system of economy, activities are not in private hands.
    (a) Socialist economy　(b) Capitalist economy　(c) Government economy (d) Mixed economy
19. In a Socialist economy, the decisions regarding the allocation of resources are taken care of by...........
    (a) The government　　(b) The consumers　(c) The production　(d) None of above
20. Which of the following is a demerit of capitalism
    (a) Public welfare is not taken care of　　　(b) Government takes care of all the decisions
    (c) Efficiency lacks　　　　　　　　(d) None of above
21. In deductive method of study, the logic proceeds from .... to ....
    (a) General, Particular (b) General, General (c) Particular, General　　(d)　Particular, Particular
22. When the method of study is Inductive, it proceeds from .... to ......
    (a) General, Particular　　　　　　　(b) General, General
    (c) Particular, General　　　　　　　(d) Particular, Particular
23. All the producers can allocate their resources according to the movement of the demand, which kind of economy we are talking about?
    (a) Market economy　　(b) Command economy　(c) Mixed economy　(d) Regulated economy
24. Which of the following is not a system of economy
    (a) Socialist economy　(b) Mixed economy　(c) Capitalist economy　　(d)　Developed economy
25. In ...... system of economy people are free to consume, produce and exchange the goods.
    (a) Socialist economy　(b) Capitalist economy　(c) Government economy (d) Mixed economy
26. Which of the following statement (s) is/are true in private economy?
    (a) The government controls production and distribution of goods
    (b) Consumers choose the goods they want
    (c) Price does not plays major role in a market economy
    (d) Efficiency is achieved through the profit motive
27. Which of the following is not a merit of socialism
    (a) There is an interference of government
    (b) Consumers are not free to consume and producers are not free to produce
    (c) No development of economy under this system
    (d) All of above
28. Which of the following is not a cause of economic problems
    (a) How to Produce　　(b) For whom to Produce　　(c) When to Produce (d) None of above
29. Which of the following is not a central problem of economy
    (a) Scarcity of Resources　(b) Unlimited wants　　(c) Alternative uses (d) None of above
30. Which of the following system of economy promotes private profit motive.
    (a) Socialism　　　　(b) Capitalism　　　(c) Mixed　　　　(d) All of above
31. In India which of the following system of economy exists.
    (a) Socialist　　　　(b) Capitalist　　　(c) Mixed　　　　(d) None of above
32. An economic model refers to logical ..... of economic theory
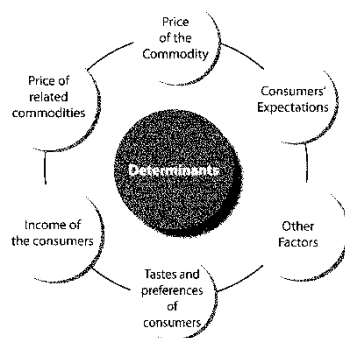   (a) Statement　　　　(b) Data　　　　(c) Structure　　　(d) None of above

ANSWER SHEET

1	2	3	4	5	6	7	8	9	10
A	A	B	D	B	C	D	A	D	A
11	12	13	14	15	16	17	18	19	20
D	A	A	B	A	A	C	A	A	A
21	22	23	24	25	26	27	28	29	30
A	C	A	D	B	B,D	D	C	D	B
31	32								
C	A								

CHAPTER 2
THEORY OF DEMAND AND SUPPLY

1.	DEFINITION OF DEMAND

(a) Demand refers to the quantities of commodity that the consumers are able to buy at each possible price during a given period of time, other things being equal.
    [Fergusons]

(b) Demand is the ability and willingness to buy specific quantity of a good at alternative prices in a given time period, ceteris paribus.   **[B.R Schiller]**

(c) Three things are essential for a desire for a commodity to become effective demand.
1. Desire for a commodity
2. Willingness to pay
3. Means to purchase i.e. Ability to pay for the commodity.

2.	DETERMINANTS OF DEMAND

1. Price of the Commodity	(a) Ceteris Paribus i.e. other things being constant, Demand is inversely related to price. (b) This happens because of income & substitutions effect.
2. Prices of Related Commodities	(a) Complementary Goods e.g. Pen & Ink Price of one good decreases, Demand of other good increases and vice versa (b) Substitute Goods or competing goods e.g. Tea & Coffee Price of one Good decreases, Demand of other good decreases and vice versa
3. Level of Income of the Household	(a) Average Money Income ↑, Demand of Normal good ↓, (b) **Exception : Inferior goods** Average Money Income ↑ Demand of Inferior good ↓
4. Taste & Preference of Consumer	Favourable change in taste & Preference increases demand Unfavourable change in taste & Preference decreases demand **'Demonstration effect' or 'bandwagon effect'** :An individual's demand for LCD/LED television may be affected by his seeing one in his neighbor's or friend's house. **SNOB EFFECT**:A person may develop a taste or preference for wine after tasting some, but he may also develop it after discovering that serving it enhances his prestige. On the contrary, when a product becomes common among all, some people decrease or altogether stop its consumption. This is called 'snob effect'. **VEBLEN EFFECT**: Highly priced goods are consumed by status seeking rich people to satisfy their need for conspicuous consumption.

	This is called 'Veblen effect' (named after the American economist Thorstein Veblen). In any case, people have tastes and preferences and these change, sometimes, due to external and sometimes, due to internal causes and influence demand.
5. Consumer expectation	If the consumers expect increase in future prices, increase in income and shortages in supply, more quantities will be demanded. If they expect a fall in price, they will postpone their purchases of nonessential commodities and therefore, the current demand for them will fall.
6. Other Factors	**(a) Size of the Population-** larger the size of population, greater is the demand **(b) Composition of population-** if there are more old people in a region, demand for spectacles, walking sticks will be high. **(c) The level of National Income and its Distribution:** Higher the national income, higher will be the demand for all normal goods and services. The wealth of a country may be unevenly distributed, the propensity to consume of the country will be relatively less. Hence, demand will be less. If the distribution of income is more equal, then the propensity to consume of the country as a whole will be relatively high indicating higher demand. **(d) Consumer-credit facility and interest rates:** Availability of credit facilities, more demand. less credit facilities, less demand. Low rates of interest, more demand. high rate of interest, higher demand Apart from above, factors such as government policy in respect of taxes and subsidies, business conditions, wealth, socioeconomic class, group, level of education, marital status, weather conditions, salesmanship and advertisements, habits, customs and conventions also play an important role in inuencing demand. **"Detail Discussion In Sojatia Classes"**

3.   LAW OF DEMAND

Definition by Prof. Alfred Marshall	de-ned the Law thus: "The greater the amount to be sold, the smaller must be the price at which it is oered in order that it may -nd purchasers or in other words the amount demanded increases with a fall in price and diminishes with a rise in price"
Meaning	According to the law of demand, other things being equal, if the price of a commodity falls, the quantity demanded of it will rise and if the price of a commodity rises, its quantity demanded will decline. Thus, there is an inverse relationship between price and quantity demanded, ceteris paribus.
Assumption	Law of demand holds goods when "other things remain the same" meaning thereby, the factors affecting demand, other than price, are assumed to be constant.
Demand Function	$D_x = f(P_x, P_r, Y, T, E)$

|	Where, D$_x$ = Demand for Commodity P$_x$ = Price of Commodity X P$_r$ = Price of other goods Y = Income of the consumer T = Taste and preference E = Expectation of the consumer
Important Points	• It shows the one sided relationship i.e. there is change in demand due to change in price and not vice versa • it is a qualitative statement and not a quantitative statement. • It does not show the proportional relationship

4.   DEMAND SCHEDULE

Meaning	A demand schedule is a table which presents the dierent prices of a good and the corresponding quantity demanded per unit of time There are **Two aspects of Demand Schedule** – Individual Demand Schedule and market Demand Schedule.
Individual Demand Schedule	It is defined as a table which shows quantities of a given commodity which an individual consumer will buy at all possible prices at a given point of time. {{TABLE1}}
Market Demand Schedule	It is defined as a table which shows the quantities of a given commodity which all consumers will buy at all possible prices at a given point of time. In market there are many consumers of a single commodity. The schedule is based on the assumption that there are in all, 2 consumers 'A' & 'B'. By aggregating their individual demand, the market Demand Schedule is constructed. {{TABLE2}} It indicate that when prices of 'X' is Rs. 1.00 per unit, Demand of 'A' is for 4 units and that of 'B' is for 5 units. Thus, the Market demand is 9 units. As the price increases, demand decrease. **"Detail Discussion In Sojatia Classes"**

Table in Individual Demand Schedule:

Pries per unit (in Rs.)	Quantity Demanded (Units)
1	4
2	3
3	2
4	1

Table in Market Demand Schedule:

Price of Commodity 'X' (in Rs.)	Demand of A	Demand of B	Market Demand (Units)
1	4	5	4 + 5 = 9
2	3	4	3 + 4 = 7
3	2	3	2 + 3 = 5
4	1	2	1+ 2 = 3

5.   DEMAND CURVE

Meaning of Demand Curve	1. A demand curve is a graphical presentation of the demand schedule. 2. It shows the inverse relationship between price and quantity and quantity demand. 3. It slopes downwards to the right.
Individual Demand Curve	1. It shows the quantities of a given commodity which an individual consumer will buy at different prices at a given point of time.

	2. it is steeper than market demand curve.
Market Demand Curve	1. It shows the quantities of a given commodity which all consumers in the market will buy at prices at a given point of time.
	2. It is obtained by the horizontal summation of the demand curve of individual consumers.
	3. Market demand curve is flatter than individual demand curve.
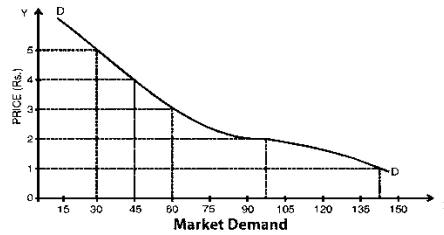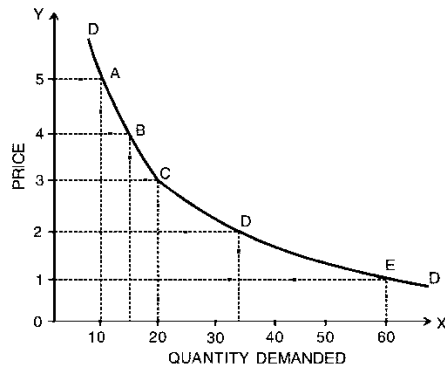
6. WHY DOES DEMAND CURVE SLOPES DOWNWARD?

a. **Law of diminishing marginal utility-** according to this law as consumption of a commodity increases, the utility from each successive unit goes on diminishing to a consumer. Accordingly for every additional unit to be purchase, the consumer is willing to pay less and less price. Thus, more is purchased only when our price of the commodity falls.

b. **Income effect-** It refers to change in quantity demanded when real income of the buyer changes as a result of change in price of the commodity, with a fall in price real income of the consumer increases and demand for the commodity expands.

c. **Substitution effect-** It refers to substitution of one commodity for the other when it becomes relatively cheaper. Thus, when price of commodity X falls it becomes cheaper in relation to commodity Y. Hence, X is substituted for Y. This is called substitution effect.

d. **Size of consumer group-** When price of commodity falls it attracts new buyers who can now afford to pay for it and hence the demand increases.

e. **Different uses –** Many goods have alternative uses say for eg: milk is used for making curd, cheese and paneer. If price of milk reduce it will be put to different uses and demand for milk will expand.

7. EXCEPTIONS TO LAW OF DEMAND

| **Conspicious goods**	These goods are also known as articles of prestige value or snob appeal or articles of conspicuous consumption. It was found out by Veblen in his doctrine of "conspicuous consumption" and hence known as Veblen effect or prestige goods effect. According to him articles of distinction have more demand only if their prices are sufficiently high. Eg. Diamond jewellery, costly carpets etc.
Ignorance	Sometimes, consumers out of sheer ignorance or poor judgment consider a commodity to be low quality if its prices is low and of high quality if its price is high.
Giffen goods	These goods are those goods which have positive price effect and negative income effect. Positive prices effect means that demand falls with a fall in price and rises with a rise in price. These are highly inferior goods showing a very high negative income effect. As a result when price of commodities falls their demand also falls.Sir Robert Giffin was surprised to find out that as

	the price of bread increased, British workers purchased more bread and not less of it. The reason was that when the price of bread went up, it caused such a large decline in the purchasing power of poor people that they were forced to cut down the consumption of meat and other more expensive goods. Since, bread even when its price was high, higher than before people consume more of it.
Conspicuous necessities	The demand for certain goods is affected by the demonstration effect of the consumption pattern of a social group to which an individual belongs. These goods, due to their constant usage, become necessities of life. For example, in spite of the fact that the prices of television sets, refrigerators, coolers, cooking gas etc. have been continuously rising, their demand does not show any tendency to fall.
Expectation of rise or fall in price in future	If prices are likely to rises more in the future then even at the existing higher prices people may demand more units of the commodity in the present and vice versa.
Speculative goods	In the speculative market, particularly in the market for stocks and shares, more will be demanded when the prices are rising and less will be demanded when prices decline.

8.   EXPANSION AND CONTRACTION IN DEMAND

Movement along a demand curve

Refer to change in quantity demanded of a commodity in response to change in own price of a commodity, other things remaining constant. It is expressed by different point on the same demand curve and moving from 1 point to the other on the same demand curve is called movement along demand curve. It has two expects

- **Expansion of demand-** It occurs when quantity demanded increases in response to fall in own price of the commodity.
- **Contraction of demand-** It occurs when quantity demanded decreases in response to rise in own price of the commodity.
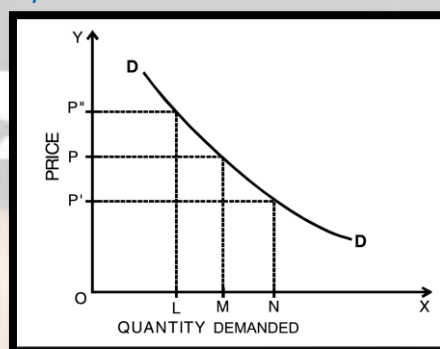

9. INCREASE AND DECREASE IN DEMAND OR SHIFT IN DEMAND CURVE

Shift in demand curve- Refers to all such situations when demand for a commodity increases or   decreases due to changes in other determinants of demand other than own price of the commodity. It has two aspect-

- **Increase in demand-** A situation when demand curve shifts to right is known as increase in demand or forward shift in demand curve. (when more is purchased at the same price of the commodity).

- **Decrease in demand-** A situation when demand curve shifts to left is known as decrease in demand or backward shift in demand curve. (when less is purchased at the same price of the commodity).

Increase and Decrease in Demand
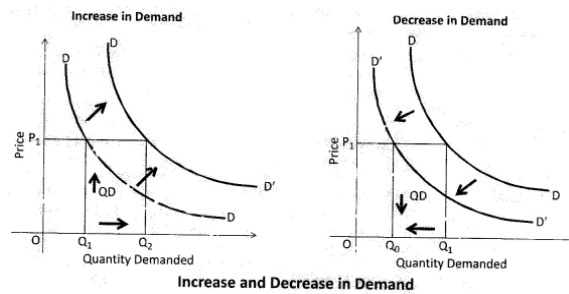
Causes of increase in demand
1. Rise in price of substitutes.
2. Fall in price of a complementary good.
3. Rise in income.
4. Taste and preference in favour of commodity.
5. Future expectation about rise in price.
6. Increase in population.

Causes of Decrease in demand :
1. Fall in price of substitutes good.
2. Rise in price of a complementary good.
3. Fall in income
4. Taste and preference against the commodity
5. Future expectation about fall in price.
6. Decrease in population

ELASTICITY OF DEMAND

1.   MEANING OF ELASTICITY OF DEMAND

(a)   Elasticity of Demand answers the question "BY HOW MUCH?" (It is a quantitative concept)

(b)   Elasticity of demand is defined as the responsiveness of the change in quantity demanded of a good due to change in one of the variables on which demand depends.

$$E = \frac{\% \text{ Change in Quantity Demanded}}{\% \text{ Change in one of the Variables on which Demand depends}}$$

1.   The Elasticity of Demand is a pure number.

2.   TYPES OF ELASTICITY OF DEMAND

A.   PRICE ELASTICITY OF DEMAND

(a)   Meaning of Prices Elasticity of Demand

It is measured as a percentage change in quantity demand divided by the percentage change in price, other things remaining constant.

$$Ep = \frac{\% \text{ Change in Qunantity Demand (Q.D)}}{\% \text{ Change in Price}}$$

$$Ep = \frac{\% \text{ Change in Qunatity}}{\% \text{ Change in Price}} \times \frac{\text{Original price}}{\text{Original Quantity}}$$

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

Where, Ep = Price elasticity

Δ = Very small change

P = Price

Q = Quantity demanded

Note : Ep is (-)ve due to inverse relationship between prices & quantity demand. However, negative sign is ignored for the purpose of analysis.
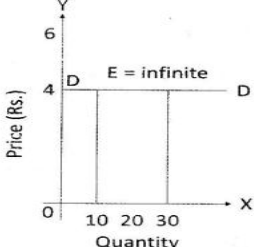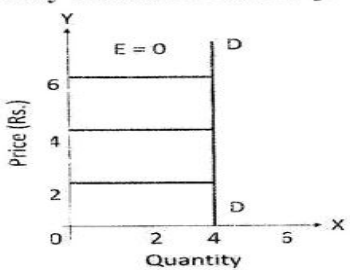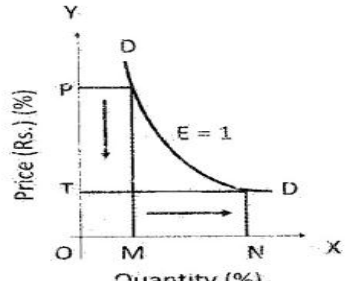
A fews examples for price elasticity of demand case as follows:

Illustration 1:- The price of a commodity decreases from ` 6 to ` 4 and quantity demanded of the good increases from 10 units to 15 units. Find the coecient of price elasticity. Solution: Price elasticity = (-) Δ q / Δ p × p/q = 5/2 × 6/10 = (-) 1.5

Illustration 2:- A 5% fall in the price of a good leads to a 15% rise in its demand. Determine the elasticity and comment on its value. Solution :- Price elasticity = Percentage change in quantity demanded Percentage change in price = 15% / 5% = 3 Comment: The good in question has elastic demand.
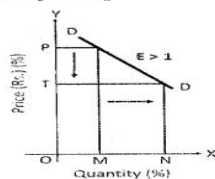
Illustration 3:- The price of a good decreases from ` 100 to ` 60 per unit. If the price elasticity of demand for it is 1.5 and the original quantity demanded is 30 units, calculate the new quantity demanded. Solution:- Ep = Δq/Δp * p/q , Here Δ q 40 100 30 x=1.5 1.5 x 1200 100 Δ q = = 18 Therefore new quantity demanded = 30+18 = 48 units.

(b)   Degrees of Prices Elasticity of Demand

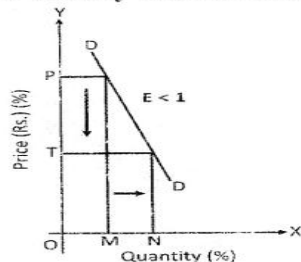|	
1. Perfectly Elastic Demand [E =∞] Perfectly Elastic Demand [E = ∞] (graph: Price (Rs.) on Y-axis with values 6, 4; E = infinite; D——D horizontal line; Quantity 10 20 30 on X-axis)	1. A perfectly elastic demand is one in which a little change in price will cause an infinite change in demand. 2. A very little Rice in Price cause the demand to fall to zero and a very little fall in price causes demand to extend to infinity 3. Under perfect Competition, demand curve of a firm is perfectly elastic.
2. Perfectly Inelastic Demand [E= 0] Perfectly Inelastic Demand [E = 0] (graph: Price (Rs.) on Y-axis with values 6, 4, 2; E = 0; vertical D——D line; Quantity 2 4 5 on X-axis)	1. Perfectly inelastic demand is one which a change in price produces no change in the quantity demanded. 2. In this case, elasticity of demand in zero.
3. Unitary Elastic Demand [E= 1] Unitary Elastic Demand [E = 1] (graph: Price (Rs.) (%) on Y-axis; D curve; P, T points; E = 1; M N on X-axis; Quantity (%))	1. Unitary elastic demand is one in which a % change in price produces an equal % change in demand. 2. This type of demand curve is called **Rectangular Hyperbola**. It never touches 'x' axis

4. Greater than Unitary or Relatively Elastic Demand	1. Greater than unitary elastic demand is one in which a given % change in price produces relatively more 5 change in demand. 2. In this case elasticity of demand is greater than unity. 3. As E increase, the Slope of Demand Curve decrease and hence, the Slope of Demand curve goes on becoming more **flatter**.
5. Less than Unitary Elastic Demand [E<1]	1. Less than unitary elastic demand is one in which a given % change in price produces relatively less % change in demand. 2. In this case, elasticity of demand Curve increases and hence, the shape of Demand Curve goes on becoming more **steeper**. $$\frac{\Delta Q}{Q} < \frac{\Delta P}{P}$$

DETERMINANTS OF PRICE ELASTICITY OF DEMAND

(i) **Nature of Commodity:** Necessaries like salt, kerosene oil, matchboxes, textbooks, seasonal vegetables, etc. have less than unitary elastic (inelastic) demand, Luxuries, like air-conditioner, costly furniture, fashionable garments, etc; have greater than unitary elastic demand, Comforts like milk, transistor, cooler, fans, etc., have neither very elastic nor very inelastic demand. Jointly demanded goods, like bread and butter, pen and ink, camera and film, ordinarily show a moderate elasticity of demand.

(ii) **Availability of Substitutes:** Demand for goods which have close substitutes (like, tea and coffee, being close substitutes of each other) is relatively more elastic. Because, when price of such a good rises, the consumers have the option of shifting to its substitute. Goods without close substitutes like cigarettes and liquor, are generally found to be less elastic in demand.

(iii) **Diversity of Uses:** Commodities that can be put to a variety of uses have elastic demand. For instance, electricity has multiple uses. It is used for lighting, room-heating, air conditioning, cooking, etc. If the Price of electricity increases, its use may be restricted only to important purposes like lighting. On the other hand, if a commodity such as paper has only a few uses, its demand is likely to be less elastic.

(iv) **Postponement of Use:** Demand will be elastic for goods, the consumption of which can be postponed.

(v) **Income Level of the Buyer:** Elasticity of demand for a good also depends on the income level of its buyers. If the buyers of a good are high-end consumers (with high level of income) they will not be bothered by a rise in its price. Accordingly, elasticity of demand is expected to be low. Eg. Demand for luxury cars by the multi-billionaires. If income level of the buyers of a good is low, elasticity of demand is expected to be high. Eg. Demand for small cars by the middle class people in India.

(vi) **Habit of Consumers:** Goods to which consumers become accustomed or habitual will have inelastic demand like cigarette and tobacco.

(vii) **Proportion of Income Spent on a Commodity:** Goods on which consumers spend a small proportion of their income (toothpaste, boot-polish, newspaper, needles, etc.), will have

an inelastic demand. Goods on which the consumers spend a large proportion of their income (cloth, scooter, etc.), tend to have elastic demand.

(viii) Price Level: Elasticity of demand also depends on the level of price of the concerned commodity. Elasticity of demand will be high at higher level of the price of the commodity and low at the lower level of the price.

(ix) Time period: Demand is inelastic in short period but elastic in long period. It is because, in the long run, a consumer can change his consumption habits more conveniently than in the short period.

POINT ELASTICTY OF DEMAND

(a) It refers to measuring the elasticity at a particular point on demand curve.
(b) It makes use of derivative changes rather than finite changes in price & quantity.
(c) It is define as: $\frac{dq}{dp} \times \frac{P}{Q}$
   Where, dq/dp is the derivative of Quantity w.r.t. Prices at a point on demand curve.
   Point Elasticity $= \frac{Lower\ Segment}{Upper\ Segment} = \frac{PN}{PM}$
   As we move from N to M, elasticity goes on increasing.
   At mid point, Ep = 1, at N Ep = 0 & at M Ep = ∞

$At\ \ M,\ \ \frac{MN}{0}\ \ \ ,E_p = \infty$ $At\ \ P,\ \ \frac{PN}{MP}\ \ \ ,E_p = 1$

$At\ \ B,\ \ \frac{BN}{MB}\ \ \ ,E_p < 1$ $At\ \ A,\ \ \frac{AN}{MA}\ \ \ ,E_p > 1$

$At\ \ N,\ \ \frac{0}{MN}\ \ \ ,E_p = 0$

When elasticity is to be found between 2 points on demand curve or between the two prices, we use are elasticity.

$$\text{Arc Elasticity} = \frac{q_1\text{-}q_2}{P_1\text{-}P_2} \times \frac{P_1 + P_2}{q_1 + q_2} = \frac{\Delta q}{\Delta p} \times \frac{P_1 + P_2}{q_1 + q_2}$$

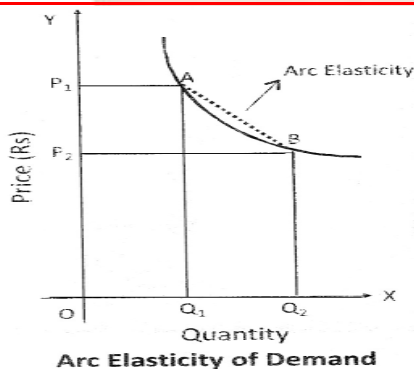**Where, p$_1$ = Original Price, q$_1$ = Original Quantity, p$_2$ = New Price, q$_2$ = New Quantity**

For Example, find elasticity of ratios between:

P$_1$ = Rs. 500   q$_1$ = 100

P$_1$ = Rs. 400   q$_2$ = 150

Arc Elasticity $= \frac{q_1 - q_2}{P_1 - P_2} \times \frac{P_1 + P_2}{q_1 + q_2} = \frac{\Delta q}{\Delta p} \times \frac{P_1 + P_2}{q_1 + q_2}$

E = (50/100) × (900/250) = 1.8

ARC ELASTICITY OF DEMAND

Arc Elasticity of Demand

B. INCOME ELASTICITY DEMAND

(a) Meaning of Income Elasticity of Demand

Income elasticity of demand is the degree of responsiveness of quantity demand of a good to a small change in the income of consumer.

$$Ey = \frac{\% \text{ change in Quantiy Demand (Q.D)}}{\% \text{ Chnge in Income}} \quad \text{or} \quad E_y = \frac{Y}{Q} X \frac{\Delta Q}{\Delta Y}$$
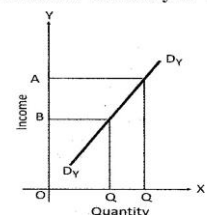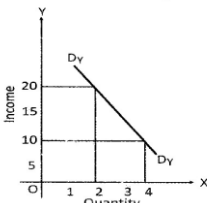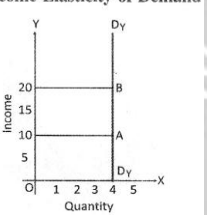
Where Y = original money income   ΔY = change in money income

       Q = original demand   ΔQ = change in change in demand

(b) Degree of Income Elasticity of Demand

1. 	(a) Income Elasticity of Demand for a good is positive, when with an increase in the income of a consumer, his demand for the good increases and vice versa. (b) It is Positive in case of **Normal Goods.**
2. 	(a) Income elasticity of demand is negative when increase in the income of the consumer is accompanied by fall in demand of a good. (b) It is Negative in case of **Inferior Goods**.
3. 	(a) Income elasticity of demand is zero, when change in the income of consumer evokes no change in his demand. (b) Demand for **Necessities** like oil, salt, etc. have zero income elasticity of demand.

There is a useful relationship between income elasticity for a goods and proportion of income spent on it.

1. If the proportion of income spent on a goods remains the same as income increases, then income elasticity for the goods is equal to one.

2. If the proportion of income spent on a goods increases as income increases, then income elasticity for the goods is greater than one.

3. If the proportion of income spent on a goods decreases as income rises, then income elasticity for   the goods is less than one.

If the income elasticity for a goods is greater than one it shows the goods bulks larger in consumer's expenditure as he becomes richer. Such goods are called luxury goods. On the other hand, if the income elasticity is less than one it shows that the goods is relatively less important in consumer's eye and therefore, is called necessity.
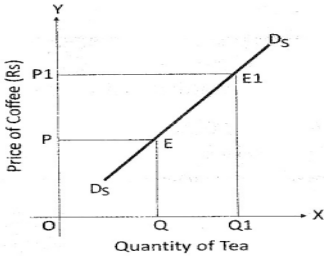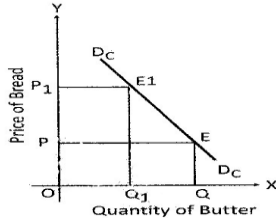
C. CROSS ELASTICITY OF DEMAND

(a) Meaning of Cross Elasticity of Demand

Cross Elasticity of Demand is a change in the demand of one good in response to a change in the price of another good.

$$E_c = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x}$$

Where, E_c = Cross Elasticity   : q_x = Original Q.D. of X

Δq_x = Change in Q.D. of X   : p_y = Original Q.D. of Y

Δp_y = Change in price of Y

(b) Degrees of Cross Elasticity

1.	(a) It is positive in case of **substitute goods** (b) *For example*, rice in the price of coffee will lead to increase in demand for tea. (c) The curve slopes upward from left to right.
2.	(a) It is negative in case of **complementary goods** (b) *For example*, rice in the price of bread will bring down the demand for tea. (c) The curve slopes downward from left to right.
3. Zero Cross Elasticity of Demand	(a) Cross elasticity of demand is zero, when two goods are **not related to each other.** (b) *For example*, rice in the price of wheat will have no effect on the demand for shoes.

If two goods are perfect substitutes for each other cross elasticity is infinite and if two goods are totally unrelated cross elasticity between than is zero.

TOTAL EXPENDITURE (OUTLAY) METHOD

1.   This method was evolved by Dr. Alfred Marshall.

2.   According to this Method, to measure the elasticity of demand it is essential to know how much & in what direction the total expenditure has changed as a result of change in the price of a good.

Elasticity of Demand	Price	Total Expenditure
1. When as a result of increase in price of a good, total expenditure on the good falls or vice versa, price elasticity of demand is greater than unity i.e. Ep >1	8 10	30 20
2. When as a result of change in price of a good, total expenditure on the good remains same, price elasticity of demand is equal to unity i.e. Ep =1	8 10	30 30

3. When as a result of increase in price of a good, total expenditure on the good increases or vice versa, price elasticity of demand is less than unity i.e. Ep < 1	8 10	30 40

Advertisement Elasticity

Advertisement elasticity of sales or promotional elasticity of demand is the responsiveness of a good's demand to changes in firm's spending on advertising.

The advertising elasticity of demand measures the percentage change in demand that occurs given a one percent change in advertising expenditure.

Advertising elasticity measures the eectiveness of an advertisement campaign in bringing about new sales.

Advertising elasticity of demand is typically positive.

f. Higher the value of advertising elasticity greater will be the responsiveness of demand to change in advertisement.

g. Advertisement elasticity varies between zero and in-nity

It is measured by using the formula;

$$Ea\% = \frac{\text{Change in demand\%}}{\text{change in spending on advertising}}$$

$$Ea = \frac{\Delta Qd}{Qd} \div \frac{\Delta A}{A}$$

Where

ΔQd denotes change in demand.

ΔA denotes change in expenditure on advertisement.

Qd denotes initial demand.

A denotes initial expenditure on advertisement.

Elasticity   Interpretation

$Ea = 0$ Demand does not respond to increase in advertisement expenditure.

$Ea > 0$ but < 1 Change in demand is less than proportionate to the change in advertisement expenditure.

$Ea = 1$ Demand changes in the same proportion in which advertisement expenditure changes. $Ea > 1$ Demand changes at a higher rate than change in advertisement expenditure.

DEMAND FORECASTING

It is the art and science of predicting the probable demand for a commodity at some future date on the basis of certain past behaviour patterns of some related events and the prevailing trends in the present. Demand forecasting is not a simple guessing, but a scientific method.

USEFULNESS

The effectiveness of the plans of business managers depends upon the level of accuracy with which future events can be predicted. Forecasting of demand plays a vital role in the process of planning and decision-making, whether at the national level or at the level of a firm. The importance of demand forecasting has increased all the more on account of mass production and production in response to demand.

A good forecast enables the firm to perform an efficient business planning. Forecasts offer information for budgetary planning and cost control in functional areas of finance and

accounting. Good forecasts help in efficient production planning, process selection, capacity planning, facility layout and inventory management.

But no forecast is completely fool-proof and correct as they are future oriented.

Scope of Forecasting

The scope of the forecasting task depends upon the area of operation of the firm in the present as well as what is proposed in future. it also depends on cost-benefit analysis i.e. cost of forecasting and the benefits owing from such forecasting.

Types of forecasts

(iv) (i)Macro-level forecasting deals with the general economic environment prevailing in the economy as measured by the Index of Industrial Production (IIP), national income and general level of employment etc.

(v) (ii) Industry- level forecasting is concerned with the demand for the industry's products as a whole. For example, demand for cement in India.

(vi) Firm- level forecasting refers to forecasting the demand for a particular firm's product, say, the demand for ACC cement.

(2) Based on time period, demand forecasts may be short-term demand forecasting and long-term demand forecasting.

(i) Short-term demand forecasting covers a short span of time, depending of the nature of industry. It is done usually for six months or less than one year and is generally useful in tactical decisions.

(ii) Long-term forecasts are for longer periods of time, say two to five years and more. It provides information for major strategic decisions of the firm such as expansion of plant capacity.

Demand Distinctions

it is important for us to understand the demand distinctions which are as follows:

a) Producer's goods and Consumer's goods: Goods which are used for the production of other goods-either consumer goods or producer goods themselves are called producers goods. Ex. machines, plant and equipments.

Consumer's goods are those which are used for final consumption. Ex. readymade clothes, prepared food, residential houses, etc.

b) Durable goods and Non-durable goods:- Non durable goods are those which cannot be consumed more than once. Raw materials, fuel and power, packing items etc are examples of non durable producer goods. Beverages, bread, milk etc are examples of non-durable consumer goods. These will meet only the current demand.

Durable goods do not quickly wear out, can be consumed more than once and yield utility over a period of time. Examples of durable consumer goods are: cars, refrigerators and mobile phones. Building, plant and machinery, office furniture etc are durable producer goods. The demand for durable goods is likely to be derived demand. Further, there are semi-durable goods such as, clothes and umbrella.

c) Derived demand and Autonomous demand :- The demand for a commodity that arises because of the demand for some other commodity called 'parent product', 'is called derived demand. For example, the demand for cement is derived demand, being directly related to building activity. In general, the demand for producer goods or industrial inputs is derived demand. Also the demand for complementary goods is derived demand.

If the demand for a product is independent of the demand for other goods, then it is called autonomous demand. It arises on its own out of an innate desire of the consumer to consume or

to possess the commodity. But this distinction is purely arbitrary and it is very difficult to find out which product is entirely independent of other products.

d) Industry demand and Company demand :- The term industry demand is used to denote the total demand for the products of a particular industry, e.g. the total demand for steel in the country.

On the other hand, the demand for firm's product denotes the demand for the products of a particular firm, i.e. the quantity that a firm can dispose o at a given price over a period of time. E.g. demand for steel produced by the Tata Iron and Steel Company. The demand for a firm's product when expressed as a percentage of industry demand signifies the market share of the firm.

e) Short-run demand and Long-run demand:- Short-run demand refers to demand with its immediate reaction to changes in product price and prices of related commodities, income fluctuations, ability of the consumer to adjust their consumption pattern, their susceptibility to advertisement of new products etc.

Long-run demand refers to demand which exists over a long period. Most generic goods have long- term demand. Long term demand depends on long-term income trends, availability of substitutes, credit facilities etc.

In short, long-run demand is that which will ultimately exist as a result of changes in pricing, promotion or product improvement, after enough time is allowed to let the market adjust to the new situation.

For example, if electricity rates are reduced, in the short run, the existing users will make greater use of electric appliances. In the long-run, more and more people will be induced to use electric appliances.

Factors affecting demand for non-durable consumer goods:
There are three basic factors which influence the demand for these goods:

(i)   Disposable income: Other things being equal, the demand for a commodity depends upon the disposable income of the household. Disposable income is the income available with the households after deducting personal taxes from personal income.

(ii) Price: Other things being equal, the demand for a commodity depends upon its own price and the prices of related goods (its substitutes and complements). While the demand for a good is inversely related to its own price and the price of its complements, it is positively related to the price of its substitutes.

(iii) Demography: This involves the characteristics of the population, human as well as non-human, using the product concerned. For example, it may pertain to the number and characteristics of children in a study of demand for toys and characteristics of automobiles in a study of the demand for tyres or petrol.

Non-durables are purchased for current consumption only. From a business firm's point of view, demand for non-durable goods gets repeated depending on the nature of the non durable goods. Usually, non durable goods come in wide varieties and there is competition among the sellers to acquire and retain customer loyalty.

Factors affecting the demand for durable-consumer goods:

Demand for durable goods has certain special characteristics. Following are the important factors that affect the demand for durable goods.

- A consumer can postpone the replacement of durable goods. Whether a consumer will go on using the good for a long time or will replace it depends upon factors like his social status, prestige, level of money income, rate of obsolescence etc.
- These goods require special facilities for their use e.g. roads for automobiles, and electricity for refrigerators and radios. The existence and growth of such factors is an important variable that determines the demand for durable goods
- As consumer durables are used by more than one person, the decision to purchase may be influenced by family characteristics like income of the family, size, age distribution and sex composition. Likely changes in the number of households should be considered while determining the market size of durable goods.
 (iv) Replacement demand is an important component of the total demand for durables. Greater the current holdings of durable goods, greater will be the replacement demand. Therefore, all factors that determine replacement demand should be considered as a determinant of the demand for durable goods.
- Demand for consumer durables is very much influenced by their prices and credit facilities available to buy them.

Factors affecting the demand for producer goods:

Since producers' goods or capital goods help in further production, their demand is derived from the demand of consumer goods they produce. Hence data required for estimating demand for producer goods (capital goods) are:
(i)   growth prospects of the user industries;
(ii) norms of consumption of capital goods per unit of installed capacity.

 An increase in the price of a substitutable factor of production, say labour, is likely to increase the demand for capital goods. On the contrary, an increase in the price of a factor which is complementary may cause a decrease in the demand for capital.

Higher the profit making prospects, greater will be the inducement to demand capital goods. If firms are optimistic about selling a higher output in future, they will have greater incentive to invest in producer goods. Advances in technology enabling higher efficiency at reduced cost on account of higher productivity of capital will have a positive impact on investment in capital goods. Investments in producer goods will be greater when lower interest rates prevail as firms will have lower opportunity cost of investments and lower cost of borrowing.

Methods of demand Forecasting

The following are the commonly available techniques of demand forecasting:

(i) **Survey of Buyers' Intentions:** The most direct method of estimating demand in the short run is to ask customers what they are planning to buy during the forthcoming time period, usually a year. This method involves direct interview of potential customers. Depending on the purpose, time available and costs to be incurred, the survey may be conducted by any of the following methods:

   a) Complete enumeration method where nearly all potential customers are interviewed about their future purchase plans

b) Sample survey method under which only a scientifically chosen sample of potential customers are interviewed

c) End–use method, especially used in forecasting demand for inputs, involves identification of all final users, fixing suitable technical norms of consumption of the product under study, application of the norms to the desired or targeted levels of output and aggregation.

Thus, under this method the burden of forecasting is put on the customers. However, it would not be wise to depend wholly on the buyers' estimate as the customers may themselves misjudge their requirements, may mislead the surveyors or their plans may alter due to various factors which are not identified or visualised at the time of the survey. This method is useful when bulk of sale is made to industrial producers and not useful for household customers.

(ii) **Collective opinion method:** This method is also known as **sales force opinion method** or **grass roots approach.** Under this method following steps are followed:

(a) Salesmen estimate expected sales in their respective territories.

(b) Consolidate these estimates of salesmen to find out the total estimated sales.

(c) Review the estimates to eliminate the bias of optimism on the part of some salesmen and pessimism on the part of others.

(d) Examine the revised estimates in the light of various factors like proposed changes in selling prices, product designs and advertisement programmes, expected changes in competition and changes in secular forces like purchasing power, income distribution, employment, population, etc.

The final sales forecast would emerge after these factors have been taken into account.

Merits: this method is simple and based on first hand information of those who are directly connected with sales.

Demerits: it is subjective as personal opinions can possibly influence the forecast.

Salesmen may be unaware of the broader economic changes which may have profound impact on future demand. Useful for the short run.

Expert Opinion method.

The Delphi technique, developed by Olaf Helmer at the Rand Corporation of the USA, provides a useful way to obtain informed judgments from diverse experts by avoiding the disadvantages of conventional panel meetings. Under this method, instead of depending upon the opinions of buyers and salesmen, firms solicit the opinion of specialists or experts through a series of carefully designed questionnaires.

Experts are asked to provide forecasts and reasons for their forecasts. Experts are provided with information and opinion feedbacks of others at different rounds without revealing the identity of the opinion provider.

These opinions are then exchanged among the various experts and the process goes on until convergence of opinions is arrived at.

This method is best suited in circumstances where intractable changes are occurring and the relevant knowledge is distributed among experts.

Delphi technique is widely accepted due to its broader applicability and ability to address complex questions. It also has the advantages of speed and cheapness.

Statistical methods: Forecasts using statistical methods are considered as superior methods because they are more scientific, reliable and free from subjectivity. The important statistical methods of demand forecasting are:

(a) **Trend Projection method**: This method, also known **classical method**, is considered as a 'naive' approach to demand forecasting. The trend projection method assumes that factors responsible for the past trend in demand will continue to operate in the same manner and to the same extent as they did in the past in determining the magnitude and direction of demand in future.

A firm which has been in existence for a reasonably long time would have accumulated considerable data on sales pertaining to different time periods. Such data, when arranged chronologically, yield a 'time series'. The time series relating to sales represent the past pattern of effective demand for a particular product. Such data can be used to project the trend of the time series..

The popular techniques of trend projection based on time series data are;

a) graphical method and

b) Fitting trend equation or least square method.

(b) Graphical Method: This method, also known as '**free hand projection method**' is the simplest and least expensive. This involves plotting of the time series data on a graph paper and fitting a freehand curve to it passing through as many points as possible. The direction of the curve shows the trend. This curve is extended into the future for deriving the forecasts. The main draw-back of this method is that it may show the trend but the projections made through this method are not very reliable.

(c) **Fitting trend equation: Least Square Method:** It is a mathematical procedure for fitting a line to a set of observed data points in such a manner that the sum of the squared differences between the calculated and observed value is minimised. This technique is used to find a trend line which best fit the available data. This trend is then used to project the dependant variable in the future. This method is very popular because it is simple and inexpensive. Moreover, the trend method provides fairly reliable estimates of future demand. The least square method is based on the assumption that the past rate of change of the variable under study will continue in the future. The forecast based on this method may be considered reliable only for the period during which this assumption holds. The major limitation of this method is that it cannot be used where trend is cyclical with sharp turning points of troughs and peaks. Also, this method cannot be used for short term forecasts.

(d) **Regression analysis**: This is the most popular method of forecasting demand. Under this method, a relationship is established between the quantity demanded (dependent variable) and the independent variables (explanatory variables) such as income, price of the good, prices of related goods etc.

Once the relationship is established, we derive regression equation assuming the relationship to be linear. The equation will be of the form $Y = a + bX$. There could also be a curvilinear relationship between the dependent and independent variables. Once the regression equation is derived, the value of Y i.e. quantity demanded can be estimated for any given value of X

- **Controlled Experiments**: This method is also known as **market experiment method**. Under this method, future demand is estimated by conducting market studies and experiments on consumer behaviour under actual, though controlled, market conditions. An effort is made to vary separately certain determinants of demand which can be manipulated, for example, price, advertising, etc., and conduct the experiments assuming that the other factors would remain constant. Thus, the effect of demand determinants like price, advertisement, packaging, etc., on sales can be assessed by either varying them over different markets or by varying them over different time periods in the same market. The responses of demand to such changes over a period of time are recorded and are used for assessing the future

demand for the product. For example, different prices would be associated with different sales and on that basis the price-quantity relationship is estimated in the form of regression equation and used for forecasting purposes. It should be noted however, that the market divisions here must be homogeneous with regard to income, tastes, etc.

Demerits: Relatively less in use because of expensiveness and time consuming.

2. Risky because they may lead to unfavourable reactions from dealers, consumers and competitors.

3. It is also difficult to determine what conditions should be taken as constant and what factors should be regarded as variable so as to segregate and measure their influence on demand.

4. It is practically difficult to satisfy the condition of homogeneity of markets.

Market experiments can also be replaced by 'controlled laboratory experiments' or 'consumer clinics' under which consumers are given a speed sum of money and asked to spend in a store on goods with varying prices, packages, displays etc. The responses of the consumers are studied and used for demand forecasting.

- **Barometric method of forecasting**: The various methods suggested till now are related with the product concerned. These methods are based on past experience and try to project the past into the future. Such projection is not effective where there are economic ups and downs. As mentioned above, the projection of trend cannot indicate the turning point from slump to recovery or from boom to recession. Therefore, in order to find out these turning points, it is necessary to find out the general behaviour of the economy. Just as meteorologists use the barometer to forecast weather, the economists use economic indicators to forecast trends in business activities. This information is then used to forecast demand prospects of a product, though not the actual quantity demanded. For this purpose, an index of relevant economic indicators is constructed. Movements in these indicators are used as basis for forecasting the likely economic environment in the near future. There are leading indicators, coincidental indicators and lagging indicators. The leading indicators move up or down ahead of some other series. For example, the heavy advance orders for capital goods give an advance indication of economic prosperity. The lagging indicators follow a change after some time lag. The heavy household electrical connections confirm the fact that heavy construction work was undertaken during the past with a lag of some time. The coincidental indicators, however, move up and down simultaneously with the level of economic activities. For example, rate of unemployment.

<center>CHAPTER 2</center>

CONSUMER BEHAVIOUR

APPROACHES TO CONSUMER BEHAVIOUR

1. Cardinal Utility Approach	(a) Propounded by Marshall
	(b) Known as Marshallian Approach.
2. Ordinal Utility Approach	(a) Propounded by Hicks & Allen
	(b) Known as Indifference Curve Analysis.

MEANING, FEATURES AND CONCEPTS OF UTILITY

(a) Meaning of Utility

1. Utility is synonymous with "Pleasure", "Satisfaction" & a sense of fulfillment of desire.
2. Utility is "WANT SATISFYING POWER" of a commodity.
3. Utility is psychological phenomenon.
4. Utility refers to abstract quality where by an object serves our purpose. **[Jevons]**
5. Utility is the quality of a good to satisfy a want. **[Hibdon]**
6. Utility is the quality in commodities that makes individual want to buy them. **[Mrs. Robinson]**

(b) Features of Utility

| 1. Utility is Subjective	It deals with the mental satisfaction of a man. *For example*, liquor has utility for drunkard but for a teetotaler, it has no utility.
2. Utility is Relative	Utility of a commodity never remains same, it varies with time, place & person. *For example*, cooler has utility in summer but not during winter.
3. Utility is not Essentially Useful	A commodity having need not be useful. *For Example*, Liquor is not useful, but it satisfies the want of an addict thus have utility for him.
4. Utility is Ethically Neutral	Utility has nothing to do with ethic. Use of liquor may not be good from the moral point of view, but as these intoxicants satisfy want of the drunkards, they have utility.

(c) Concepts of Utility

1. Initial Utility	The Utility derived from the consumption of 1st unit of commodity.
2. Total Utility	1. The aggregate of utilities obtained from the consumption of different units of commodity.
	2. $TU = U_1 + U_2 + U_3 + U_4 + \ldots + U_n$
3. Marginal Utility	1. Change in total utility resulting from the change in consumption.
	2. $MU = TU_n - TU_{n-1}$
	3. Three Types of Marginal Utility

Positive marginal Utility	With consumption of an additional unit of a commodity, total utility increases.
Zero Marginal Utility	With consumption of an additional unit of a commodity, total utility remains same.
Negative marginal Utility	With consumption of an additional unit of a commodity, total utility decreases.

Relation between TU and MU –

Quantity	Total Utility	Marginal Utility
0	0	-
1	8	8

2	14	6
3	18	4
4	20	2
5	20	0
6	18	-2
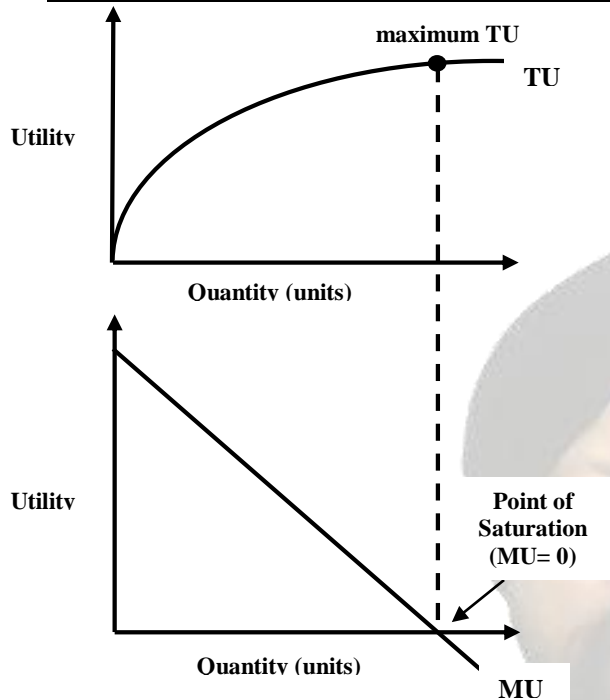
Total Utility is the sum of marginal utility. In the table, MU always declines and when MU decreases TU increases so long as MU is positive, when MU is zero, TU is maximum. This is called saturation point. When MU becomes negative, TU decreases. Mu may be positive, zero or negative but TU never becomes negative.

MARGINAL UTILITY ANALYSIS (MUA)

Meaning	(a) MUA was Formulated by Alfred Marshall. (b) Theory explains how a consumer spends his income on different goods & services so as to attain maximum satisfaction.	
Assumptions	1. Cardinal measurability of Utility	(a) Utility is a measurable & quantifiable entity. (b) Money is the measuring rod of utility i.e. the amount money which a person is prepared to pay for a unit of g rather than go without it is a measure of utility derive
	2. Constant Marginal Utility of Money	(a) MU of Money remains Constant. (b) Not Realistic. But has been made in order to Facilitate Measurement of Utility of Commodity in Terms of Mone
	3. Hypothesis of Independent Utility	(a) Theory Ignores Complementary Between goods. (b) Total Utility derived from whole collection of go purchased is the Sum Total of Separate Utilities of Good.
	4. Rationality	The consumer is rational i.e. his objective is to maximize uti
	5. Diminishing Marginal Utility	The additional benefit which a person derives from a g increase in stock a thing diminishes with every increase in stock that he already has.
Limitations	1. Utility is considered as cardinally measurable is unattainable as utility is a subjective concept. 2. Unrealistic assumption regarding marginal utility of money being constant. 3. No empirical verification.	

	4. The derivation of law is based on assumption of ceteris paribus which is unrealistic. 5. The Rationality of Consumer is unrealistic. 6. The Law of Diminishing Marginal Utility may not hold goods with respect to all goods like Gold, Cash.

LAWS OF DIMINISHING MARGINAL UTILITY

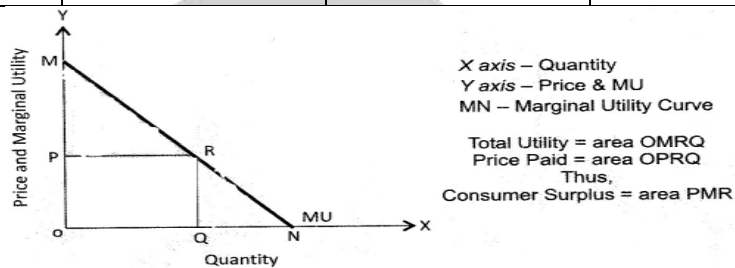| **1. Meaning**	(a) The additional benefit which a person derives from a given increase in stock of a thing diminishes with every increase, in the stock that he already has. [Marshall] (b) As the amount consumed of a good increase, the marginal utility of the good tends to decrease. [Samuelson] (c) Law of diminishing marginal utility states that as more and more units of a commodity are consumed, marginal utility derived from every additional unit must decline. It is also known as Fundamental Law of Satisfaction or Fundamental Psychological Law.
2. Practical Illustration	<table><tr><th>Quantities of tea consumed (cups per day)</th><th>Total Utility</th><th>Marginal Utility</th></tr><tr><td>1</td><td>30</td><td>30</td></tr><tr><td>2</td><td>50</td><td>20</td></tr><tr><td>3</td><td>65</td><td>15</td></tr><tr><td>4</td><td>75</td><td>10</td></tr><tr><td>5</td><td>72</td><td>-3</td></tr></table>
3. Assumptions	This law is based on above four assumption of the MU analysis and there are also three more assumption : 1. Taste, income of the consumer remains uncharged. 2. The units of the commodity are identical in all aspects. Only standard units of commodity are consumed. 3. There is no time – gap between consumption that i.e. Consumption of commodity should be continuous.
4. Limitations	1. Cardinal measurement of utility is not possible. 2. Marginal utility of money (MUm) does not remain constant 3. Law is applicable if there are identical unit, no charge in habits, taste and income of the consumer 4. Law is applicable if there are standard unit-sufficient unit – neither more nor less. 5. Law is applicable if there is no time – gap or interval between the consumption 6. Law may not apply to some articles like gold ,money , music and hobbies. 7. The shape of utility curve may be affected by the presence of substitutes or complementary goods.

MARSHALLAIN CONSUMER'S SURPLUS

Meaning	(a) Marshall defined Consumer's Surplus as "the excess of the price which a consumer would be willing to pay rather than go without the thing over that which he actually does pay." (b) **Consumer's Surplus = What a consumer is ready to pay – What he actually pays.** (c) Derived from the law of diminishing Marginal Utility.

Assumption	1. Perfect Competition prevails in market 2. Consumer purchases only one commodity. 3. Price of the commodity is fixed 4. Marginal Utility of money is constant.			
Practical Illustration	No. of Units	Marginal Utility	Price (Rs.)	Consumer's Surplus
	1	30	20	10
	2	28	20	8
	3	26	20	6
	4	24	20	4
	5	22	20	2
	6	20	20	0
	7	18	20	-

X axis – Quantity
Y axis – Price & MU
MN – Marginal Utility Curve

Total Utility = area OMRQ
Price Paid = area OPRQ
Thus,
Consumer Surplus = area PMR
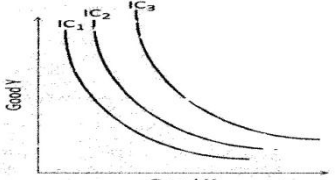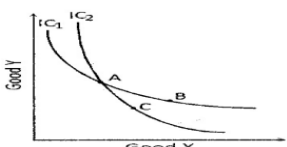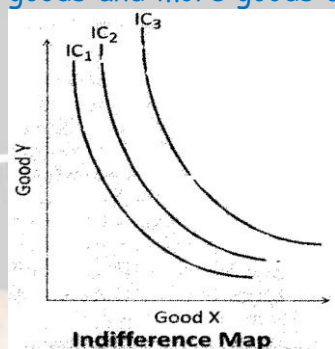
Marshallian Consumer's Surplus
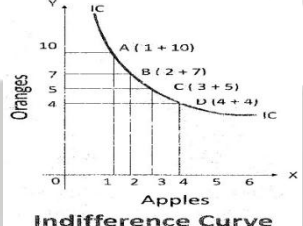
Marshallian Consumer's Surplus

| Limitation	1. Consumer's Surplus cannot be measured precisely because it is difficult to measure the Marginal utilities of different units of a commodity consumed by a person. 2. In case of necessaries, the marginal utilities of earlier units are infinitely large. In such cases, Consumer's Surplus is always infinite. 3. Consumer's Surplus deriving from a commodity is affected by the availability of substitutes. 4. No Simple rule for deriving the utility scale of articles of distinction e.g. diamonds. 5. Marginal Utility of money is assumed to be constant which is unrealistic because consumer's surplus cannot be measured in terms of money because the marginal utility of money changes as purchases are made and consumer's stock of money diminishes.
Practical Application	• It is very important to a business firm to reflect on the amount of consumer surplus enjoyed by different segments of their customers because consumers who perceive large surplus are more likely to repeat their purchases. • Understanding the nature and extent of surplus can help business managers make better decisions about setting prices. • Large scale investment decisions involve cost benefit analysis which takes into account the extent of consumer surplus which the projects may fetch.. • Consumer surplus usually acts as a guide to finance ministers when they decide on the products on which taxes have to be imposed and the extent to which a commodity tax has to be raised. It is always desirable to impose taxes or increase the rates of taxes on commodities yielding high consumer's surplus because the loss of welfare to citizens will be minimal.

INDIFFERENCE CURVE

Meaning of Indifference Curve	1. A single Indifference Curve shows the different combination of x and y that yield equal satisfaction to the consumer. **[Leftwitch]** 2. An Indifference Curve is a combination of goods, each of which yield the same level of total utility to which the consumer is indifferent. **[Ferguson]**
Assumptions to Indifference Curve Analysis	1. **Rationality of Consumer** – The consumer is rational & aims at maximizing his total satisfaction. 2. **Ordinal Utility** – Utility can be expressed ordinally i.e. consumer is able to tell total order of his preferences. 3. **Non Satiety** – More is preferred to Less. 4. **Transitivity of Choice** – Means that if a consumer prefers A to B & B to C, he must prefer A to C. 5. **Consistency of Choice** – Means that if a consumer prefers A to B in one period, he will not prefer B to A in another period or treat them as equal.
Indifference Curve Schedule	An Indifference Curve Schedule refers to a schedule that indicates different combinations of two commodities which yield equal satisfaction <table><tr><th>Combination</th><th>Apples</th><th>Oranges</th><th>MRS</th></tr><tr><td>A</td><td>1 +</td><td>10</td><td>-</td></tr><tr><td>B</td><td>2 +</td><td>7</td><td>3/1</td></tr><tr><td>C</td><td>3 +</td><td>5</td><td>2/1</td></tr><tr><td>D</td><td>4 +</td><td>4</td><td>1/1</td></tr></table> Indifference Curve (a) Indifference Curve (IC) is a diagrammatic representation of indifference schedule (b) It is a line that shows all possible combinations of two (c) goods between which a person is indifferent. Since all (d) the combinations provide same level of satisfaction the consumers prefers them equally and does not mind which combination he gets. (e) It is an ordinal concept given by Hicks and Allen.
Indifference Map	(a) An Indifference Map represents a group of indifferencurves each of which expresses a given level of satisfaction. (b) A set of indifference curve is called indifference Map. Indifference Map
Marginal Rate of Substitution (MRS)	(a) The rate at which an individual must give up "good X" in order to obtain one more unit of "good Y," while keeping their overall utility (satisfaction) constant. The MRS is calculated between two goods placed on an indifference curve, which displays a frontier of equal utility for each combination of "good X" and "good Y".

Properties of Indifference Curve	**1. An Indifference Curve has a Negative Slope (i.e. it Slope downwards)**	It implied that when the amount of one good in combination is increased, the amount of the other good is reduced. This is essential if the level of satisfaction is to remain the same on an Indifference Curve.
	2. Indifference Curves are always convex to the origin.	(a) It implies that the two commodities are imperfect substitutes for each other & that the Marginal Rate of Substitution (MRS) between the two goods decreases as a consumer moves along an indifference Curve. (b) Two extreme conditions also exists. (i) When 2 goods are perfect substitutes, Indifference Curve will be a straight line on which MRS is constant. (ii) When 2 goods are complementary, Indifference Curve will consist of 2 straight lines with a right consist of 2 straight lines with a right angle bent and it will be L shaped.
	3. Two Indifference Curves never intersect or become tangent to each other. 	If two Indifference Curve intersect or are tangent, it would imply that an indifference curve indicates two different levels of satisfaction (one being larger than the other) yield the same level of satisfaction. This will violate the rule of transitivity.
	4. Higher Indifference Curve represents higher Satisfaction	This is because the combinations lying on higher Indifference Curve contain more of either one or both goods and more goods are preferred to less of them. **Indifference Map**
	5. Indifference curve touches neither x axis nor y axis. It is often assumed that a consumer buys a combination of two goods.	

PRICE LINE OR BUDGET LINE

(a) The budget line shows all those combinations of two goods which the consumer can buy spending his given money income on two goods at their given prices.

(b) Remember, that the amount of a good that a person can buy will depend upon their income and the price of the good.

(c) Budget line is negatively sloped.

Y
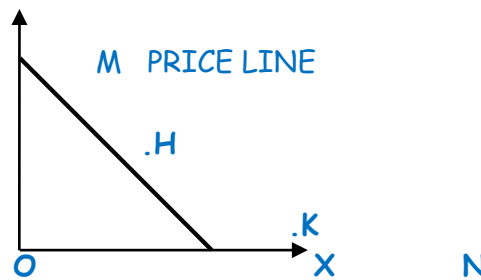
Price Line or Budget Line

Point outside the given price line(Like H) will be beyond the reach of the consumer.

(d) Point below the given price line (Like K) shows the under spending of the consumer.

$$= \frac{\text{Price of GoodX (X-axis)}}{\text{Price of GoodY (Y-axis)}}$$

MARGINAL RATE OF SUBSTITUTION:

Marginal Rate of Substitution (MRS) is the rate at which the consumer is prepared to exchange goods X and Y. In the following table we can define the MRS of X and Y as the amount of Y whose loss can just be compensated by a unit gaining of X in such a manner that the level of satisfaction remains the same.

COMBINATION	X	Y	MRS xy
A	1	12	--
B	2	6	6 ↓
C	3	4	2 ↓
D	4	3	1 ↓

In the above table as good X increases then good Y decreases in diminishing way. This is called Law of Diminishing Marginal Rate of substitution between X and Y commodities (Law of DMRS xy)

CONSUMER EQUILIBRIUM

(a) Consumer Equilibrium will be reached when he is deriving maximum possible satisfaction from the goods & is no position to rearrange his purchase of goods.

(b) The consumer's optimum bundle is located at the point of tangency between the budget line and an indifference curve.

- PL – Budget Line
- Points R, S, Q, T, H all lie on Budget Line But Q is Equilibrium Point.

Consumer Equilibrium
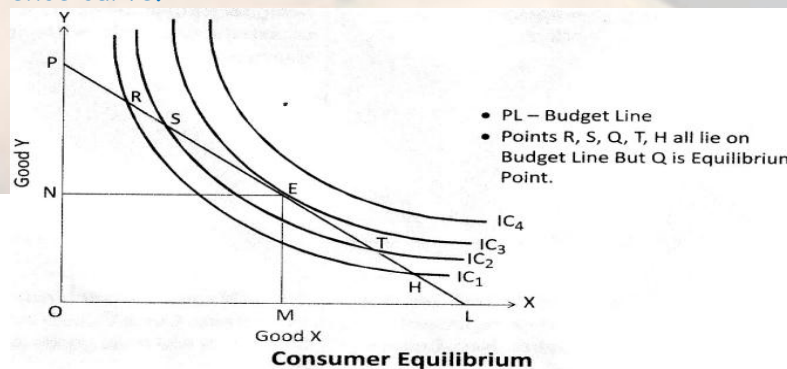
- At the Tangency Point E, the slopes of the Price Line PL Indifference Curve IC_3 are equal and IC is convex to the origin.
- Slope of Indifference curve shows MRS of X for Y (MRS_{xy})

- At Equilibrium point Q, $MRS_{XY} = MU_X / MU_Y = P_X / P_Y$

CHAPTER 3

LAW OF SUPPLY

DEFINITION OF SUPPLY

1. The supply of goods is the quantity offered for sale in a given market at a given time at various prices **[Thomas]**
2. Supply refers to the amount of a good that producer in a given market desire to sell, during a given time period at various prices, ceteris paribus. **[Samuelson]**

Supply is a flow. The quantity supplied is per unit of time, per day, per week or per year.

DETERMINANTS OF SUPPLY

1. Price of the Commodity	(a) Ceteris Paribus i.e. other things beings constant, Relative Price of the good increases, Quantity Supplied increases (b) This happens because goods are produced by the firm to gain profits. Profit rises when price rises.
2. Price of the Related Good	(a) Price of related good (Y) increases then, Quantity supplied of commodity (X) will decreases. (b) Rise in price of related good makes it more profitable for the firm to produce and sell.
3. Prices of the Factors of Production	Rise in price of factors of production increases the cost of making those goods hence less commodity is supplied at its existing price.
4. Government Policy	(a) Imposition of taxes on commodities increase the cost of production which reduces the firm's supply. (b) Subsidies reduce the cost of production which increases firm's supply.
5. State of Technology	Improvement in the technique of production reduces cost of production, more commodity is supplied at existing price.
6. Other Factor	Govt. industrial & foreign policies, goals of the firm, market structure, etc.
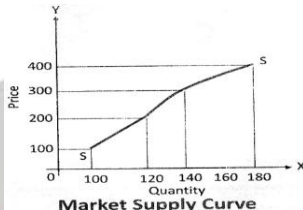
LAW OF SUPPLY

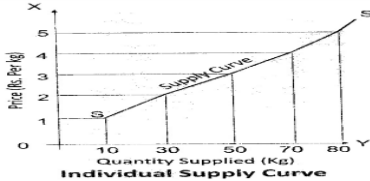|	
Meaning	(a) Law of supply states that other things being equal, the higher the price, the greater the quantity supplied or the lower the prices, the smaller the quantity supplied. **[Dooley]** (b) The Law of supply states that other things being equal, the quantities of any commodity that firms will produce & offer for sale, is positively related to the commodities own price, rising when price rises & falling when price falls. **[Lipsey]**
Explanation	**There is a direct relationship between price & quantity supplied:** (a) Quantity supplied rises as prices rises, other things being constant. (b) Quantity supplied falls as price falls, other things being constant.
Why?	**The Law of Supply is accounted for 2 factors:** (a) When prices rise, firms substitute production of one good for another. (b) Assuming firms' costs are constant, higher price means higher profit.
Behaviour of Supply	**Behaviour of Supply depends upon:** (a) Phenomenon considered. (b) Degree of possible adjustment in supply.

	(c) Time taken into consideration i.e. short-run & long run.
Assumption	Low of supply holds goods when "Other things remain the same" meaning thereby, the factor affecting supply other than prices, are assumed to be constant.

Supply Function	$Qx = f(P_x, P_r, P_f, G_p, T)$
	Where, Q_x = Supply of commodity X
	   P_x = Price of Commodity X
	   P_r = Price of related goods
	   P_f = Price of factors of production
	   G_p = Government policy
	   T = Technology

SUPPLY SCHEDULE

Meaning	Supply Schedule is a series of quantities which producer would like to sell per unit of time at different prices. There are two aspects of Supply Schedule – Individual Supply Schedule and market Supply Schedule.
Individual Supply Schedule	It is defined as a table which shows quantities of a given commodity which an individual producer will sell at all possible prices at a given time.

Price (Rs.) (per kg)	Quantity Supplied (kg)
1	10
2	30
3	50
4	70
5	80

Market Supply Schedule	It is define a table which the quantities of a given commodity which all producer sell at all possible prices at a given time. In market there are many producers of a single commodity. By aggregating the individual supply, the supply schedule is constructed.

Price of Commodity 'X' (In Rs.)	Supply by A	Supply by B	Market Supply (Units)
100	40	50	40 + 50 = 90
200	60	70	60 + 70 = 130
300	65	80	65 + 80 = 145
400	80	100	80 + 100 = 180

	It indicates that when price of 'X' is Rs 100 per unit, A's supply is of 40 units and that of 'b' is of 50 units. Thus the market supply is 90 units. As the price increases, quantity supplied increase.
Meaning of Supply Curve	(a) A supply Curve is a locus of points showing various alternative price – quantity combinations of a seller. (b) It shows the direct relationship between prices and quantity supplied (c) It slopes upwards to the right. (d) Graphical representation of supply schedule
Individual Supply curve	(a) It shows the quantities of a given commodity which an individual producer will sell at all possible prices at a given point of time. (b) The supply Curve slope upwards from left to right, meaning there by that when price is high quantity supplied is also high and vice versa.

Individual Supply Curve

Market Supply Curve	(a) It shows the quantities of a commodity which all producers will sell at possible prices at a given point of time. (b) It is obtained by the horizontal summation of the supply cruves of individual firms. **Market Supply Curve**

1. The Law is supply does not apply to agricultural products whose supply is governed by natural factors. If due to natural calamities, there is a fall in production of wheat, then its supply will not increase however high the price may be.
2. Social distinction goods will remain limited even if there prices rise.
3. Sellers may be willing to sell more of a perishable commodity even at a lower price.

EXPANSION AND CONTRACTION IN SUPPLY OR MOVEMENT ALONG A SUPPLY CURVE

Expansion in Supply	Contraction in Supply
Quantity Supplied ↑ Price ↑ Upward Movement along the Supply Curve	Quantity Supplied ↓ Price ↓ Downward Movement along the Supply Curve

Extension & Contraction in Supply
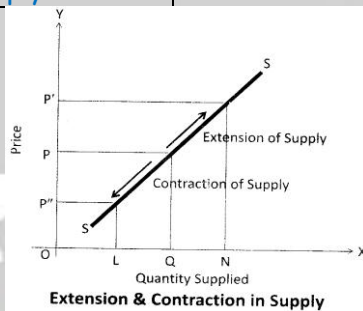
INCREASE AND DECREASE IN SUPPLY OR SHIFT IN SUPPLY CURVE

Increase in Supply	Decrease in Supply
Quantity Supplied ↑ (at all prices) due to change in other factors Rightward shift	Quantity Supplied ↓ (at all prices) due to change in other factors Leftward shift

Cause of Increase in supply –

1. Decrease in price of related goods.
2. Decrease in factor price (cost of production)
3. Improvement in technology
4. Favourable Govt. policy (decrease in taxes and increase in subsidy)
5. Future expectation about decrease in price
6. Others

Causes of Decrease in supply –

1. Increase in price of related goods
2. Increase in factor price (cost of production)
3. Outdated technology
4. Unfavorable Govt. policy (Increase in taxes and increase in subsidy)

Increase in Supply
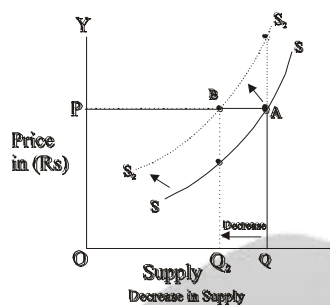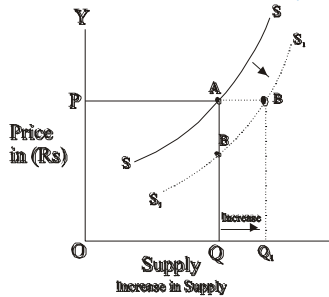
Decrease in Supply

5. Future expectation about Increase in price
6. Others

ELASTICITY OF SUPPLY

MEANING OF ELASTICITY OF SUPPLY
Elasticity of supply is defined as the responsiveness of the quantity supplied of a good to change in its price. It is a quantitative concept.

TYPES OF ELASTICITY OF SUPPLY
Price Elasticity of Supply

(a) Meaning of price Elasticity of Supply
Elasticity of supply is defined as the responsivess of the quantity supplied of a good to change in one of the variables on which supply depends.

$$E_S = \frac{\% \text{ Change in Q.Supplied}}{\% \text{ Change in Price}}$$

$$E_S = \frac{\% \text{ Change in Q.Supplied}}{\% \text{ Change in Price}} \times \frac{\text{Original Price}}{\text{Q. Supplied}}$$

$$E_S = (\Delta Q/\Delta P) \times (P/Q)$$

Where, E_S = Price Elasticity of Supply

ΔQ = Change in Quantity Supplied
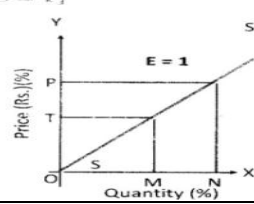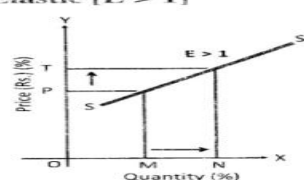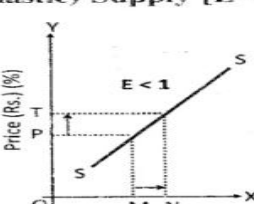
Q = Original in Quantity Supplied

ΔP = Change in Price

P = Original Price

(b)   Degrees of Price Elasticity of Supply

1. Perfectly Elastic Supply [E = ∞]	(a) A Perfectly elastic supply is one in which there is a significant change in the supply of commodity without any change or little change in its price.
	(b) It is an imaginary concept. It practical life, there is no commodity, the supply of which is perfectly elastic.
2. Perfectly Inelastic Supply [E = 0]	(a) Perfectly inelastic supply is one which a change in price produces no change in the quantity supplied.
	(b) It is an imaginary concept. In Practical life, there is no commodity, the supply of which is perfectly inelastic.

3. Unitary Elastic Supply [E =1]	Unitary elastic supply is one in which a % change in price produces an equal % change in quantity supplied.
4. Greater than Unitary Elastic [E>1]	Greater than unitary elastic supply is one in which a given % change in price produces relatively more % change in supply. As Elasticity increases, the slope of supply Curve decreases and hence the Shape of Supply Curve goes on becoming more **flatter.**
5. Less than Unitary Elastic (Inelastic) Supply [E<1]	Less than unity elastic supply is one in which a given % change in price produces relatively less% change in quantity supplied. As Elasticity decreases, the slope of supply Curve increases and hence the Shape of Supply Curve goes on becoming more **Steeper.**

POINT ELASTICITY OF SUPPLY

(a) It refers to measuring the elasticity at a particular point on supply Curve.

(b) It makes use of derivative changes rather than finite changes in price & quantity supplied.

(c) It is define as:

$$\frac{dq}{dp} \times \frac{p}{q}$$

Where, $\left(\frac{dq}{dp}\right)$ is the differentiation of supply Function w.r.t. price at a point on supply Curve.

ARC ELASTICITY SUPPLY

When elasticity is to be found between 2 prices, we use are elasticity.

Elasticity = $\left[\frac{q_1 - q_2}{p_1 - p_2} \times \frac{p_1 - p_2}{q_1 + q_2}\right] = \frac{\Delta q}{\Delta p} \times \frac{(p_1 + p_2)}{(q_1 - q_2)}$

Where, p_1 = Original Price

   q_2 = Original quantity supplied

   p_2 = New price.

   Q_2 = New quantity Supplied

For Example, find elasticity of supply between

   p_1 = Rs. 12 q_1 = 120

   P_2 = Rs. 15 q_2 = 60

   Elasticity = [($q_1 - q_2$) / ($p_1 - p_2$)] × [($p_1 + p_2$) / ($q_1 + q_2$)]

   = (40/3) × (27/80)

   = 4.50

FACTOR AFFECTING ELASTICITY OF SUPPLY

1. **Nature of inputs used-** If commonly available inputs are used, supply will be elastic.

2. **Natural constraints-** If we wish to produce more teak wood, it will take years of plantation before it becomes usable. Supply of teak wood will be less elastic.

3. **Risk taking-** If entrepreneurs are willing to take risk, supply will be more elastic.

4. **Nature of commodity-** Perishable goods are less elastic than durable goods because of limited shelf life of perishables.
5. **Cost of Production-** Supply will be less elastic in case increase in production causes a substantial increase in cost of production.
6. **Time factor-** Longer the time period, greater will be the elasticity of supply.
7. **Technique of Production-** Supply will be less elastic in case production of a commodity involves the use of a complex & expensive technology.

Equilibrium Price

Equilibrium refers to a market situation where quantity demanded is equal to quantity supplied. The intersection of demand and supply determines the equilibrium price. At this price the amount that the buyers want to buy is equal to the amount that sellers want to sell. Only at the equilibrium price, both the buyers and sellers are satisfied. Equilibrium price is also called market clearing price. The determination of market price is the central theme of micro economic analysis. Hence, micro-economic theory is also called price theory. The following table explains the equilibrium price

QUESTION SHEET

1. Utility means...... power of a commodity.
   (a) Satisfying
   (b) Satisfaction
   (c) Want satisfying
   (d) None of above
2. If the MUa/Pa for person X is greater than MUb/Pb for person Y, it is possible for person X to gain by sacrificing
   (a) b in exchange for more a from Y
   (b) Either x or y
   (c) a in exchange for more a from Y
   (d) Can not say anything
3. The marginal utility curve is
   (a) Parallel utility curve is
   (b) The demand curve of that commodity
   (c) Vertical to X axis
   (d) None of the above
4. Diminishing Marginal Utility means that

   (a) Total utility rises at an Increasing rate
   (b) Total utility do not change
   (c) Total utility rises, but at a decreasing rate
   (d) Total utility rises, at first then falls
5. According to ..... approach utility can be measured in utils.
   (a) Ordinal
   (b) Cardinal
   (c) Nominal
   (d) None of above
6. ...... are the units for measuring utility of a commodity
   (a) Prices
   (b) Quantities
   (c) Qualities
   (d) Utils

7. The income-elasticity of demand of an inferior commodity is
    (a) Positive
    (b) Negative
    (c) Infinity
    (d) Unitary

8. In the case of superior commodity, the income elasticity of demand is
    (a) Positive
    (b) Negative
    (c) Infinity
    (d) Unitary

9. Two commodities are perfect substitutes for each other if the elasticity between them is
    (a) Positive
    (b) Negative
    (c) Infinity
    (d) Unitary

10. A high value of cross-elasticity indicates that the two commodities are
    (a) Very good substitutes
    (b) Poor complements
    (c) Good complements
    (d) Not at all substitutes

11. The price elasticity of demand between two point is called
    (a) Cross elasticity
    (b) Income elasticity
    (c) Arc elasticity
    (d) None of the above

12. Two important factors which make difference in the elasticity of demand for different commodities are
    (a) Nature of the product and availability
    (b) Income and Expenditure
    (c) Quantity and price of the commodity
    (d) Preferences and income

13. At low prices, demand is normally
    (a) Less elastic
    (b) More elastic
    (c) Infinite
    (d) Unit elastic

14. While allocating the income, consumer has a goal
    (a) To have those goods which are cheaper
    (b) To have the goods at higher prices
    (c) Maximise his total utility
    (d) To have goods of highest quality

15. When the utility can only be expressed in terms of ranks it is
    (a) Nominal approach
    (b) Cardinal approach
    (c) Ordinal approach
    (d) Both a & c above

16. As per the ordinal approach
    (a) Measurement of utility is not possible nor it can be ranked
    (b) Measurement of utility is possible but it can not be ranked
    (c) Measurement of utility is not possible but it can be ranked
    (d) Measurement and ranking of utility is possible

17. Which of the following is not an assumption of the marginal utility analysis
    (a) Consumer is rational
    (b) Utility can be measured in cardinal approach
    (c) Marginal utility of money changes with consumption
    (d) Utilities are interdependent

18. If a supply curve is going straight through the quantity axis, it's elasticity will be
    (a) Perfectly Inelastic
    (b) Perfectly elastic
    (c) Elastic
    (d) Unitary elastic

19. All but one of the following are assumed to remain the same while drawing an individual's demand curve for a commodity. Which one is it?
    (a) The preference of the individual.
    (b) His monetary income.
    (c) Price.
    (d) Price of related goods.

20. In the case of a straight line demand curve meeting the axis, the price-

elasticity of demand at the mid-point of the line would be :
(a) 0   (b) 1
(c) 1.5   (d) 2

21. Marginal utility theory was propounded by
    (a) Robbins
    (b) Samuel son
    (c) Alfred Marshall
    (d) Hicks and Allen

22. Indifference curve theory was propounded by
    (a) Samuel son
    (b) Alfred Marshall
    (c) Hicks and Allen
    (d) Ricardo

23. Which of the following approach of consumer behaviour analysis considers that the utility cannot be measured in cardinal terms?
    (a) Marginal utility approach
    (b) Law of variable proportions
    (c) Equi marginal approach
    (d) Indifference curve approach

24. Which of the following statement (s) is /are true?
    (a) Marginal Utility always increases with consumption
    (b) Marginal utility can never be negative
    (c) Total utility declines when Marginal utility is positive
    (d) None of above

25. TU_x is…. when marginal utility is negative
    (a) Lowest
    (b) Highest
    (c) Increasing
    (d) Declining

26. TU_x is …. when marginal utility is zero
    (a) Lowest
    (b) Highest
    (c) Increasing
    (d) Declining

27. Marginal utility is the additional utility derived by consuming…… additional unit of a commodity.
    (a) one

(b) Some
(c) Many
(d) All of above

28. Total utility is the sum total of …..
    (a) Average utility
    (b) Marginal utility
    (c) Ordinal utility
    (d) None of above

29. As we consume more units of a commodity, its utility declines with every unit consumed, is stated by
    (a) Law of marginal utility
    (b) Law of constant utility
    (c) Law of Diminishing marginal utility
    (d) Law of decreasing returns

30. Marginal utility can be calculated by:
    (a) $TU_n - TU_{n-1}$
    (b) $TU_{n-1} - TU_n$
    (c) Change in total utility/change in quantity
    (d) Both a & c

31. Which of the following is not an assumption of Law of Diminishing Marginal Utility
    (a) Units consumed should be different in all respects
    (b) There is no time gap between consumption
    (c) Units consumed should be of standard units
    (d) Habit of the consumer should remain unchanged

32. Which of the following equations can best represent consumer's surplus?
    (a) Consumer's surplus = $Mu_x - (P_x \times Q_x)$
    (b) Consumer's surplus=$\sum (Mu_x \times Px) - Q_x)$
    (c) Consumer's surplus =$\sum Mux - (Px \; X \; Qx)$
    (d) None of above

33. Consumer's surplus for a consumption of single unit of a commodity is
    (a) $Mu_x = P_x$
    (b) $Mu_x \times P_x$
    (c) $Mu_x - P_x$
    (d) None of above

34. ….. is defined as the difference between what the consumer is willing to pay for a product and what he actually pays.

(a) Consumer surplus
(b) Consumer burden
(c) Optimum price
(d) Price gap

35. Which of the following curve will be made horizontal to the X axis while making a diagram representing marginal utility concept?
(a) Total Utility Curve
(b) Marginal Utility Curve
(c) Curve showing Price
(d) None of above

36. A rational consumer consumes the product till the time:
(a) $MU_x > P_x$
(b) $MU_x \leq P_x$
(c) $MU_x < P_x$
(d) $MU_x = P_x$

37. What is the condition of equilibrium in Equi Marginal Utility Analysis, when more than one commodities are consumed by the consumer.
(a) $\dfrac{MU_x}{P_x} = \dfrac{MU_y}{P_y}$
(b) $PX \times QX + PY \times QY = \text{Expenditure}$
(c) $PX \times QX + PY \times QY = \text{Income}$
(d) Both a& c

38. If the consumer equilibrium is represented by $MU_x = P_x$ $MU_{m'}$ what does MU_m stand for?
(a) Marginal Utility of Commodity
(b) Marginal utility of Money
(c) Marginal Utility of Consumption
(d) None of above

39. Indifference curve has convex shape to the origin because:
(a) MRS decrease as we go down
(b) MRS remains constant
(c) MRS increases
(d) None of above

40. Mux of X is 30 and Muy of Y is 50. If the price of Y is Rs. 25 what will be the price of X at equilibrium?
(a) Rs.20
(b) Rs.40
(c) Rs.15
(d) Rs.25

41. What will be the marginal utility of cold drink, if the prices of cold drink and uncle chips are Rs.50 and Rs.20 respectively, and the marginal utility of uncle chips is 100, assuming that the consumer is at equilibrium?
(a) 200
(b) 225
(c) 250
(d) 225.5

42. Indifference curve is locus of ..... of commodities giving the same level of satisfaction. Choose the word which will fit in the blanks
(a) Combinations, all
(b) Points, three
(c) Combinations, two
(d) Demand, one

43. Indifference curve has a downward and ..... shape to the origin
(a) Concave
(b) Convex
(c) Straight
(d) Circular

44. Two indifferent curves can not intersect each other because:
(a) At a combination, satisfaction level can be more than one
(b) At intersecting point a combination shows two satisfaction level which is not possible
(c) Intersecting point of two indifference curves show the quantity of only one commodity
(d) None of above

45. The price line shifts parallel when one of the following change:
(a) Price of one commodity
(b) Income of the consumer
(c) Consumption of commodity
(d) None of above

46. Two price lines having a common origin at any of the axis show change in:
(a) Price of both the commodities
(b) Income
(c) Consumption

(d) Price of one of the commodities

47. Indifference curve slopes….
    (a) Downward from left to right
    (b) Upward from left to right
    (c) Downward from right to left
    (d) None of above

48. If a combination is below the price line, it shows:
    (a) Underutilization of resources
    (b) Overutilisation of resources
    (c) Optimum utilization of resources
    (d) All of above

49. Which of the following is not a feature of the Indifference curve?
    (a) It always slopes downward
    (b) Indifference curves must be parallel to each other
    (c) Higher the indifference curve higher the satisfaction level
    (d) Indifference curve will have convex shape normally

50. Which of the following is the feature of an indifference curve?
    (a) Lower Indifference curve shows higher satisfaction level
    (b) Two indifference curve cannot intersect each other
    (c) An indifference curve can touch any of the axis
    (d) Indifference curve presents consumption of more than two commodities

51. Budget line equation is:
    (a) Money Income = Px . Qx + Py . Qy.
    (b) Money Income = Py . Qx + Px . Qy.
    (c) Money Income = Px . Py + Qx. Qy.
    (d) Any of above

52. The equilibrium condition as per indifference curve analysis is:
    (a) Where IC cuts Budget line
    (b) Where IC is lower than Budget line
    (c) Where IC is above Budget line
    (d) None of above

53. ….. point of the indifference curve and the Budget line shows the consumer equilibrium.
    (a) Intersection

(b) Crossing
(c) Tangency
(d) None of the above

54. Marginal Rate of Substitution is presented by:
    (a) $MRS_{xy} = \frac{\Delta_y}{\Delta_x}$
    (b) $MRS_{xy} = \frac{\Delta_x}{\Delta_y}$
    (c) Both (a) and (b)
    (d) None of above

55. Indifference curve can have shape of straight line sloping downward only when goods are:
    (a) Complementary
    (b) Not related
    (c) Perfect Substitute
    (d) Inferior

56. Indifference curve may have L shape only when:
    (a) MRS is declining
    (b) MRS is increasing
    (c) MRS is Zero
    (d) None of above

57. Marginal utility declines because of:
    (a) Law of Equi Marginal utility
    (b) Law of Demand
    (c) Law of Supply
    (d) Law of Diminishing Marginal Utility

58. Law of ….. says, "the money spent between the commodities in such a manner that the utility abstained from the last rupees spent on each commodity is equal"
    (a) Law of Equi-marginal utility
    (b) Law of marginal utility
    (c) Law of diminishing marginal utility
    (d) Law of diminishing returns

59. The second glass of lemonade gives lesser satisfaction to a thirsty boy. This is a clear case of
    (a) Law of demand.
    (b) Law of diminishing returns.
    (c) Law of diminishing utility.'
    (d) Law of supply.

60. Which one is not an assumption of the theory of demand based on analysis of indifference curves?
    (a) Given scale of preferences as between

different combinations of two goods.
(b) Diminishing marginal rate of substitution.
(c) Constant marginal utility of money.
(d) Consumers would always prefer more of a particular good to less of it, other things remaining the same.

61. Elasticity of supply is measured by which of the following formula
(a) % Change in Quantity Supplied
    % Change in Cost of Production
(b) % Change in Quantity Supplied
    % Change in Price of the Commodity
(c) % Change in Price of the Commodity
    % Change in Quantity Supplied
(d) None of the above

62. Supply schedule is a tabular presentation of
(a) Number of producers
(b) Supply and prices
(c) Quantity and income
(d) All of above

63. The total utility derived by Mr. X by consuming 10 ice creams is 55, whereas the total utility on consumption of 11 ice creams is 52. What is the marginal utility for 11th ice-cream ?
(a) 3
(b) 1
(c) -5
(d) -3

64. Demand can not be defined unless it is backed by the …… of a commodity.
(a) Quantity
(b) Number of consumers
(c) Taste of Consumer
(d) Price of the commodity

65. Quantity demanded is the requirement of a commodity at …… & ……
(a) A point of time, at different prices
(b) Different points of time, at different prices
(c) A point of time, at a single price
(d) Different points of time, at a single price

66. Demand is the quantity required by the consumer at …… & …….
(a) A point of time, at different prices
(b) Different points of time, at different prices
(c) A point of time, at a single price
(d) Different points of time, at a single price

67. Which of the following is not a factor affecting individual demand
(a) Income of consumers
(b) Tastes and preferences
(c) Size of market
(d) Price of the commodity

68. The price elasticity of demand is normally higher for those products which have
(a) No substitutes
(b) lesser substitutes
(c) large number of substitutes
(d) Few complementary goods

69. Which of the following statements regarding elasticity of demand is true?
(a) An increase in price will have a positive effect on the total revenue of the firm If the demand for the product is inelastic,
(b) An increase in price will have a negative effect on the total revenue of the firm If the demand for the product is inelastic
(c) An increase in price will have a positive effect on the total revenue of the firm If the demand for the product is elastic
(d) A decrease in price will have a positive effect on the total revenue of the firm. If the demand for the product is inelastic.

70. Which of the following is the factor, the law of supply considers
(a) Technology
(b) Quality of the product

(c) Price of the product
(d) none of the above
(e) Purchasing power of sellers

71. Change in demand as a result of the factors other than price is known as
(a) Demand fluctuation
(b) Contraction or expansion of demand
(c) Demand changing
(d) Shift in demand

72. When do price and quantity of a product decrease?
(a) When the demand curve shifts to the right
(b) When the supply curve shifts to the right
(c) When the supply curve shifts to the left
(d) When the demand curve shifts to the left

73. If price of related commodities increases, the demand of a commodity may:
(a) Increase
(b) Decrease
(c) Contract
(d) Increase or Decrease

74. If the level of income of a consumer increase demand for a normal commodity may:
(a) Expand
(b) Contract
(c) Increase
(d) Decrease

75. If the level of income of a consumer decreases demand for an inferior commodity will always:
(a) Expand
(b) Contract
(c) Increase
(d) Decrease

76. ……. effect plays an important role when we talk about tastes and preferences of the consumer
(a) Income effect
(b) Price effect
(c) Demonstration effect
(d) None of above

77. If the size of population expands, demand will also ……
(a) Expand
(b) Contract
(c) Increase
(d) Decrease

78. A demand curve shows the relationship between ….. & quantity of a commodity
(a) Quality
(b) Number of consumers
(c) Price
(d) All of above

79. While studying demand analysis on Y axis we generally take the ……..
(a) Price
(b) Quantity
(c) Size of population
(d) Income of consumer

80. While studying demand analysis on X axis we generally take the …….
(a) Price
(b) Quantity
(c) Size of population
(d) Income of consumer

81. Demand schedule is the….. presentation of information related to demand
(a) Arithmetic
(b) Diagrammatic
(c) Graphical
(d) Tabular

82. In a typical demand schedule quantity demanded varies ….. with price
(a) Directly
(b) Inversely
(c) Do not vary
(d) None of above

83. Elasticity of demand for salt is almost
(a) One
(b) Two
(c) Zero
(d) None of above

84. The demand curve normally shows a slope…
(a) Downward
(b) Upward
(c) Horizontal to X axis
(d) Vertical to X axis

85. Demand curve slope … from …. to …..
    (a) Upward from left to right
    (b) Downward from left to right
    (c) Upward from right to left
    (d) Downward from right to left

86. Which formula shows the arc elasticity?
    (a) $\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$
    (b) $\frac{\Delta P}{\Delta Q} \times \frac{Q}{P}$
    (c) $\frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$
    (d) $\frac{\Delta Q}{\Delta P} \times \frac{P_1 - P_2}{Q_1 - Q_2}$

87. Demand for a luxury good is normally
    (a) Perfectly elastic
    (b) Inelastic
    (c) More elastic
    (d) Less elastic

88. What will be the elasticity of a supply curve when the quantity supplied doesn't increase even if prices increases
    (a) More elastic
    (b) Inelastic
    (c) Perfectly elastic
    (d) Less elastic

89. Decrease in supply is a result of
    (a) Increase in price
    (b) Decrease in cost of production
    (c) Imposition of taxes by govt.
    (d) None of above

90. On which of the following law of DMU doesn't apply
    (a) Food items   (b) Necessities
    (c) Money   (d) All of above

91. What will be the effect of increase in price on total expenditure when the elasticity is?
    (a) Increase   (b) Decrease
    (c) Constant   (d) None of above

92. Relationship between the price and the quantity of a commodity is…….
    (a) Positive   (b) Negative
    (c) Irrelative   (d) None of above

93. When the demand schedule is made for more than one consumers, it is called:
    (a) Individual demand table
    (b) Individual demand curve
    (c) Market demand curve
    (d) Market demand schedule

94. As per the law of demand, if the price of a commodity……it's demand………
    (a) Remains constant, decreases
    (b) Increases, increases
    (c) Decreases, increases
    (d) Remains constant, increases

95. Which of the following statement(s) is/are true?
    (a) If the demand for good 1 increases when the price of good 2 raises, good 1 and good 2 are said to be complementary goods.
    (b) With a rise in the income, if the quantity demanded of good 2 falls then good 2 is an inferior good
    (c) If a rise in the price of good 3 causes corresponding rise in the price of good 4 then good 3 and good 4 are substitutes.
    (d) Both (b) and (c) above.

96. A decrease in price could be because of a
    (a) Fall in demand or a rise in supply
    (b) Rise in demand or a rise in supply
    (c) Fall in demand or a fall in supply
    (d) Rise in demand or a fall in supply

97. Which of the following is not a reason for downward slope of demand curve
    (a) Law of diminishing returns
    (b) Law of diminishing marginal utility
    (c) Income effect
    (d) Substitution effect

98. Which of the following results in a shifting of the demand curve?
    (a) An increase in the tax on cold drinks leading to their fall in demand
    (b) A rise in the electricity charges leading to a lesser consumption.
    (c) Slashing of rates by an airline resulting in a rise in the number of passengers.
    (d) Fall in the sales of festive items due to heavy disasters before the festival.

99. When the consumer shifts to another commodity which is cheaper, it's called
    (a) Price effect   (b) Income effect
    (c) Substitution effect   (d) None of above

100. When the price of a commodity falls and the consumer buys more of its units, it is
    (a) Price effect   (b) Income effect
    (c) Substitution effect   (d) None of above

101. If the price of a commodity falls and it's demand also falls, which commodity it may be
    (a) Normal goods
    (b) Necessity goods
    (c) Prestigious goods
    (d) All of above

102. When more time is given to consumer to respond toward changes in price, demand will be
    (a) More elastic   (b) Less elastic
    (c) Unitary   (d) Zero

103. If the consumer expects the price of a commodity to rise in future, his consumption now will
    (a) Increase   (b) Decrease
    (c) Not change   (d) None of the above

104. Expansion of the demand means change in the quantity of a goods with respect to change in
    (a) Price of the commodity
    (b) Population
    (c) Preferences
    (d) Income

105. Contraction is shown when the price of a commodity:
    (a) Increases   (b) Decreases
    (c) does not change   (d) None of the above

106. Movement along the same curve shows:
    (a) Expansion   (b) Contraction
    (c) Either a or b   (d) None of the above

107. When the income of a consumer increases the demand for a normal good will:
    (a) Increase   (b) Decrease
    (c) Fall   (d) Expand

108. When there is a rise in quantity demanded of a commodity due to decrease in price of the commodity it is known as.....
    (a) Increase in demand
    (b) Contraction of demand

    (c) Expansion of demand
    (d) Fluctuation of the demand

109. If the size of the population increases, demand curve will show:
    (a) Leftward Shift   (b) Rightward Shift
    (c) Horizontal Shift   (d) Vertical Shift

110. When the demand curve shifts towards left it shows:
    (a) Increase in demand
    (b) Contraction of demand
    (c) Decrease of demand
    (d) Fluctuation of the demand

111. When the price of tea decreases, demand for bread increases. It implies that tea and bread are:
    (a) Complementary goods
    (b) Substitute goods
    (c) Inferior goods
    (d) Normal goods

112. If the demand for salt remains same even when there is an increase in its prices, it means salt is:
    (a) Normal good   (b) Necessity
    (c) Luxury good   (d) Inferior good

113. When change in the price of a commodity affects the quantity demanded of the other commodity both are:
    (a) Substitutes (b) Complementary
    (c) Either a or b   (d) Not related

114. When the quantity demanded of 'X' decreases due to decrease in price of 'Y' goods are:
    (a) Substitutes (b) Complementary
    (c) Not related (d) Either a or b

115. Elasticity is the ......of demand due to change in any of the variables affecting the demand:
    (a) Type   (b) Degree
    (c) Responsiveness   (d) None of above

116. Shift in demand curve does not take place because of......
    (a) Change in the price of the product
    (b) Change in the tastes and preferences
    (c) Change in population
    (d) Change in consumer habits

117. Price elasticity of a commodity refers to the…of demand due to change in it's……
(a) Responsiveness, Price
(b) Degree, Income
(c) Responsiveness, Income
(d) Type, Cost

118. Perfectly elastic demand is shown by elasticity equals t
(a) 0   (b) 1
(c) Infinity   (d) Less than 0

119. Unit elastic demand is shown by elasticity equals to
(a) 0   (b) 1
(c) Infinity   (d) Less than 0

120. Which of the following statements is true with regard to the elasticity of demand?
(a) The elasticity of demand remains same, both in short term period as well as in long term.
(b) Demand is more elastic in the short term than in long term
(c) Demand is more inelastic in the long term than in short term
(d) Demand is more elastic in the long term than in short term

121. Which of the following statement(s) is/are true regarding elasticity of demand?
(a) Elasticity can be positive or negative
(b) Elasticity can never be zero
(c) Elasticity always has a positive value
(d) Both a & b above

122. For which of the following products, is elasticity of demand highly elastic?
(a) Salt   (b) Water
(c) Jewellery   (d) Life saving drugs

123. If the demand for a product reduces by 5% as a result of an increase in the price by 20% what is the price elasticity of demand for the product?
(a) +0.25   (b) -0.50
(c) -0.25   (d) +0.50

124. Demand for which of the following products is/are relatively inelastic?
(a) Medicines   (b) Electricity
(c) Ice creams (d) Both a and b

125. In the above question electricity has relatively inelastic demand because of:
(a) Many uses
(b) No close substitute
(c) Higher consumption
(d) None of above

126. Which of the following is the formula for measuring price elasticity in proportionate change method:
(a) $\frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$ (b) $\frac{\Delta Q}{\Delta P} \times \frac{Q}{P}$
(c) $\frac{\Delta P}{\Delta Q} \times \frac{P}{Q}$ (d) None of above

127. Which of the following is not a method of measuring price elasticity of a commodity:
(a) Arc Elasticity Method
(b) Proportionate change Method
(c) Linear Equation Method
(d) None of the above

128. Price elasticity for luxury goods is normally:
(a) High   (b) Low
(c) Zero   (d) None of the above

129. For an essential commodity, price elasticity is normally:
(a) High   (b) Low
(c) Zero   (d) None of the above

130. Which of the following is not a degree of price elasticity
(a) Unitary   (b) Multi
(c) More than one   (d) Less than one

131. Formula for point elasticity is:
(a) Lower segment/ upper segment
(b) Upper segment/ lower segment
(c) Change in quantity/ change in price
(d) None of above

132. If the quantity shows a change of 10% and the demand is less elastic, the price change will be:
(a)10%   (b) More than 10%
(c) Less than 10%   (d) Can't say

133. Which of the following statements is/are true?
(a) Formulae to find point and arc elasticity are same
(b) Arc elasticity is the elasticity between two points of a demand curve

(c) Point elasticity is also called graphic method

(d) Both b & c

134. Formula for calculating cross elasticity between X and Y commodity is:

(a) $\frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x}$ (b) $\frac{\Delta Q_x}{\Delta P_y} \times \frac{Q_y}{P_x}$

(c) $\frac{\Delta P_y}{\Delta Q_x} \times \frac{P_y}{Q_x}$ (d) None of Above

135. If the price changes by 2% and quantity changes by 1% elasticity is:

(a) Unitary

(b) Perfectly Inelastic

(c) Relatively more elastic

(d) Relatively less elastic

136. Price of a commodity is Rs. 10 and demand is 20 units. If the price increases to Rs. 20 and the demand decreases to 9 units, what is the elasticity as per total outlay method:

(a) Unitary

(b) Inelastic

(c) Relatively more elastic

(d) Relatively less elastic

137. Which of the following is not a factor affecting price elasticity of a commodity:

(a) Availability of a commodity:

(b) Period

(c) Portion of income spent on a commodity

(d) Size of population

138. Demand curve for a normal commodity will shift……………if income of consumer decreases.

(a) Rightward (b) Leftward

(c) Will not change

(d) All of above

139. If the demand of a good is inelastic, an increase in its price will cause the total expenditure to

(a) Remain constant   (b) Increase

(c) Decrease   (d) Any of above

140. If two demand curves intersect each other which has the higher elasticity:

(a) Flatter

(b) Steeper

(c) Vertical to X axis

(d) None of the above

141. When economists speak of the utility of a certain good, they are referring to

(a) The demand for the good.

(b) The usefulness of the consumption.

(c) The satisfaction gained from consuming the good.

(d) The rate at which consumers are willing to exchange one good for another.

142. More the slope of a demand curve, elasticity will be:

(a) More   (b) Less

(c) Constant   (d) Cant't say

143. Perfectly elastic demand curve will always be ….. to X axis:

(a) Horizontal   (b) Vertical

(c) Crossing   (d) None of the above

144. If the demand curve is to be made for commodity, demand of which increases more than the change in price, the curve will be:

(a) Flatter   (b) Steeper

(c) Parallel   (d) Vertical

145. There is ……. relationship between the slope and the elasticity:

(a) Positive   (b) Negative

(c) No   (d) None of the above

146. If we move on a demand curve towards Y axis, its elasticity will:

(a) Remains constant   (b) Increases

(c) Decreases   (d) Any of above

147. Income elasticity is the responsiveness of the demand to the change in :

(a) Income (b) Real Income

(c) Expenses (d) All of above

148. If we say a commodity is income elastic, its income elasticity has to be

(a) Less than Zero

(b) More than Zero

(c) Zero

(d) None of above

149. If the income elasticity of a commodity is less than one, it means that with the decrease in income it's demand will:

(a) Decrease more proportionately

(b) Decrease less proportionately

(c) Increase more proportionately

(d) Increase less proportionately

150. Which of the following statement(s) is/are true?
(a) Cross elasticity is the responsiveness of demand of a commodity to the change in price of the commodity
(b) Cross elasticity is the responsiveness of demand of a commodity to the change in price of other commodity
(c) Cross elasticity is the responsiveness of price of a commodity to the change in demand of other commodity
(d) Both a & b above

151. What will be the slope of demand curve when it shows the cross elasticity between two complementary goods.
(a) Downward sloping
(b) Upward sloping
(c) Vertical
(d) None of the above

152. The demand curve can be upward rising when it shows relationship between :
(a) Two substitute goods
(b) Two complementary goods
(c) Income elasticity
(d) Both a & c above

153. Which of the following statements regarding cross elasticity is true?
(a) Either positive or negative
(b) Positive always
(c) Negative always
(d) None of above

154. An example of a commodity having highest consumer's surplus is
(a) Branded shirt (b) Salt
(c) A latest Mobile phone
(d) A pencil

155. The area, which is under the Marginal Utility curve shows.........of a commodity.
(a) Marginal cost   (b) Marginal utility
(c) Marginal Revenue   (d) Total utility

156. When MU curve is below x – axis it means that
(a) MU is zero   (b) MU is negative
(c) MU is positive   (d) MU is constant

157. At a saturation point of a commodity Marginal utility is

(a) Zero   (b) Negative
(c) Positive   (d) None of these

158. The assumption of constant marginal utility of money states
(a) The substitution effect of a price change is negative
(b) The income effect of a price change is unity
(c) The income effect of a price change is zero
(d) None of the above

159. Which of the following curves will show upward rising followed by downward falling shape
(a) Marginal utility curve
(b) Average utility curve
(c) Total utility curve
(d) Demand curve

160. At the Inflection point of total utility curve, the marginal utility will be
(a) Maximum   (b) Increasing
(c) Decreasing   (d) Negative

161. The price a consumer is willing to pay for a commodity equals to his
(a) Marginal utility
(b) Average utility
(c) Total utility
(d) None of the above

162. The indifference curve technique
(a) Has changed utility concept
(b) Is used as an alternative tool for utility analysis
(c) Is used alongwith the utility approach
(d) Is an integral part of the utility analysis

163. When the consumer's income increases, the prices of both the commodities remaining the same, budget line will move
(a) Parallel towards Y axis
(b) Parallel leftward
(c) Parallel rightward
(d) None of the above

164. The ratio of prices of two goods in indifference curve analysis is shown by
(a) The indifference curve

(b) The cost line
(c) Demand curve
(d) The budget line

165. If a consumer is habitual of consuming one commodity, what will be the price elasticity of that commodity:
(a) Relatively Less elastic
(b) Relatively More elastic
(c) Perfectly elastic
(d) None of the above

166. What is the relation between uses of one commodity and it's elasticity
(a) More the uses more elasticity
(b) More uses less elasticity
(c) Less uses more elasticity
(d) No relationship

167. Quantity of a commodity a producer offers to sale at a given time at a given price is
(a) Supply   (b) Quantity supplied
(c) Quantity sold (d) Stock of commodity

168. Supply is the ………… of quantity supplied during a time period at different prices
(a) Stock   (b) Inventory
(c) Flow   (d) None of above

169. Normally a supply curve
(a) Slopes downward
(b) Slopes upward
(c) Is vertically straight
(d) Is horizontally straight

170. Which is not a factor affecting supply
(a) Price of the related goods
(b) Technology
(c) Price of the commodity
(d) None of above

171. The supply curve shows ……….. relationship between price and quantity supplied:
(a) Positive   (b) No
(c) Negative   (d) None of above

172. If the cost of production decreases, supply will normally
(a) Decreases   (b)   Increases

(c) Keep constant   (d) Expands

173. When change in the price is equal to the change in quantity supplied, the product is said to have ………

(a) Unitary elastic supply
(b) Perfectly inelastic supply
(c) Relatively elastic supply
(d) Perfectly elastic supply

174. Elasticity of supply is responsiveness of ………. to the change in …………. .
(a) Supply, cost of production
(b) Supply, price of other commodity
(c) Supply, price of the commodity
(d) Supply, technology

175. If the supplier is ready to supply any number of a commodity at a single price what will be the shape of the supply curve of the commodity,
(a) Vertical   (b) Horizontal
(c) Downward sloping
(d) Upward sloping

176. When more units of the product are supplied at a higher price, it is called :
(a) Contraction of supply
(b) Change in supply
(c) Increase in supply
(d) Extension of supply

177. Elasticity of supply is equal to …. when the supply is perfectly inelastic,
(a) +1   (b) 0
(c) Infinity   (d) -1

178. Elasticity of supply is equal to …. when the supply is perfectly elastic,
(a) +1   (b) -1
(c) Infinity   (d) 0

179. Which of the following is not a factor affecting elasticity of supply.
(a) Nature of the commodity
(b) Time factor
(c) Number of Consumers
(d) None of the above

180. Which of the following is/ are true?
(a) Supply depends on demand
(b) Supply is affected by number of firms
     in market
(c) Supply is not affected by cost of production
(d) Both a & b above

181. Law of supply states that the supply will ….. if price

    (a) Increase, decreases
    (b) Decrease, increases
    (c) Increase, increases
    (d) Remain constant, increase

182. When the price of a commodity decrease it's supply will show
    (a) Contraction   (b) Decrease
    (c) Increase   (d) Extension

183. Market supply curve shows the relationship of the price and the quantity supplied of …..
    (a) An individual   (b) A market
    (c) A commodity   (d) A country

184. If the supply curve is vertical to X axis, it shows the ………. elasticity
    (a) Perfectly elastic
    (b) Perfectly inelastic
    (c) More elastic
    (d) Less elastic

185. The elasticity of a supply is 2 and if the price increases by 10%, the change in quantity supplied will be equal to :
    (a) 5%   (b) 10%
    (c) 20%   (d) 40%

186. Government imposes taxes on a commodity. Normal impact on supply will be that supply will :
    (a) Increase   (b) Contract
    (c) Expand   (d) None of above

187. Which of the following is a factor affecting the elasticity of supply:
    (a) Packing of product
    (b) Quantity of production
    (c) Nature of commodity
    (d) Size of commodity

ANSWER SHEET

1	2	3	4	5	6	7	8	9	10
C	A	B	C	B	D	B	A	C	A
11	12	13	14	15	16	17	18	19	20
C	A	A	C	C	C	C	A	C	B
21	22	23	24	25	26	27	28	29	30
C	C	D	D	D	B	A	B	C	D
31	32	33	34	35	36	37	38	39	40
A	C	A	A	C	D	D	B	A	C
41	42	43	44	45	46	47	48	49	50
C	C	B	B	B	D	A	A	B	B
51	52	53	54	55	56	57	58	59	60
A	D	C	A	C	C	D	A	C	C
61	62	63	64	65	66	67	68	69	70
B	B	D	D	C	B	C	C	A	C
71	72	73	74	75	76	77	78	79	80
D	D	D	C	C	C	C	C	A	B
81	82	83	84	85	86	87	88	89	90
D	B	C	A	B	C	C	C	C	C
91	92	93	94	95	96	97	98	99	100
C	B	D	C	B	D	A	D	C	A
101	102	103	104	105	106	107	108	109	110
C	A	A	A	A	C	A	B	B	C
111	112	113	114	115	116	117	118	119	120
A	B	C	A	C	A	A	C	B	D
121	122	123	124	125	126	127	128	129	130
A	C	C	D	B	A	C	A	C	B
131	132	133	134	135	136	137	138	139	140
A	B	D	A	D	C	D	B	B	A
141	142	143	144	145	146	147	148	149	150
C	B	A	A	B	B	A	B	B	B
151	152	153	154	155	156	157	158	159	160
A	D	A	B	D	B	A	D	C	A
161	162	163	164	165	166	167	168	169	170
A	B	C	D	A	A	B	C	B	D
171	172	173	174	175	176	177	178	179	180
A	B	A	C	B	D	B	C	C	B
181	182	183	184	185	186	187			
C	A	B	B	C	D	C			