Elastic demand or (supply): demand (supply) for which the price elasticity is greater than 1.

Inelastic demand or (supply): demand (supply) for which the price elasticity is less than 1.

Demand Equation: Qd f (P) $\rightarrow$ Qd = a - bP

Supply Equation: Qs f (P) $\rightarrow$ Qs = c + dP

Negative slope: a slope of a curve that is less than zero, representing a negative or inverse relationship between two variables.

Positive slope: a slope of a curve that is greater than zero, representing a positive or direct relationship between two variables.

Supply and stock: the goods and services which a producer is willing to and able to sell at a particular price level during specific time period is known as supply. **Stock:** the goods and services which a producer is able to sell but he is not willing to sell at a particular price level during specific time period

Disequilibrium: A state of either surplus or shortage in a market.

Cross price Elasticity of Demand: A measure the proportional change in the quantity demanded of one good due to proportional change in the price of another good.

Point Elasticity: a situation in which there are minor changes in the quantity demanded and price of a good $\frac{\Delta Qd}{\Delta P} \times \frac{P}{Qd}$

Arc Elasticity: a situation in which there are Large changes in the quantity demanded and price of a good. $\frac{Q_2 - Q_1}{Q_2 + Q_1} \div \frac{P_2 - P_1}{P_2 + P_1}$

Income Elasticity of Demand: A measure of the proportional change in the quantity demanded due to the change in income.

Individual demand curve: a curve showing the relationship between quantities demanded of a good by an individual and the price of the good.

Normal good: a good for which demand increases when income rises and decreases when income falls.

Inferior good: a good for which demand decreases when income rises and increases when income falls.

Utility: the ability of anything that fulfill human wants.

Total utility: the utility obtained from all the units of a goods or services consumed.

Negative utility: if MU less than zero, a consumer have negative utility.

Saturation point or (zero utility): when total utility are maximum and marginal become zero.

Marginal utility: the increase in utility when consumption of a good increases by one unit. MU= $\Delta TU/\Delta Q$

Law Diminishing marginal utility: other thing remaining constant marginal utility of a particular good or services continues to decrease with its consecutive consumption.

Rationality: Consumer aims to maximization of satisfaction with in given conditions.

Law of equi marginal utility: other thing remaining same if marginal utility of the all goods purchased is equal to the price of the commodities.

Indifference Curve: it is curve which shows different combinations of two goods (x,y) providing same level of satisfaction.

Indifference Curve Map: Represents a number of indifference curves for a given individual with reference to two goods.

Marginal rate of substitution (MRS): to get an additional unit of one commodity the unit of other commodities which are to be sacrifice? Also called the slope of indifference curve.

Budget constraint: an income limitation on a person's expenditure on goods and services.

Budget line: a line showing the maximum combinations of two goods that it is possible for a consumer to buy, given a budget constraint and the market prices of the two goods.

Slope of Budget line: Px/Py

Consumer Equilibrium: Equilibrium that occurs when the consumer has spent all income and the marginal utilities per unit spent on each good purchased are equal.

isocost line is a graphical representation of various combinations of two factors (labor and capital) which the firm can afford or purchase with a given amount of money.

Slope of isocost line: P_L/P_K or W/r

Isoquant: a curve showing all the possible combinations of two inputs (L, K) that yield the same quantity of output.

Marginal rate of technical substitution (MRTS): to get an additional unit of one factor (L) the unit of other factor (K) which are to be sacrifice? Also called the slope of Isoquant.

Marginal product of labor: the change in production due to a one-unit increase in labor input, holding other inputs fixed. $MPL= \Delta TP/\Delta L$

Marginal product of capital: the change in total production due to a one-unit increase in capital. $MPK= \Delta TP/\Delta K$

Total costs: the sum of all costs by producing goods or services. TC= FC+VC

Fixed costs: cost of production that does not depend on the quantity of production.

Variable costs: costs of production that vary with the quantity of production.

Average total cost: (*ATC*) total costs of production divided by the quantity produced (also called cost per unit).

Average fixed cost: (*AFC*) fixed costs divided by the quantity produced. FC/Q

Average variable cost (*AVC*) variable costs divided by the quantity produced. VC/Q

Marginal cost: the change in total costs due to a one-unit change in quantity produced. $\Delta TC/\Delta Q$

Total revenue: the income receives by selling output at market price. TR=P*Q

Average revenue: total revenue divided by quantity. TR/Q

Marginal revenue: the change in total revenue due to one more unit selling of output produced. $MR= \Delta TR/\Delta Q$.

Profits (π): total revenue received from selling the product minus the total costs of producing the product. $\pi = TR - TC$

Economic profits: total revenue minus total costs, where total costs include opportunity costs, whether implicit or explicit.

Final Good: A good in the hands of its final user.

Ceteris paribus "all other things being equal"; refers to holding all other variables constant.

Competitive market: a market in which no firm has the power to affect the market price of a good.

Law of Constant Returns: keeping other factors constant if we employing more units of variable factor (L) than output increase at constant rate and marginal product remain constant.

Law of increasing Returns: keeping other factors constant if we employing more units of variable factor (L) than output increase at increasing rate and marginal product increase on each additional unit.

Law of decreasing Returns: keeping other factors constant if we employing more units of variable factor (L) than output increase at decreasing rate and marginal product decrease on each additional unit.

Externality A by-product of consuming or producing a good that affects someone other than the buyer or seller.

Positive externality: the situation in which *benefits* spill over onto someone not involved in producing or consuming the good.

Negative externality: the situation in which *effects* spill over onto someone not involved in producing or consuming the good.

Firm: an organization that produces goods or services.

Perfect compilations: there are five condition, 1) large number of buyer and seller. 2) Free entry and exit in the market. 3) Perfect knowledge about market. 4) Homogeneous commodities, 5) perfect mobility of factors. 6) No transportation cost.

Equilibrium condition in Perfect compilations in short-run: there are four possibilities 1) abnormal profit. 2) Normal profit. 3) Normal loss. 4) Abnormal loss or shutdown point.

Imperfect compilations: if one or more conditions of perfect combinations are not fulfill than it is called.

Monopoly: one firm in an industry selling a product for which there are no close substitutes.

Duopoly: two firms in an industry selling a product for which there are no close substitutes. **Monopsony:** a situation in which there is a single buyer of a particular good or service in a given market.

Oligopoly: an industry characterized by few firms selling the same product with limited entry of other firms.

Monopolistic competition: a market structure characterized by many firms selling differentiated products in an industry in which there is free entry and exit.

Human capital: a person's accumulated knowledge and skills.

Increasing opportunity cost: a situation in which producing more of one good requires giving up an increasing amount of production of another good.

Business Enterprise: is the undertaking of activities associated with the production, sale or distribution of products or services. A business enterprise can be operated as a sole proprietorship, partnership, corporation, Limited Liability Company or other type of business association.

Sole Proprietorship: The simplest type of business. Sole proprietorships are owned and operated by a single person and are very easy to set up.

Partnership: A business owned by two or more people who share responsibilities and profits.

Corporation: is a business organization that has a separate legal personality from its owners. Ownership in a stock corporation is represented by *shares of stock*.

Joint Stock Company: is a business organization that is owned jointly by all its shareholders. All the shareholders own a certain amount of stock in the company, which is represented by their shares.

Multinational corporations: are large companies with operations its business in several countries across the world. For example, Apple, Ford, Coca-Cola, Google and Microsoft.

Capital stock: The total amount of capital in a nation that is productively useful at a particular point in time.

Linear: a situation in which a curve is straight, with a constant slope.

Long run: the minimum period of time during which all inputs to production can be changed.

Short Run: A period of time in which some inputs in the production process are fixed.

Long-run average cost curve: the curve that traces out the short-run average total cost curves, showing the lowest average total cost for each quantity produced as the firm expands in the long run.

Wage: the price of labor defined over a period of time worked.

Minimum wage: a wage per hour below which it is illegal to pay workers.

Shutdown point: the point at which price equals the minimum of average variable cost.

Cartel: a group of producers in the same industry who coordinate pricing and production decisions.

Price discrimination: a situation in which different groups of consumers are charged different prices for the same good.

Price-maker: a firm that has the power to set its price, rather than taking the price set by the market.

Price-taker: any firm that takes the market price as given; this firm cannot affect the market price because the market is competitive.

Production function: a relationship that shows the quantity of output for any given amount of input.

Average product of labor: the quantity produced divided by the amount of labor input.

Subsidy A government payment to buyers or sellers on each unit purchased or sold.

Free Rider: Anyone who receives the benefits of a good without paying for it.

Economics: the study of choice and decision making with limited (scarce) resources during a specific time period.

Microeconomics or (Price theory): the branch of economics in which we discuss individual (small) part of the economy such as how price is determine, how quantity determine and utility level.

Macroeconomics: the branch of economics in which we discuss aggregate economic activity in the economy such as inflation, unemployment and national income.

Basic economic problem: that exists in every economy: how to allocate scarce resources to satisfy unlimited needs and wants.

The three basic economic Problems (questions) addressed by economic agents are:

1. What to produce.
2. How to produce it.
3. For whom to produce it.

Economic good: is one that is limited in supply, such as oil, wheat, cotton, housing and cars.

Free goods: are unlimited in supply, such as the air, sea, rain water, sunlight and public domain web pages.

Economic agents: The three main economic agents or decision-makers in an economy are:

- Individuals or households
- Firms (businesses that operate in the private sector of the economy)
- The government.

Positive economics: a science in which the given facts are described as they are, and no suggestion. For example there is unemployment.

Normative economics: a science in which the given facts are not only described as they are, but also given suggestion. For example how to reduced unemployment.

Scarcity: insufficient supply of anything that are needed.

Goods: are physical items such as tables, clothing and pencils.

Services: are non-physical items such as haircuts, bus journeys, telephone calls and internet.

Needs: are the essential goods and services required for human survival. These include nutritional food, clean water, shelter, protection, clothing and access to health care and education.

Wants: are goods and services that are not necessary for survival. An individual's wants, or desires, tend to be unlimited as most people are rarely satisfied with what they have.

Factors of production: there are four factors of production

1. **Land refers to the natural resources required in the production process (such as oil, coal, water, wood, metal ores and agricultural products). The reward of land is called rent.**
2. **Labour refers to the human resources required in the production process (such as skilled and unskilled labour). The reward of labour is called wage.**
3. **Capital refers to the manufactured resources required in the production process (such as machinery, tools and equipment). The reward of capital is called intrest.**

4. **Organization** (entrepreneurship) refers to the skills a business person requires to combine and manage successfully the other three factors of production and the ability to undertake risk and responsible of profit or loss.

Opportunity cost: is the cost measured in terms of the next best choice given up when making a decision.

Production possibility curve (PPC): The PPC represents the maximum amount of goods and services which can be produced in an economy, if all resources are used efficiently.

Substitutes: are goods or services that can be used instead of each other, such as Coca-Cola or Pepsi and tea or coffee. If the price of a product falls, then it is likely the demand for the substitute will also fall.

Complements: are products that are jointly demanded, such as tennis balls and tennis racquets or care and petrol. If the price of a product increases, then the demand for its complement is likely to fall.

Demand: the goods and services which a consumer is willing to and able to purchase at a particular price level during specific time period is known as demand.

Supply: the goods and services which a producer is willing to and able to sell at a particular price level during specific time period is known as supply.

Market Equilibrium: occurs when the quantity demanded for a product is equal to the quantity supplied of the product (i.e. there are no shortages or surpluses).

Equilibrium Price: the market price at which quantity demand equal to quantity supply.

Equilibrium quantity: the market quantity at which quantity demand equal to quantity supply.

Excess demand: occurs when the demand for a product exceeds the supply of the product at Certain price levels.

Excess supply: occurs when the supply of a product exceeds the demand at certain price levels.

Price elasticity of demand: is calculated using the formula: → Definition

$$PED = \frac{\text{Percentage change in quantity demanded}}{\text{percentage change in price}}$$

Proportional change in quantity demmanded due to proportional change in price of the commodity or service itself, is called Price elasticity of demand.

Which can be abbreviated as:

PED = %ΔQD / %Δ p

Price elasticity of supply: is calculated using the formula:

$$PES = \frac{\text{Percentage change in quantity supplied}}{\text{percentage change in price}}$$

Which can be abbreviated as:

PED = %ΔQS / %Δ p

→ Definition:-

Proportional change in quantity supplied due to proportional change in price of a good or service, is called elasticity of supply.