ECONOMICS

Economics has been defined by different economists

a) **Robbins**
   Defined Economics as 'a science which studies human behavior as a relationship between ends and scarce means which have alternative uses'. (This is the best/ standard definition of economics)
b) **Livingstone and Ords**
   Defined economics as a subject that deals with material wellbeing of people and the goods produced in a country in a given period of time.
c) **Makena and Fleming**
   Defined economics as the study of production, distribution and consumption of economic goods and the effective way of creating such goods.
d) **J.S. Mill**
   Defined Economics as 'a practical science of production and distribution of wealth and problems involved in production and distribution'
e) **Adam Smith**
   Defined Economics as 'the study of the causes of wealth of nations and nature of wealth and the means through which we can increase production'.

Given the above definitions, Economics is generally a subject which deals with the way the scarce resources are allocated in order to satisfy man's unlimited wants. ***Therefore, the most important concept in all definitions of economics is scarcity*** and if the means/ resources were not scarce there would be no economic problem.

Note: The superiority of Robbins definition is seen in the following:

- It recognizes the basic economic principles i.e. scarcity, choice and opportunity cost.
- It focuses on the aspect of human behavior and the influence of scarcity
- It emphasizes that economics is a science that is, a systematic body of knowledge which deals with ascertainable facts.

- It makes economics an evaluation process i.e. whenever ends are unlimited and the means are scarce it gives rise to the economic problem of choice.

Scope of Economics

This is the limit to which economic problems can be studied. Economics studies human behavior and that is why it is referred to as a social science. It is therefore noted that the subject matter of economics overlaps with other subjects. It is concerned with the way in which existing natural and human resources can be used to increase human welfare.

Economics is concerned with the growth and distribution of resources over time. Economics is about economizing but not selfishness and the central problem of Economics is scarcity.

Economic questions arise out of scarcity of resources and the main objective of economic activities is to allocate scarce resources between competing uses in order to satisfy human wants.

Note: Reasons why Economics is a social science:

- It studies and predicts human behavior using scientific methods of inquiry to evaluate concepts against given facts.
- It looks at how best man can allocate scarce resources based on a number of theories which explain certain relationships.
- It looks at the organization of society for economic development and welfare.
- It studies the problems facing man in attempt to meet his unlimited wants using scarce resources.

Reasons for studying Economics

1. It is a foundation for future training in tertiary institutions in various fields/ careers such as social administration, statistics, banking, politics etc and thereafter work in various organizations.
2. To give students an understanding of the main economic problems facing society / developing countries such as unemployment, rapid population

growth, income inequality and therefore formulate policies that can overcome them.

3. To develop students' capacity in understanding the most important institutions in the country and how they operate such as banking institutions, money and capital markets, service providing institutions etc
4. For students to understand the economic system in which they are operating as individuals, firms and government so as to know their role in decision making.
5. To develop students capacity to interpret statistical data on which economic decisions are made; the main sources, imperfections e.g. business statistics, national budget, foreign exchange , stock exchange rates , price indices, etc
6. To develop students' understanding of their duties and responsibilities in contributing to the growth and development of their economies such as paying taxes, promoting local firms/ industries, demanding accountability from the government etc
7. Economics contributes to the development of human resource in the country. It equips learners with the relevant knowledge to become productive in society where they live (using scarce resources to improve people's standards of living.

Normative economics and Positive economics

Economics is both a normative and positive science:

a) Normative economics

Refers to the branch of economics that deals with value judgments/ opinions about what the world/ economy ought to be or should be. Normative statements show personal opinions and preferences, and cannot be proved by existing facts.

For example, the rate of inflation should be less than 3 %, there should be full employment in the economy.

b) Positive economics

Refers to a branch of economics that deals with facts in real life studying how the world/economy actually was, how it is and how it will be. Positive economics is verified by looking at the available facts.

For example, the rate of inflation in Uganda is 8%, the population is mainly employed in agriculture, the banking sector is underdeveloped in Uganda,

Categories of Economics

1. MICRO ECONOMICS

Refers to the study of economic actions of individuals, groups of individuals, resource owners, firms/ producers and their interaction in the market.

2. MACRO ECONOMICS

Refers to the study of the aggregate behavior of all economic units in a given country. It (examines the economy as a whole and) is concerned with the behavior large/ broad aggregates like total investment, national income, international trade, etc. The major macro-economic problems include: inflation, unemployment problem and its causes, international trade, balance of payment problems, national income, etc

Macro economics looks at the economy as a functioning unit because the various sectors of the economy are interrelated and therefore one needs to analyze them at once by studying their interaction.

Basic principles of economics

(Fundamental economic problems)

There are three (3) basic economic problems which include: scarcity, choice and opportunity cost.

1. Scarcity

Refers to the <u>limitedness in supply</u> of resources needed to satisfy unlimited human wants at a particular time.

Or Scarcity refers to the limitedness in supply of resources relative to people's desire for them.

Scarcity is regarded as a fundamental economic problem because:

Due to scarcity of resources such as land, labour, capital, man is unable to produce all goods and services intended to satisfy his unlimited wants at a particular time.

Man is therefore forced to make a choice in order to allocate the scarce resources among alternative uses.

2. **Choice**

Refers to the economic decision made by an individual when allocating scarce resources in attempt to satisfy human wants, such that the most pressing want is satisfied first (and the least pressing later).

It involves taking a course of action/ alternative from the existing set of possibilities for the best satisfaction.

Qn. How is choice related to scarcity? (Answer is above)

Note: Fundamental economic questions.

Due to scarcity man is forced to answer the following economic questions before allocating resources:

- What to produce?
- For whom to produce?
- When to produce?
- How much to produce?
- How to produce?
- Where to produce from?

When a choice is made priority is taken into consideration. This means man starts by satisfying the most pressing wants—hence organizing a scale of preference. The scale of preference differs from one person to another.

Scale of preference

Refers the list of wants (*of an individual)* arranged in order of importance/ priority, the most pressing ones first and the least pressing ones placed last.

Factors affecting the scale of preference

1) The income level of individuals. Rich people have expensive goods appearing first on their scale of preference while the poor have cheaper goods appearing first on their scale of preference.
2) Sex/ gender of an individual. Some items are more important to women than men , therefore these appear first on the women's scale of preference.
3) Price level of a commodity. Generally goods with low price appear first on the list of preference (especially for the low income people) while expensive goods appear last on the scale of preference.
4) Degree of urgency of need for a good. Urgently needed goods are placed first on the scale of preference of an individual while those that can be postponed are placed last.
5) The age of the consumer.
6) Habit/level of addiction when consuming a commodity
7) Level of education of an individual
8) Changes in tastes and preferences of the individual
9) The nature of the environment in which one is living/ Cultural values and beliefs of an individual.

Opportunity cost /real cost

Refers the next best alternative foregone when choice is made.

It may a production or consumption choice of an individual. For example a student may decide to dodge a lesson to watch a rugby match and thus the real cost of the match is the lesson foregone.

Alternatively an individual may be faced with the desire for a pair of shoes or a pair of trousers with his income of shs. 25,000. When he decides to buy a pair of shoes, then the opportunity cost is the pair of trousers foregone due to scarcity of resources.

Qn. Explain the relationship between scarcity, choice and opportunity cost

Solution: due to scarcity / limited resources relative to human wants, choice has to be made between possible alternatives, where some wants are satisfied first and others later. The choice of one alternative implies foregoing another which is opportunity cost.

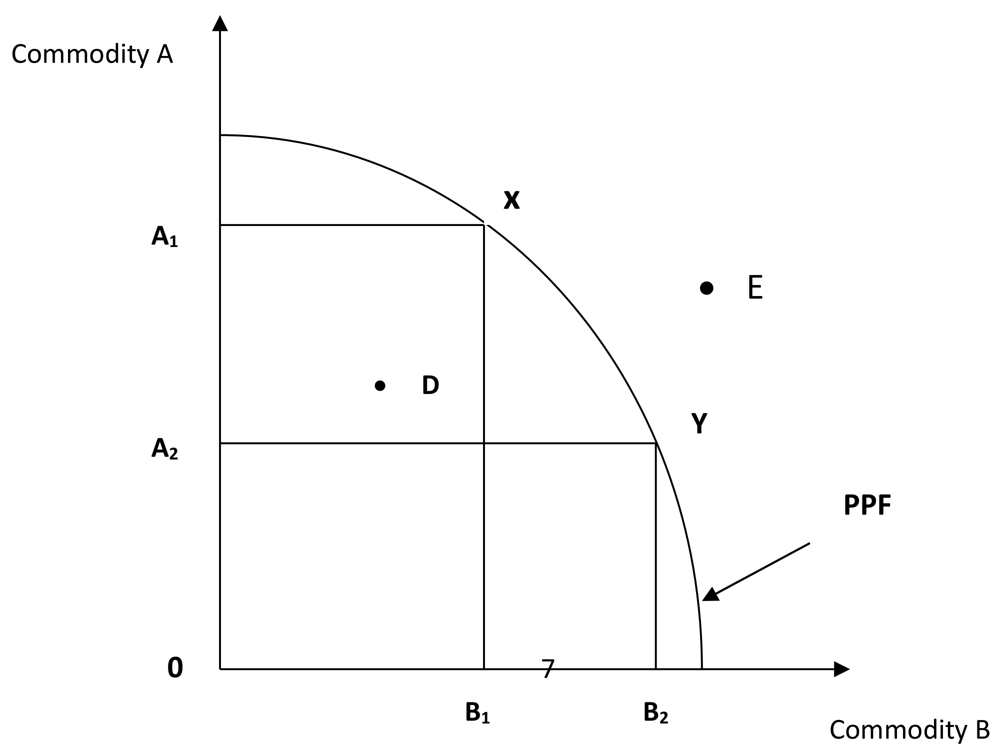
Opportunity cost curve/ production possibility frontier (PPF)/ Transformation curve

Refers to the locus of points showing possible combinations of two commodities that can be maximumly produced by an economy/ economic unit when all resources are fully and efficiently utilized.

Assumptions of the production possibility frontier

a) Only two commodities (like A and B) are produced using the available resources
b) There is full utilization of resources
c) Level of technology is constant (and given)
d) It assumes a short run situation

Assuming that a country utilizes all its resources to produce commodity A and B, the PPF would appear as below:

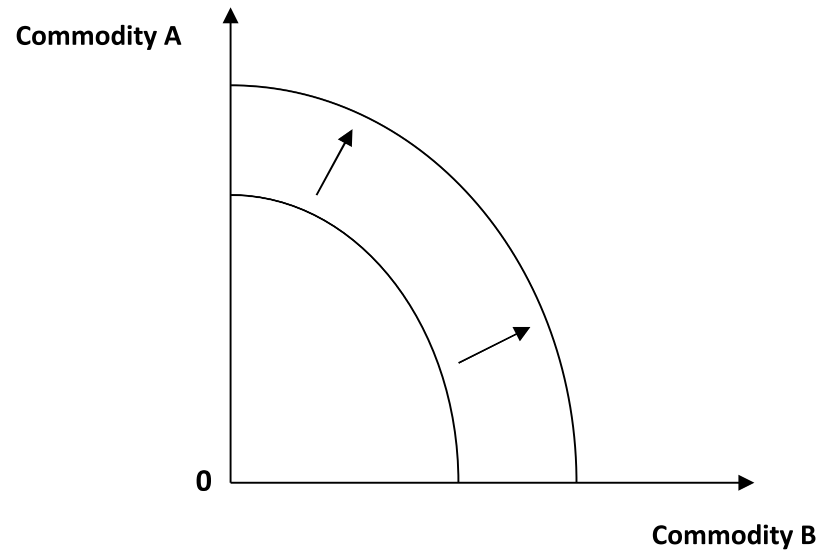


Note: The PPF is negatively sloped and the slope is referred to as the marginal rate of product transformation (MRPT).

The PPF curve illustrates the following:

- *Scarcity and choice.* Since resources are scarce, the country cannot produce beyond its PPF curve using the available resources. Due to scarcity, there is need to chose between the two commodities and answer questions of what to produce and how much to produce. *{To produce more of commodity B ($B_1 B_2$), the country foregoes part of commodity A (A_1A_2)}*
- *Opportunity cost*. This is illustrated by the movement along the PPF curve such as from point X to point Y. To produce (B_1B_2) of commodity B, the country foregoes (A_1A_2) of commodity A. *[In other words, the opportunity cost of producing (B_1B_2) of commodity B is (A_1A_2) kilograms of commodity A that the country foregoes].*
- *Efficiency in production*. The points/ combinations along the PPF show efficient utilization of resources. Points inside the curve such as point D show that the resources are underutilized (inefficiency in production). Points outside the curve such as point E show that the commodity combination is not attainable using the available resources.
- *Economic growth*. This is illustrated by the shift of the PPF curve outwards. This implies that there is an increase in resources and the economy can produce more of both commodities.

Illustration of economic growth



Reasons for a shift in the transformation curve

- Change in the level of technology
- Change in the labour skills/ change in the level of education and training/ A change in the size of labour force
- Change in the level of entrepreneurship
- Change in the level of capital inflows and capital outflow (net capital flows)
- Change in the political climate of the country
- Change in the availability and exploitation of natural resources.

Qn. Identify the factors for the outward shift of the transformation curve

- Improvement/ increase in the level of technology
- Increase in the size of labour force/ increase in workers efficiency/ increase in labour skills
- Improvement / increase in the level of entrepreneurship
- Acquisition of more grants/ donations from other countries/ increase in capital outflow /decrease in capital outflow.
- Political climate becoming favourable
- Discovery of more natural resources

Qn. Mention 4 factors for the inward shift of the transformation curve ('negative economic growth')

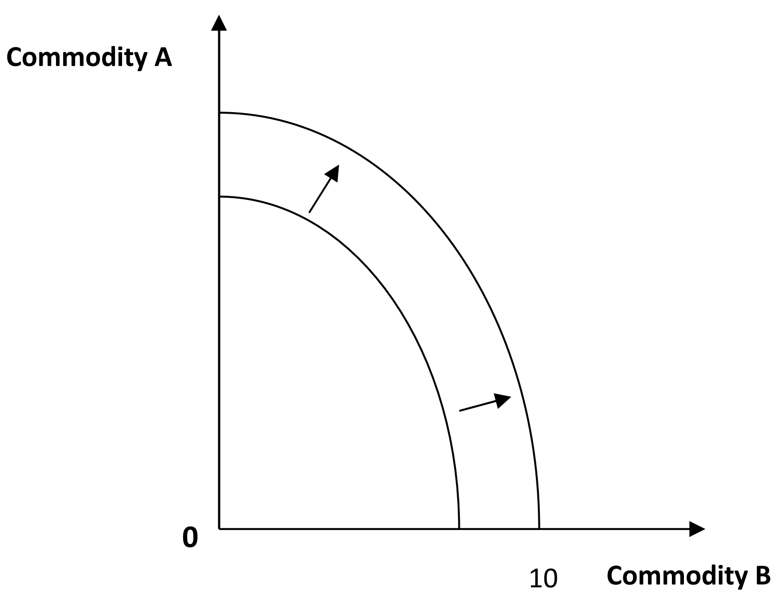
- Decline in the level of technology
- Reduction in the size of labour force
- Decline in the level of entrepreneurship
- Decrease in capital inflow and increase in capital outflow
- Political climate becoming unfavourable
- Over exploitation of natural resources

Qn. Give any 4 factors why many developing countries produce inside their PPF

- Low level of technology/ poor techniques of production
- Limited skilled labour supply
- Limited entrepreneurship
- Limited capital inflow and high capital outflow
- Political instability in some areas
- High level of conservatism
- Exhaustion of some basic natural resources
- etc

The shift of the transformation curve /PPF can be unbiased or biased:

a) Unbiased shift of the transformation curve

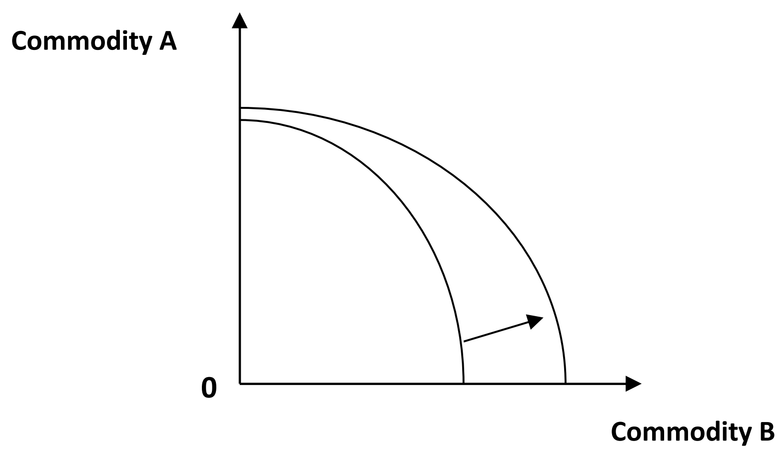


In this case the PPF shifts parallel to the original one and the factors determining growth favour both commodities (there is an increase in the capacity to produce both commodities).

b) *Biased shift of the transformation curve*

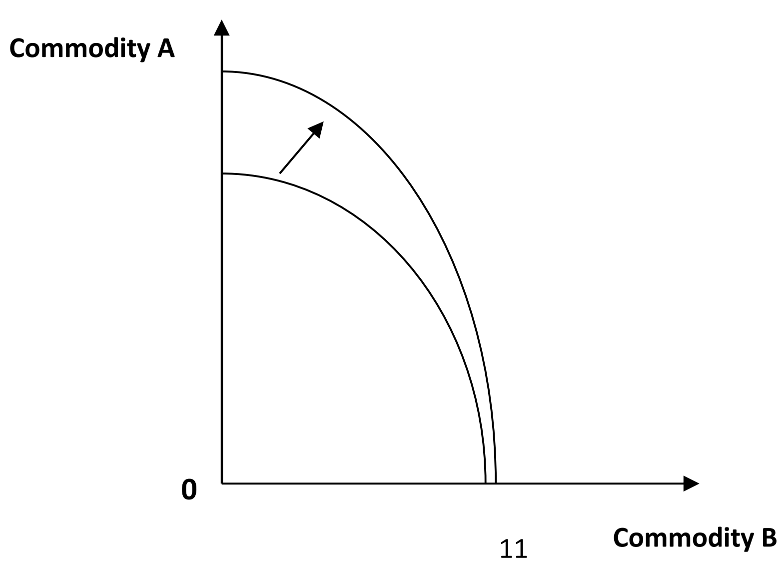
In this case, the PPF shift is not parallel to the original one.

i)



This shift shows that the factors determining growth favour production of commodity B and none or very little of commodity A. *(The country is able to expand the production of commodity B more than it expands the production of commodity A).*

ii)



This shift shows that the factors determining growth favour production of commodity A and none or very little of commodity B. *(The country is able to expand the production of commodity A more than it expands the production of commodity B)*

Importance/ application of opportunity cost concept

1. Guides in resource allocation/ a basis of planning. Resources are allocated where there is least opportunity cost.
2. Guides consumers in making consumption/ expenditure decisions. Choice has to be made where the opportunity cost is lower
3. Guides in pricing of factors of production/ determining factor prices. The price of a factor must be higher than opportunity cost.
4. Guides in pricing goods and services. *(Price shows what has to be given up in order to obtain a particular good or service).*
5. It is a basis of specialization in international trade. A country specializes in the production of that commodity where it incurs less opportunity cost.
6. Helps producer to answer the economic questions/ making production decisions.
7. When labour is making decisions on whether to work or enjoy leisure.
8. *It is important in shadow pricing. A shadow price is the ascribed valuation of a commodity that does not have a market price. It represents the planned opportunity cost of producing or consuming a commodity which is generally not traded in the economy.

Qn. Give the uses of opportunity cost to producers in your country

- Determines what to produce
- Determines how to produce (technique of production)
- Determines when to produce
- Determines how much to produce
- Determines where to produce

Qn. Give four circumstances under which the concept of opportunity can be applied in economics

- When consumers are making consumption decisions
- When labour is making a decision on whether to work or enjoy leisure
- etc

Limitations of the theory of opportunity cost

1. It assumes a perfect market which is unrealistic
2. Some costs and benefits cannot be measured in monetary terms making the theory irrelevant.
3. Some factors of production are specific in that they can not be put to alternative uses.
4. It operates in situations of full employment which is ideal/ unrealistic
5. It is based on the assumption of rational consumer or producer which is unrealistic.

<u>Exercise:</u>

1. Study the diagram below and answer the questions that follow:

    a) Name curve z
    b) What is the opportunity cost of producing commodity X at point B instead of point C?
    c) How many kilograms of commodity Y would the economy forego by producing at point A?
    d) Briefly comment on points H and k

2. Study the diagram below and answer the questions that follow:

a) Identify curve X
b) Mention any 3 concepts illustrated by the diagram above
c) Give a reason why it may not be advisable to produce combination A
d) How many kilograms of commodity Q would the above economy forego to produce combination C instead of B?
e) Why may the economy fail to produce combination F in the short run?
f) Mention any two methods the economy can use to attain combination F?

Other basic concepts in Economics

1. **Resources**

   Refers to factors of production or inputs that are used to produce goods and services. These include; land, labour, capital and entrepreneurship.

2. **A commodity**

   Refers to anything resulting from the production process, including both goods and services.

3. **Wants**

   These are desires of man that have to be satisfied by the available resources. Human beings have the desire for quality goods and services hence better standards of living. [Wants are material and non-material requirements of human beings].

Characteristics of wants

- They are recurrent
- They are unlimited
- They are competitive

- They are complimentary i.e. satisfaction requires joint use of the available means
- They are dynamic i.e. keep changing depending on the prevailing situation
- They vary in urgency and intensity

Types of wants

a) **Material wants**

   These are desires that are satisfied by consumption of goods/ physical items such as using clothes, food, books etc

b) **Non-material wants**

   These are desires that are satisfied by consumption of services/ intangible things such as desire for security, desire for recreation, entertainment etc.

c) **Private wants**

   These are desires of individuals.

d) **Public wants**

   These are collective desires of the society and are satisfied by public goods and services.

   Note: Wants can be classified as either basic or secondary wants:

   - **Basic wants** are desires whose satisfaction is necessary to sustain life such as desire for food.
   - **Secondary wants** are desires whose failure to satisfy does not necessarily result into death OR desires whose satisfaction can be postponed.

4. Wealth

Refers to the stock of assets owned by an individual, firm, government or any organization in a given period of time. (*OR the stock of goods and services available to an individual, group of individuals, firm, government or country)*

Wealth has money value and can be exchange for other goods or for money.

Characteristics / traits/ features of wealth

- It has money value
- It is exchangeable / transferable

- It is scarce
- It provides satisfaction/ utility

Note: Wealth can be categorized as follows:

a) **Business wealth**. Refers to the stock of assets owned by firms basically to make economic profits i.e. assets used in business such as factory premises, business stock, machinery.
b) **Personal wealth**. Refers to the stock of assets owned and enjoyed by an individual in a given period of time. For example one's estate or land plot, personal vehicle, and other house hold items. (Even one's contributions to the pension scheme, among others).
c) **Social wealth (public/ collective wealth).** Refers to the stock of assets owned by the state and meant for the benefit of all citizens / general public. For example public hospitals, public schools, national libraries. *(This does not belong to specific individuals).*

5. Utility

Refers to the satisfaction derived/ got from consumption of a commodity
OR Refers to the satisfying power of a good or service.

Characteristics of utility

- It is subjective –differs from one person to another
- It is relative – different satisfaction at different times or places
- It is abstract—cannot be seen touched or felt
- It relates to usefulness

6. Value

Refers to the ability of a good or service to exchange for other goods or services. To have value a good should possess utility, be scarce and exchangeable.
[Or value refers to the worth /usefulness of a good or service expressed in terms of either a specific sum of money or quantity of some other good or service].

7. **Economy.** Refers the system of ownership and administration of resources in a country so as to achieve the development goals.
   OR Refers to the wealth of a country in form of natural resources, infrastructure, labour force and their control/ administration.
8. **Services**
   Refers to the intangible things that satisfy human needs when consumed. Services satisfy non-material wants.
   The characteristics of services include:
   - Are consumed at the point of production
   - Are non-transferable
   - Are intangible things
   - Provide utility/ satisfaction

   Services are categorized as follows:

   a) Direct/ personal services. These are services provided directly to the final consumer such as services rendered by teachers, musicians/ entertainment, saloons etc
   b) Commercial services. These are services that facilitate the smooth running of business such as transport, advertising, telecommunications etc
9. **Goods**
   Refers to tangible *(physical)* things produced to satisfy human needs. However some goods are provided naturally. Examples are computers, shoes, cars, clothing etc
   Types of goods:

a) **Economic goods.** These are goods that are scarce, have money value and provide utility.
   OR These are goods which are <u>relatively scarce in relation to their demand</u> and their consumption involves a <u>cost.</u>

Characteristics of economic good

- They are scarce relative to their demand
- They have money value

- They provide utility/ satisfaction
- They have opportunity cost

b) Free goods

Refers to the goods that exist in natural abundance/ are provided by nature and individual's desire is satisfied at zero cost. For example, air, sunshine, rainwater.

Free goods are non-exclusive, non-rivalry, non-divisible and satisfied at no cost.

c) **Private goods**. These are goods that provide satisfaction to an individual *(or firm)* who owns or pays for them and consumption by the owner prevents consumption of others. For example personal car, one's house, one's shirt, etc. *[A private good is a good that is exclusively used by an individual or firm and the consumption by one consumer prevents simultaneous consumption by others].*

d) **Public goods (community goods).** These are goods which when provided to a particular group or individuals become available to others at zero cost(no extra cost) and their consumption by one person does not reduce the amount available for others to use. For example roads, street lights, bridges etc

Characteristics of public goods:

- They are owned and controlled by the state
- They are non-divisible i.e. provided in totality
- They are non-exclusive during consumption i.e. one cannot exclude others
- They are non-rivalry (no competition in the consumption and one person can increase his satisfaction without reducing consumption by others)

e) Durable goods

These are goods capable of being used for a long period of time by an individual to satisfy human wants. For example buildings, machinery, furniture.

f) Perishable goods

These are goods whose capacity to satisfy human wants ends in a short period of time such as food, flowers etc

g) ***Producer goods ('goods of second order').** These are goods which are used in the production of other goods and services. (*It includes raw materials, equipment, machinery and other goods).* They are classified as follows:
   - **Intermediate goods**. Refers to the already processed or semi-finished goods which are used as inputs in the production of other goods. For example sugar is used in the confectionary factory as an intermediate goods, wheat flour is an input in other factories, timber is an intermediate good in furniture firms.
   - **Capital goods**. Refers to manufactured goods *(already produced)* that assist in the manufacture/ production of other goods or services. They have a long period of viable use. For example buildings, machinery, containers, trucks/ motor vehicles, tools and other equipment used in productive business activities.

h) **Final goods *('goods of first order')*.** These are goods whose production process is complete and ready for use by the final user.
   These goods require no further processing or transformation to be ready for use by consumers. (They provide direct satisfaction in their present form such as shoes, shirts, plates, desks, mobile phones, watches etc)

i) **Consumer goods.** Refers to goods purchased by households for use to satisfy their wants directly and immediately.
   OR Consumer goods **—**refer to goods meant for immediate consumption/ use and they are capable of direct satisfaction of human wants. Examples are drinks, cosmetics, clothing, etc. *[However, consumer goods are either durable or non-durable. Durable consumer goods have a long life span often exceeding 3 years and their consumption is spread over that period while nondurable consumer goods are purchased for immediate or almost immediate use and their lifespan ranges from minutes to 3years].*

j) **Inferior goods**. These are goods whose demand decreases with increase in consumer's income level. This means that the income elasticity of demand for an inferior good is negative. *(Examples include second hand clothes, beans, second hand shoes, bicycles etc)*

k) **Giffen goods.** These are inferior goods that are heavily consumed by low income earners and their demand increases when their prices rise and demand falls when their prices fall.
Such goods (like cassava, beans, maize etc) are usually consumed with small amounts of superior goods (like rice , fish); such that when the price of such goods increases a consumer gives up the other commodity (superior good) and buys more of the giffen good. When the price falls, a consumer can resume spending on the superior good previously given up. *(Giffen goods were named after sir Robert Giffen who identified. They are often staple but cheap foodstuffs).*
Qn. 'All giffen goods are inferior but not all inferior goods are giffen' Explain

Note: Giffen paradox. Refers to the unique behavior of giffen goods whereby its demand increases with increase in its price and demand falls with a decrease in its price.
OR refers to a situation in which commodities of relatively low quality but heavily consumed by low income earners command a higher demand at increased price and lower demand at reduced price.

l) **Goods of ostentation/ goods of snob appeal**. These are goods demanded to emphasize economic status and as prices increase the demand also increases. For example jewelry, perfumes, mobiles phones, iPods, etc

m) **Necessity goods**. These are goods whose demand first increases with increase in consumer income upto a certain point beyond which demand remains constant (even with further increase in income). For example salt, kerosene etc

n) **Normal goods**. These are goods whose demand increases with increase in consumer's income level.

o) **Merit goods.** These are goods with great social benefit and are meant to improve quality of life of the people.

OR. Refers to goods which are deemed to be intrinsically desirable because they improve the quality of human life.

They are consumed on the basis of their importance to society and their provision is undertaken by the state and private sector such as education, health care, security, safe water, immunization.

p) **Demerit goods (economic bads).** These are goods *(and services)* produced and consumed in the economy but do not contribute to the social welfare of people.

OR These are goods that harm the consumers and impose costs to society. They are undesirable and their consumption should be discouraged. For example cigarettes, alcohol, spirits, opium etc. *[The services are called demerit services such as gambling, prostitution etc]*

q) ***Natural goods/original goods/ 'natural resources'.*** Refers to gifts of nature which are capable of satisfying human needs but man has not contributed to their existence (such as soils, minerals, water resources).

10. **Economic agents**. These are the decision making units in an economy concerned with the allocation of resources, production and distribution of goods and services. These include:
    a) Households. Refers to an economic agent made up of people under one roof and making joint consumption decisions. Households are owners of factors of production and consumers of final goods and services.
    b) Firms (businesses). A Firm is the smallest unit of production under one / a unified management and control. They are units that employ factors of production to produce goods and services which they sell to households and government.
    c) Government (central Authority). These are bodies with legal or political control over firms and households in an economy. These include organizations of the government such as URA, central bank, police etc. they stabilize , regulate and control firms and households.

11. Economic flows and stocks

Economic flows are variables which have a time dimension such as national income of a country per year. It is related to a specific time period.

While

Economic stocks are variables which do not have a time dimension i.e. does not involve specifying a particular length of time but measured at a certain point in time such as wealth of a country.

12. **Ceteris paribus.** This means 'other factors remaining constant'. It is normally used when one cannot take in account all factors that determine the trend of an economic outcome and holds them constant to draw a conclusion. *(It is a Latin phrase. We use it to show that a statement/ theory/ law stands, assuming that other factors do not interfere)*

13. Economic theories and laws

These are scientific investigations regarding the allocation of scarce resources to unlimited ends such as the law of demand, law of supply, law of diminishing marginal utility, law of variable proportions

There are two ways through which economic laws and theories are developed:

a) Deduction method

This is method where the economist looks at certain situation and makes a conclusion such as when one goes to the market and observes the prices of different commodities and chooses whether to buy or not. For example, if a book costs shs 2500 the consumer might buy one but if the price is reduced to shs 1500, the consumer might buy 2; hence deduce the law of demand.

b) *Induction method*

Here several steps are taken and the first is to make assumptions and coming with testable statements (hypothesis).

A hypothesis is a statement which has been made after research and is yet to be considered correct. If such a statement is found with a high degree of truth after testing, it becomes a theory.

Such a theory is implied in many/ all areas along other factors held constant (ceteris paribus)

14. Exogenous and endogenous factors

Exogenous factors are variables which are not explained within a given theory such as weather in the determinants of quantity demanded.

While

Endogenous factors are variables that are explained within a given theory such as price of a commodity in determinants of quantity demanded.

15. Exogenous forces and Endogenous forces

Exogenous forces are economic forces which originate from outside the economic system and cannot be controlled to substantial extent such as foreign aid.

While

Endogenous forces are economic forces that originate from within an economic system and can therefore be controlled to substantial / reasonable extent by economic agents.

Fundamental economic questions

Economic questions arise due to scarcity i.e due to scarcity of resources every society has to look for ways of utilizing the available resources. In order to do this the following economic questions must be answered:

1) What to produce?
2) How to produce?
3) Where to produce from?
4) For whom to produce?
5) When to produce?
6) How much to produce?

What to produce?

This involves making a choice on the type of commodity to produce given the scarce resources. And this involves making a choice between alternative goods and services that might be produced. This is illustrated by the production possibility frontier.

How to produce?

It involves making a choice on the technique of production i.e. how resources are combined in the production of goods and services. The need to make decisions on whether to use capital intensive techniques or labour intensive techniques. Also choice is made between alternative sources of power.

Note: the technique should be cheap but efficient.

For whom to produce?

This looks at the class of people or target population. Whether for the rich, poor or medium income earners i.e. those who can pay and this may depend on the economic system.

Where to produce?

This deals with the location of a production unit /firm /enterprise i.e. whether locating the production unit near the raw material source, market, power source etc

When to produce?

This looks at the time period of production whether to produce now or in the future. This is based on estimated demand or profitability. *The individual preference between consumption now or in the future is known as time preference.*

Note:

Time preference refers to the choice an individual makes between saving and consumption currently or in the future.

- **Positive time preference**. This is a situation in which the present consumption is preferred to the future.
- **Negative time preference**. This a situation in which the future is preferred to the present consumption.

Economic systems

Refers to the organization regarding the ownership, allocation and distribution of resources in an economy.

They are classified as:

a) Free enterprise economy
b) Command economy
c) Mixed economy

Free enterprise economy/ capitalistic/unplanned/ competitive /market economy/ Laissez faire economy

Refers to an economic system where all resources are owned by private individuals and their allocation and distribution purely done by market forces of demand and supply without government intervention/ interference.

Characteristics of a free enterprise economy

1. There is private ownership of resources/ property
2. There is no government intervention in the economy
3. Profit maximization is the major objective of producers
4. There exits consumer sovereignty (consumers decide on what to be produced and in what quantities)
5. Prices in the market economy are determined by the interaction of forces of demand and supply i.e. resource allocation relies on price mechanism.
6. There is freedom of enterprise i.e. free choice of occupation by entrepreneurs/ capitalists.
7. There is a high degree of competition as it involves many sellers and buyers motivated by self-interest and no one person can influence the market.

Arguments for a free enterprise economy

1. There is efficiency in production due to competition among producers. This results into production of quality goods.

2. Leads to increase in output which results into high level of economic growth. This is due to increase in productivity since resources belong to private individuals
3. There is an automatic method of pricing and therefore central administrative control is not necessary. (For example as demand increases, prices also increases making producers to increase output).
4. Promotes optimal utilization of resources. The producers produce goods that enable them maximize profits, hence optimal use of resources.
5. Results into a variety of goods and services produced. The producers diversify and produce exclusive products and widens consumers' choice.
6. Promotes consumer sovereignty. The consumers determine what is produced and when it is produced through their buying habits. (Resources are allocated according to consumers' demand).
7. There is more flexibility in production, since there are no fixed laws/ regulations imposed by government.
8. Results into the creation of more employment opportunities due to many firms. This in turn increases the standards of living of individuals.
9. Encourages hard work among individuals. This is because the major objective of production is profit maximization.

Arguments against a free enterprise economy

1. Results into monopoly tendencies. This occurs as inefficient firms are kicked out of production and the remaining monopoly firms end up exploiting consumers.
2. Results into income inequality in the economy. It brings high profits to the big producers (*capitalists*) while other people (*like consumers*) remain in poverty.
3. Results into misallocation of resources. For example through production of luxurious goods to satisfy demand of few rich people (who have ability to pay) at the expense of necessities consumed by the majority poor.
4. Discourages the production of socially desirable goods. This is because they are not profitable and cannot easily be marketed such as roads. *(Results into production of undesirable goods such as dangerous drugs).*

5. Results into over exploitation of natural resources, leading to quick depletion; as producers strive to maximize profits. This negatively affects the future generations.*(such as over fishing , over mining)*
6. Results into unemployment. This occurs as the inefficient firms are kicked out of the production process.
7. Leads to increase in social costs such as pollution, deforestation, and swamp reclamation; leading to low quality of life. This is because there is no government control/ regulation. *(Results into divergence between private and social benefits. The producers produce those goods that generate more profits instead of those that benefit society most).*
8. It does not consider consumer ignorance yet consumers choice is at times distorted by branding, persuasive advertisement among others.
9. Results into instabilities in the economy such as price instabilities, BOP instabilities, etc. This is due to reliance on market forces of demand and supply in resource allocation.
10. *Inability to cope with rapid structural changes in the economy. This is because there is no government control of resource allocation.
11. Results into duplication of commodities, which leads to wastage of resources.

Command/socialist/planned/controlled/centrally planned/ non-market economy

Refers to an economy where resources are owned, allocated and controlled by the government or a central planning authority.

Economic decisions are made by the state on behalf of citizens i.e. production and distribution of goods and services or factors of production…

Characteristics of a command economy

1. Means of production/ resources are owned and controlled by the government and therefore it is the producer.
2. There is centralized planning and allocation of resources by the central planning authority.

3. There is no freedom of individuals to operate any enterprise
4. There is deliberate effort by government in re-distributing incomes so as to achieve equality.
5. The pricing is controlled by the central planning authority instead of forces of demand and supply
6. The economy operates within stated social economic targets such as satisfaction of essential needs, achieving even income distribution.

A case for a command economy

1. There is production and consumption of public and merit goods in sufficient quantities. These goods increase the quality of life/ standard of living and are produced by government firms for the benefit of society.
2. Reduces income inequalities among individuals, by promoting equal opportunity in society. This is due to absence of private ownership and profit motives; and yet government directly influences resource allocation. *(This leads to effective planning by the government for all sectors).*
3. Reduces wasteful competition such as through unnecessary advertisement and duplication in production. A few necessary firms are set up in the economy.
4. It eliminates private monopolies since all means of production are owned by the state for welfare of all the people.
5. Reduces instabilities in the economy such as price instability. This is because production and consumption are regulated by the state / central planning authority.
6. It takes into account the external costs and benefits when determining what and how much to produce such as pollution effects , community benefit of established firms. (Minimizes social costs).
7. Controls/ minimizes the production and consumption of undesirable goods / demerit goods. The government directly prohibits their production/ consumption to ensure better welfare of the population.

A case against a command economy

1. Loss of consumer sovereignty. The consumers do not have the power to decide on what they want; how it is produced and when it is produced.

2. There is limited creativity/innovation among the people which reduces personal initiative / limits hard work. This is because there is no profit incentive in production.
3. Limits the variety of goods and services since the state is interested in providing necessities of life. It limits consumer choice.
4. It involves bureaucratic tendencies which are wasteful in terms of money and time. It results into delayed production and planning.
5. Consumers usually suffer due to poor quality products due to lack of competition in production.
6. Results into misallocation of resources by the state, because decisions are made on a trial and error basis such as without detecting consumer preferences.
7. The government incurs high costs in resource allocation, distribution and administration.
8. There is a lot of political influence in production decisions and this undermines productivity. For example it favours corruption as officials abuse their powers to influence the economic activities.

Mixed economy

Refers to the economy where both the government/ public and the private sector operate together in the ownership/ control, allocation and distribution of resources.

A mixed economy has the elements of a free market economy and elements of a command economy.

Note: This economy attempts to minimize the disadvantages of both socialistic and capitalistic system while combining the advantages of both. *(This is the more realistic economic system in the real world/ most economies of the world are mixed economies).*

Characteristics of a mixed economy

1. The ownership of resources is by both the state and private individuals.

2. The public sector exists controlled by the state and its operation for public welfare rather than profit motives.
3. There is a private sector in which production and distribution is under private individuals, however its operation is controlled by the state.
4. There exists a joint sector run jointly by the state and private investors (some enterprises are jointly owned by the state and private individuals)
5. There is regulated competition in production i.e. where freedom of occupation negatively affects public welfare , the state regulates the activities
6. There is indicative planning and the state regulates the economy through monetary and other control measures
7. Production is both for profit motives and welfare maximization.

Advantages of a mixed economy

1. There is limited wastage due to regulated competition. There exists best allocation of resources since good features of market and command economy.
2. Results into a high rate of capital accumulation and this promotes economic growth.
3. Reduces social evils such as unfair income distribution, social costs
4. Results into a variety of goods and services provided by both the state and private sectors, hence widening consumer choice.
5. There is regulated resource exploitation , since the government puts in place control measures.
6. Results into more employment opportunities of both labour and other resources.

Disadvantages of a mixed economy

1. There tends to be conflict between the two sectors such as private sector may be subsidized by the government.
2. The public sector of the mixed economy is a burden to that economy due to its inefficiency such as over staffing , bureaucracy, corruption etc
3. A mixed economy is prone to economic instabilities. For example where market prices of inputs are increasing due to shortages, the public sector is likely to be affected.

4. The joint ownership of some enterprises by both the state and private individuals subjects them to inefficiency and political interference.

Reasons for government intervention in resource allocation in a free enterprise economy

1) To reduce income inequality or wealth inequality among individuals / regional inequality.
2) To reduce monopoly tendencies and its negative effects
3) To reduce / control consumer exploitation such as by price legislation.
4) To control divergence between social and private benefits
5) To reduce unemployment and under employment/ to create more employment opportunities in the economy.
6) To provide essential public goods to the people, which the private sector is not willing to produce.
7) To reduce/ control inefficiency due to unnecessary competition.
8) To control misallocation of resources
9) To cope up with/ respond to rapid structural changes
10) To minimize exploitation of producers
11) To reduce social –economic evils such as hoarding, smuggling
12) To prevent production and consumption of harmful/ demerit goods
13) To promote economic stability such as to control inflation.

Externality

Refers to a situation where an individual or firm takes an action which in turn affects another party negatively or positively.

Types of externality

- ***Positive externality***. This relates to circumstances in which the affected party is benefited by activity of another party or individual such as an individual establishing an industry provides employment to others and market for the goods produced in turn.

- ***Negative externality***. This occurs when the activity of an individual or groups causes a loss in someone else's welfare for which there is no compensation.
  Or This occurs when the actions of individuals or firms have negative effects on other people. They may be external costs from both production and consumption. For example : air pollution caused by setting up an industry, soil erosion due to deforestation , noise pollution due to existence of a factory or a quarry.

PRICE THEORY

Price theory involves the study of how prices are determined and how prices allocate scarce resources amongst alternative and unlimited wants a particular period of time *(other factors constant).*

Price refers to the exchange/relative value of a commodity expressed in money terms.

Or Refers to the amount of money that has to be given up to obtain a specific quantity of a commodity or a factor.

Note:

- ***Absolute price***—refers to the value of a commodity expressed in units of a currency. For example the price of sugar is shs.3500.
- ***Relative price***—refers to the value of a commodity in terms of another commodity. For example the price of sugar is half the price of beef

Uses of price in an economy

1. Determines/measures the value of goods and services
2. Determines the technique of production
3. Determines what to produce
4. Determines where to produce from
5. Provides an automatic adjustment between demand and supply
6. Determines income distribution in the economy
7. Guides consumers in making consumption plan
8. *Upholds consumers' sovereignty

9. *It is an incentive to economic growth

Price determination in the market

The methods of determining prices of commodities in the market include:

1. ***Through haggling/ bargaining***. This involves negotiation between the seller and buyer about the price the commodity should be sold. A buyer keeps increasing and the seller decreasing until a price agreed by all is reached.
2. ***Through resale price maintenance***. *Resale price maintenance where the price of the commodity is fixed / set by the producer and is maintained by retailers up to the final consumers. For example airtime, news papers, petroleum products etc

Merits of resale price maintenance

- Protects consumers against exploitation by middlemen (being overcharged)
- Reduces competition especially between small and large scale retailers
- Promotes price stability (controls inflation)
- Produces easily increase their profits due to stable income
- Saves time since there is no bargaining between buyer and seller.

[Determinants of resale price maintenance

- Number of firms in the industry
- Quality of product packaging
- Durability of the commodity
- Ability of the manufacturer to enforce the determined price
- Level of demand for the commodity]

3. ***Auctioning/bidding***. Under this, the price of a commodity is determined by the highest bidder (the one with the most attractive terms of purchase). It is common where there are many prospective buyers and one or few sellers and buyers compete among themselves by offering better prices for the commodity.

4. ***By forces of demand and supply***. Under this, the final price of the commodity is determined where quantity demanded is equal to quantity supplied. This price is called equilibrium price.
5. ***Government policy of price control/ price legislation***. This is done through setting of minimum price and maximum price. Minimum price is a price fixed by government above the equilibrium price below which it is illegal to buy or sell a commodity. Maximum price is a price fixed by government below the equilibrium price above which it is illegal to buy or sell a commodity.
6. ***Sales by treaty/agreement***. Under this agreements are written between buyers and sellers to fix/ set the prices for commodities. However the price might later be changed by amending the agreement. It is common in prices for export commodities.
7. ***Through Price leadership***. Under this the large / dominant firm which has the largest market share sets the price which is followed by other firms in the country.
8. ***Collusive pricing policy/ cartel arrangement***. This is where firms under a cartel fix prices for their output which all sellers of the commodity have to follow.
9. ***Offers at fixed prices***. Prices are fixed by individual firms , institutions for goods and services. It is also done by monopoly firms which manipulate the market in their favour unless interrupted by government.

Types of prices

a) **Market price**. Refers to the ruling/ prevailing price in the market for a given commodity at a particular time.
   OR It is the price prevailing in the market in the short run for a particular commodity.
b) **Equilibrium price**. Refers to the price determined by the interaction of forces of demand and supply in the market.
   OR refers to the price determined where quantity demanded is equal to quantity supplied.
c) **Normal/ ideal price**. Refers to the equilibrium price which is established after a long period of time.

OR Refers to an equilibrium price that seems to be long term such that after disturbance market forces would adjust price to the same level again.

d) Reserve price/ Reservation price

Refers to the minimum price below which a seller is not willing to sell a commodity.

Or Refers to the least possible price a seller can accept to sell a commodity.

Determinants of reserve price

1. **Expected future demand of the commodity**. Where the future demand is high, the reserve price is also high while where the future demand is low , the reserve price is also low.
2. **Storage cost of the commodity**. High storage cost for the commodity leads to a lower reserve price while a lower storage cost leads to a high reserve price.
3. **Durability/ perishability of a commodity**. Durable commodities have a high reserve price while perishable commodities have a lower reserve price.
4. **Expected future cost of production.** A lower future cost of production leads to a lower reserve price while a higher future cost of production leads to a higher reserve price.
5. **Level of cash requirements in business**. A high need for cash in business leads to reduction in reserve price for a commodity while low need for cash leads to increase in reserve price.
6. **Length of time taken before new supply of goods reaches the market**. Where a long period of time is required for new supply to be made reserve price is high while in case of short period reserve is low.
7. Number of firms in the industry. When the firms in the industry are many, reserve price is low while when they are less reserve price is high.
8. Level of demand for the commodity. When the level of demand of a commodity is high, the reserve price is high while when demand is low, the reserve price is low.

The concept of market

A market is an arrangement in which buyers and sellers exchange a well defined product.

OR Refers to an arrangement of buyers and sellers aimed at exchanging goods and services.

Essentials of a market

- Presence of sellers
- Presence of buyers/ consumers
- Availability of the commodity to exchange
- Availability of a medium of exchange
- Existence of a site/location where transactions take place

The extent of a market depends on the following:

- The nature of the commodity
- Extent of demand
- Peace and stability of the country
- Level of development of transport and communication system

Types of market

a) **Competitive /perfect market**. Refers to the market where there is perfect knowledge of the market , perfect mobility of factors of production and with no government intervention.
b) **Imperfect market**. Refers to a market in which there are monopolistic elements , where undue influence is exercised by sellers or buyers over prices, supply and demand for the commodity . Such markets include monopoly, monopolistic competition and oligopoly.
c) **Commodity market/ product market.** Refers to a market where goods and services are traded. It is a market for finished goods and services.
d) **Factor market**. Refers to the market where factors of production are traded. OR An arrangement that brings together buyers and sellers of factors of production such as land, the landlord is the seller and tenants or other people are buyers.

e) **Money market**. Refers to a market where short-term financial securities/ assets are exchanged. Money market securities are generally high liquid and mature in less than one year such as treasury bills.
f) **Capital market**. Refers to a market where long-term financial securities are traded. Long-term securities are those maturing in more than one year such as government bonds.
g) **Free market**. Refers to a market where resource allocation and distribution is done by the free interaction of forces of demand and supply without government intervention.
h) **Controlled market**. Refers to a market where the central government interferes in the free interaction of forces of demand and supply by setting prices, fixing quotas among others.
i) **Spot market**. Refers to a market where the commodity or currency is traded for immediate delivery to the buyer.
j) **Futures/forward market**. Refers to a market where contracts for delivery of goods at some future date are traded.
   OR It is a market in which buyers promise to buy a specified quantity of a good at a particular price from the producer /seller at a future date.

DEMAND THEORY

Demand refers to the desire backed by the willingness and ability to pay for a commodity at a given price at a particular time.

Or

Refers to the quantity of a commodity a consumer is willing and able to buy at a given price in at a particular time.

Effective demand

Demand is sometimes referred to as effective demand, as a way of distinguishing it from mere desires. Therefore effective demand refers to the desire backed by the willingness and ability to pay for a commodity at a particular time.

(*Hence effective demand is the actual buying of a commodity / quantity actually purchased by the consumer—you want something, have the money to pay for it and you are willing to pay for it a particular time).*

Latent demand (ineffective demand)

Refers to the desire not backed by the willingness and ability to pay for a commodity at given price at a particular time.

The law of demand

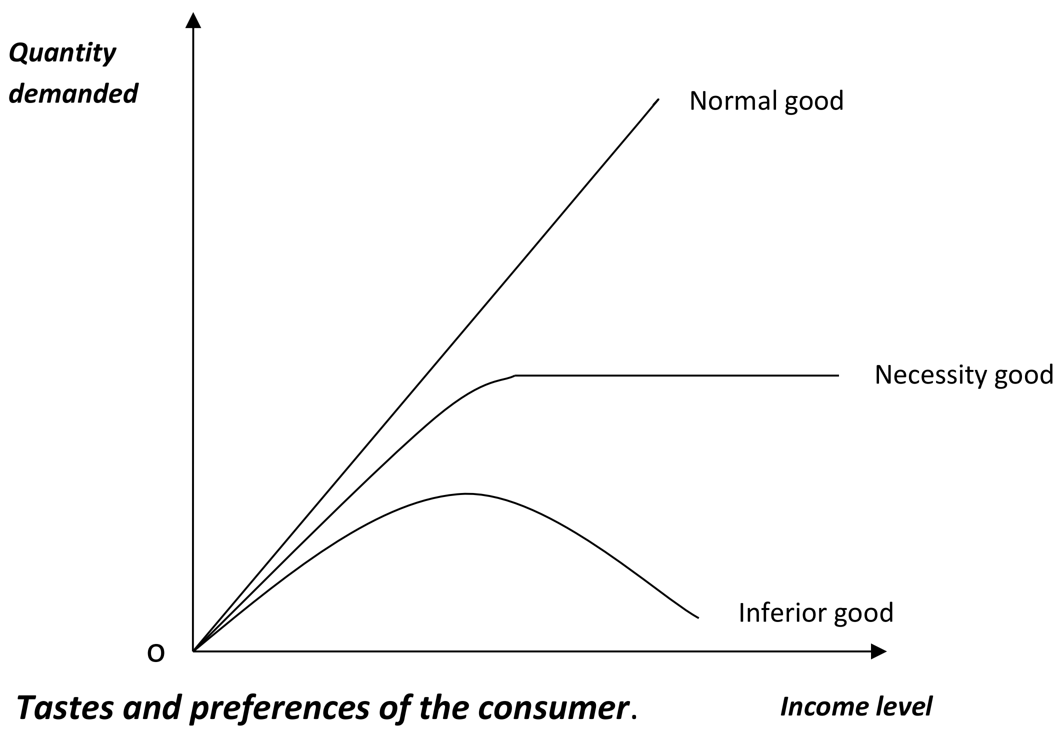
The law states that, '*the higher the price , the lower the quantity demanded of a commodity and the lower the price , the higher the quantity demanded of a commodity, other factors remaining constant / ceteris paribus'*.

Factors determining demand of a commodity

1. ***Price level of a commodity***. High price for a commodity results into low quantity demanded (since it is less affordable) while low price for a commodity results into high quantity demanded for it since it is more affordable.
2. ***Price level of a substitute commodity***. [*Substitutes are goods that serve the same purpose and the user can conveniently change from one good to another such as beans and peas, tea and coffee, coat and sweater, sandals and slippers.*] A higher price of a substitute leads to high quantity demanded of the commodity in question, which is more affordable while lower price of a substitute leads to low demand for the commodity in question (*since consumers opt for the cheaper substitute*).
3. ***Price level of a complimentary commodity***. [*Compliments are goods that are jointly used/ demanded such as pen and paper, car and fuel, shoes and shoe polish]*. A high price of a compliment results into low quantity demand of the commodity in question since they are used together while low price of a compliment results into high quantity demanded for the commodity in question,(because it is used hand in hand / together with the compliment to serve a given purpose).

4. ***Income level of the consumer***. Generally high level of consumer's income results into high quantity demanded for a commodity while low level of consumer's income leads to low quantity demanded for a commodity. However specifically, demand for normal goods increases with increase in consumer's income. For inferior goods, demand reduces after a certain level of income. For necessities, demand increases with increase in income and after a certain point it becomes constant.

   Demand curves for normal, necessity goods and inferior goods



5. ***Tastes and preferences of the consumer***.
   Favourable tastes and preferences of consumers for a commodity results into high quantity demanded for it (since many consumers buy it/ it is fashionable *such as due to branding/design*) while unfavourable tastes and preferences of consumers for a commodity result into low quantity demanded for it
6. ***Size of the population and its structure***
   A large population size implies a high purchasing power leading to high quantity demanded of a commodity while a small population size implies a low purchasing power leading to low quantity demanded of a commodity.

Population structure relates to the age composition, sex composition, literacy rates etc. certain commodities are demanded more by certain age groups and therefore a high proportion of that age group leads to high demand for such goods.   A high percentage of educated people leads to a high demand for newspapers.

7. ***Season of the year***

   Demand for certain commodities fluctuates seasonally. Demand for certain commodities is high during their right/ peak season of consumption such as demand for Christmas cards during Christmas season, demand for seeds during planting season, demand for umbrellas and raincoats during the rainy season. However demand for such commodities is low during other seasons of the year.

8. ***Future price expectations by consumers***. Expectation of price increase in the near future, makes consumers to buy more of the commodity currently/ in the present time to avoid suffering in future (due to shortages/high prices). However expectation of price decrease in the near future makes consumers buy less of the commodity currently in order to benefit from the lower future prices.

9. ***Level of advertisement of the commodity***. High level of advertisement/ persuasive advertisement of the commodity leads to high quantity demanded since many people are convinced to buy it while low level of advertisement of a commodity leads to low quantity demanded since many people are aware of its existence or use.

10. ***Government policy towards consumption such as taxation and subsidization***. Favourable government policy towards consumption of a commodity such as low taxation, high subsidization leads to high quantity demanded for commodity since it makes it more affordable to consumers. However unfavourable government policy towards consumption of a commodity such as high taxation and low subsidization leads to low quantity demanded for a commodity since it becomes expansive to consumers.

11. ***Level of income distribution among households***

    Equitable income distribution results into higher purchasing power leading to high quantity demanded for a commodity while uneven/ unfair distribution of income results into low purchasing power leading to low quantity demanded of a commodity.

12.Availability of credit facilities (like hire purchase)

Presence of many credit facilities to consumers results into high quantity demanded because the goods appear cheaper/ easier to acquire while limited/ absence of credit facilities to consumers results into low quantity demanded because the goods are not easy to obtain/ require full payment/ appear expensive.

Guiding questions

1) (a***)State and explain the law of demand***

(b) Discuss the factors that cause a change in demand for a commodity in an economy.

- Change in the price of a commodity
- Change in the price level of substitute goods
- Change in the price of jointly demanded goods
- Change in the level of consumers income
- Change in the tastes and preferences of consumers
- Change in the size of the population and its structure
- Expected change in future prices by consumers
- Change in the season of the year
- Change in the level of advertisement of the commodity.
- Change in government policy towards consumption of a commodity such as taxation
- Change in the level of income distribution
- Change in the availability of credit facilities

2) Explain the factors that lead to low demand for commodities in your country

- High price level of commodities
- Low price level of substitute commodities
- High price level of complimentary goods
- Low level of consumers’ income.
- Unfavourable tastes and preferences of consumers

- Small size of the population
- Unfavourable season of the year
- Low level of advertisement of the commodity.
- Unfavourable government policy towards consumption of the commodity such as high taxation
- Unfair/uneven income distribution among households
- Limited /absence of credit facilities
- Expectation of price increase in future by consumers

3) ***Account for an increase in demand for commodities in an economy***.

- Decrease in prices of the commodities
- Increase in the prices of substitute commodities
- Decrease in the prices of complimentary commodities
- Increase in the level of consumers income
- Tastes and preferences becoming favourable for a commodity (*Favourable change in tastes and preferences of consumers for the commodity*)
- Increase in the size of the population
- Season of the year becoming favourable for a commodity (*favourable change in season of the year for the commodity). Consumers demand more for a commodity as its right season approaches such as demand for more meat as the end of year approaches, the demand for Christmas cards increases as Christmas approaches.*
- Increase in the level of advertisement of the commodity.
- Government policy becoming favourable towards consumption of a commodity such as increased subsidization and reduced taxation. Demand for the commodity increases since it becomes more affordable to the consumers.
- Fairer distribution of income among households (*income becoming fairly distributed)*
- Increase in credit facilities to consumers.
- Expectation of price increase in future by consumers.

Reasons why people demand for goods

1. ***Band wagon effect (inclusivity)***
   People demand for goods because other individuals have bought such goods (need to be like other people)
2. ***Speculative effect (with intension of making profits in future)***
   Expectation of increase in future prices leads to high demand for goods currently to avoid buying expensively. Alternatively a consumer demands more of a commodity at low price currently with hope to sell it at high price in future and make profit.
3. ***Impulsive effect (buying on seeing)***
   Some individuals buy commodities on sudden desire without any prior planning for them, but just on seeing them. This is common for less expensive commodities like seeing a hawker moving with them.
4. ***Functional demand***
   People buy a commodity because of its usefulness, that is, demand for goods because of their current value/purpose that cannot be foregone.
5. ***Veblem effect (exclusivity)***
   An individual buys a commodity because he wants to be the only one with it. Incase such a commodity is bought by another person, the individual changes to another unique commodity.
6. ***Snob effect (with intension to impress society)***
   An individual buys a commodity which is expansive just to show off his economic status.

The demand schedule

Demand schedule refers to a table that shows the various quantities of a commodity that are demanded at different price levels over a given period of time. **OR** it is a table that shows the relationship between price and quantity demanded of a commodity in a given period of time

Individual demand schedule—refers to a table showing the various quantities of a commodity that are demanded by an individual consumer at different price levels in a given period of time.

Illustration of individual demand schedule

Price (shs)	Quantity demanded (kg)
100	35
200	30
300	22
400	17
600	10
800	5

Market demand schedule—refers to a table showing the summation of various quantities of a given commodity that are demanded by many/ various consumers at various price levels in a given period of time.

OR Refers summation of all the individual demand schedules.

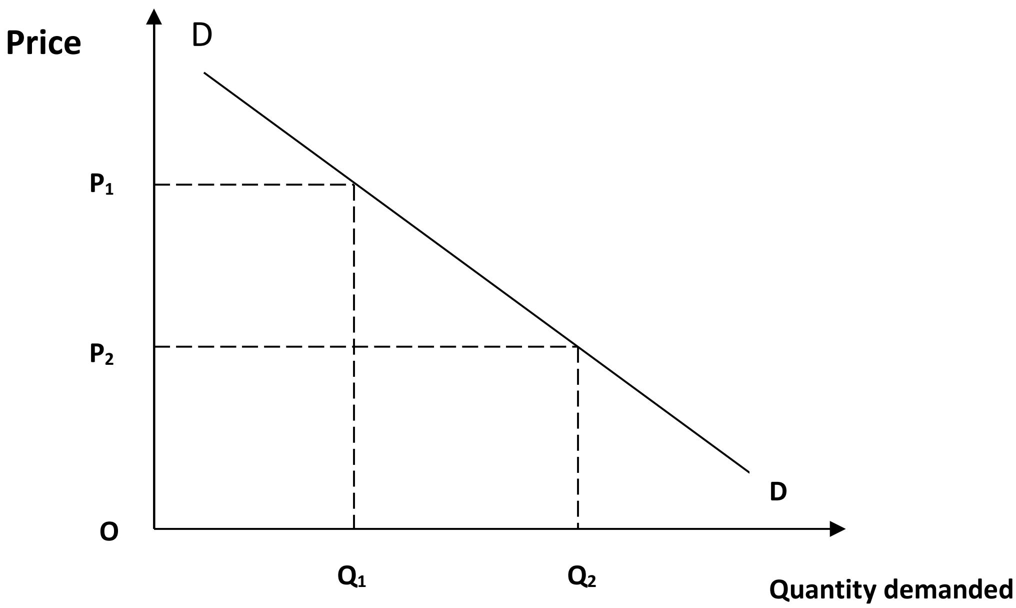
Illustration of market demand schedule

Price (shs)	Consumer A	Consumer B	Consumer C	Market demand
100	35	38	33	106
200	30	33	28	91
300	22	25	20	67
400	17	20	15	52
500	10	13	8	31
600	5	8	3	16

Individual demand –refers to the amount/quantity demanded of a commodity by a given consumer at a given price in a given period of time.

Individual demand curve—refers to a locus of points showing the quantity demanded of a commodity by a given consumer at different/various price levels in a given period of time.

Illustration of the individual demand curve

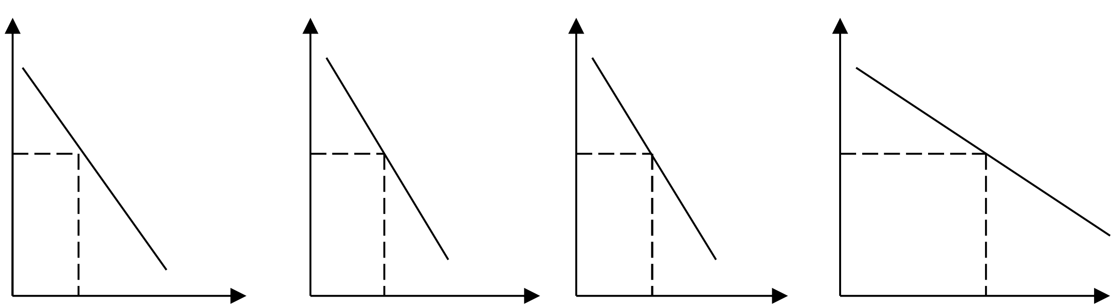


As price falls from p_1 to p_2 , the quantity demanded increases from q_1 to q_2 .

Market demand –refers to the aggregate/ summation of all individual consumers' demand for a commodity at a given price in a given period of time.

Market demand curve—refers to the horizontal summation of all individual demand curves at various price levels in the market.

Illustration of the market demand curve



The market demand curve is more elastic (more gentle/ less steep) than the individual demand curves because it is a combination of the individual demand curves.

***Note: A demand curve** can also be defined as the graphical representation of the relationship between price of a commodity and quantity demanded.*

***Market demand curve** refers to the graphical representation of the total sum of quantities demanded of a commodity at various price levels by all households in the market.*

Demand function

Refers to the algebraic expression (statement) showing the (*technical)* relationship between quantity demanded of a commodity and the major determinants of demand.

$Qd_x=Q\ (P_{X,}\ P_{n-1}\ ,Y,\ T,\ G,P,S......)$

Where; Qd_x is quantity demanded of commodity x

P_X is price of commodity x

P_{n-1} is price of other commodities

Y is income level of the consumer

T is tastes and preferences of consumers

G is government policy towards consumption of the commodity

P is population size

S is Season of the year

(*The demand function implies the quantity demanded depends on those factors)*

The slope of the normal demand curve

The normal demand curve slopes down wards from left to right obeying the law of demand which states that,………..

Reasons for the down ward slope of the normal demand curve

1. ***The income effect***
   This is the change in quantity demanded of a commodity resulting from a change in real income of the consumer. As price decreases, the real income of the consumer increases (the purchasing power of money income increases) and thus the consumer is able to buy more units of the commodity with the same level of money income. (*However an increase in price means a reduction in the real income, and so less units are bought with the same level of income)*
2. ***The substitution effect***
   This is change in quantity demanded of a commodity resulting from the change in price of another commodity. As the price of one commodity increases while the price of its substitute remains constant, the consumers switch their demand to the relatively cheaper substitute (*hence reducing the demand of the commodity in question)*
3. ***The price effect***
   Price effect is the combination of income and substitution effects. It involves increase in quantity demanded of a commodity due to decrease in its price and decrease in quantity demanded of the commodity due to increase in its price.
4. ***The law of diminishing marginal utility***
   [Note: Utility is the satisfaction a consumer derived from consuming a commodity. Marginal utility refers to the additional satisfaction a consumer derives/gets from consuming an additional unit of a commodity].
   The law of diminishing marginal utility states that, '*as one consumes more and more units of a commodity, the additional satisfaction derived from additional units consumed diminishes/declines'*. Therefore the consumer is willing to consume /buy extra units of a commodity only when the price falls due to declining marginal utility.
5. ***Presence of low income earners***
   The low income earners buy more units of a commodity as price reduces since they have low purchasing power and buy less of a commodity as price increases—just in line with the law of demand.

6. ***The number of uses of a commodity***. An increase in the price of a commodity with many uses results into a decrease in its demand since consumers restrict to only important uses. However a decrease in price leads to increase in quantity demanded since consumers can afford to put it to various/more uses. For example electricity and sugar.

Guiding questions

1) (a)Distinguish between normal demand curve and abnormal demand curve (4mks)
2) (b)Account for the shape of a normal demand curve (16 mks)
3) (a) State and explain the law of demand (4mks)
4) (b)Account for the inverse relationship between price and quantity demanded (16mks)
5) Explain the law of demand (10mks)
6) Explain why people buy more of a commodity at a lower price but buy less at a higher price
7) Explain why the normal demand curve for a commodity is drawn downward sloping from left to right.
8) Account for the negative slope of a normal demand curve
9) Give any three reasons for an increase in demand for a commodity as price decreases
   - Increase in the real income of a consumer
   - Substitutes become more expensive
   - Commodity is put to more uses
   - Commodity becomes affordable even to low income
   - The law of diminishing marginal utility

Abnormal /exceptional / regressive demand curve

Refers to the demand curve which does not conform to the law of demand

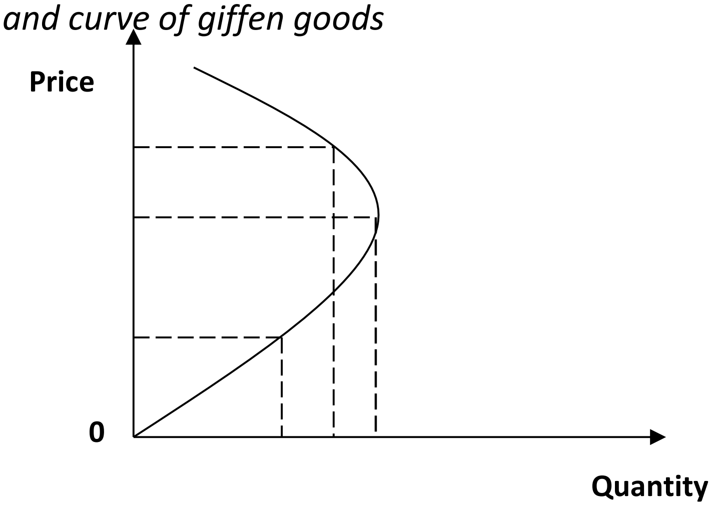
Or refers to the demand curve that does not obey the law of demand.

Abnormal demand curves occur under the following circumstances:

1. ***In case of demand for giffen goods***

   For these goods the demand curve is regressive at lower levels because more units are bought by the low income earners as the prices increase. However the demand curve is normal at very high prices meaning that over increase in price makes the low income earners to lower their demand eventually.

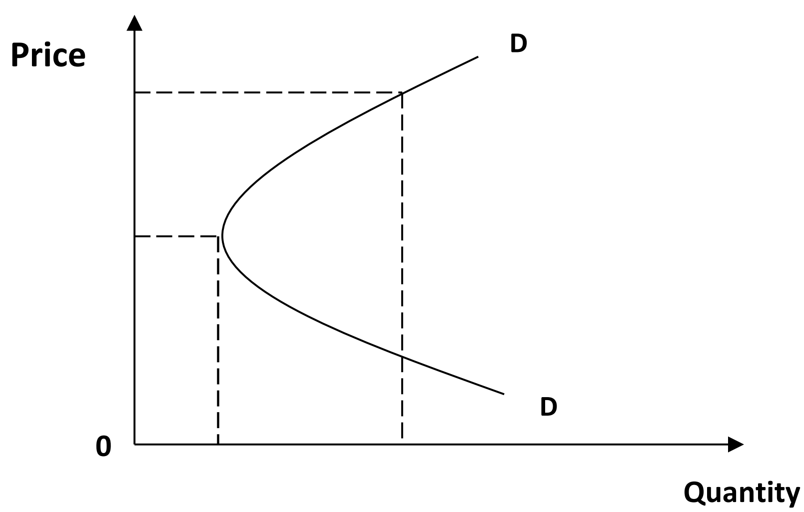
   Demand curve of giffen goods



2. ***In case of demand for goods of ostentation(goods of snob appeal)***

   These are demanded by the rich people/ those who want emphasize their economic status, and they fulfill this purpose when they are expensive. Therefore for these goods, more quantity is bought/ demanded even with further increase in their prices just to show off status in society. The demand curve is abnormal at very high prices.

   Demand curve for goods of ostentation



3. ***In case of demand for necessities***
   Necessities goods are very essential for a living such as salt, soap, clothes, and tooth paste. As the prices of these goods increase the consumers divert their expenditure from other items and continue buying the necessity goods. This tends to result into constant demand various price levels.
4. ***In case of expectation of further increase in price in future***
   When consumers expect further increase in price of a commodity, they continue increasing demand as price increases to avoid suffering in future when prices are very high. (A *price increase is taken as an indicator of even higher price increase in future and this induces people to buy more).*
5. ***In case of demand for small compliments***
   In case the price of the major commodity is stable or declining, the demand for small compliments behaves abnormally. For example if the price of shoes is declining, people buy more shoes and thus demand for more shoe polish even if the price of shoe polish is increasing. Example 2: if the price of meat is declining, people buy more meat and thus demand for more tomatoes/onions even when the price of tomatoes/onions is increasing. This is because the onions are small compliments to meat.
6. ***In case of consumer ignorance***
   The consumer may not be aware of the presence of similar goods at cheaper prices elsewhere and therefore continues to buy more at higher prices.
7. ***In case of persuasive advertisement***
   This makes consumers to buy more units of a commodity at higher prices. The consumer may mistake the highly advertised or well packaged/well labeled good for high quality and therefore buys more even at increased prices.
8. ***In case of band wagon effect***
   An individual may buy a good expensively simply because another person has bought it expensively.
9. ***In case of seasonal commodities/ in case of favourable season for a commodity***
   Goods demanded during a particular season may still be bought in large quantities even with further increase in their prices (use an example).

Guiding questions:

1) (a) Explain the law of demand (10mks)
   (b) What are the exceptions to the law of demand? (10mks)
2) (a) Using illustrations, distinguish between a normal and regressive demand curves (4mks)
   (b)Explain the causes of a regressive/ an abnormal demand curve (16mks)
3) (a) What is meant by an exceptional demand curve? (4mks)
   (b) Under what conditions may the demand of a commodity not decline even if its price increases? (16mks)
4) (a) Distinguish between extension in demand and expansion in demand (4mks)
   (b) Under what conditions does a consumer buy more of a good whose price has not changed? (16mks)
   - In case of an increase in income level of the consumer
   - Where there is an increase in size of the population
   - Where there is a change in tastes and preferences in favour of the commodity
   - In case of increase in price of substitutes
   - Where the price of complements reduces
   - When it is the right season for consumption of the commodity
   - When there are increased credit facilities
   - When the government increases subsidies to consumers or reducing taxation on incomes.

Change in demand and change in quantity demanded

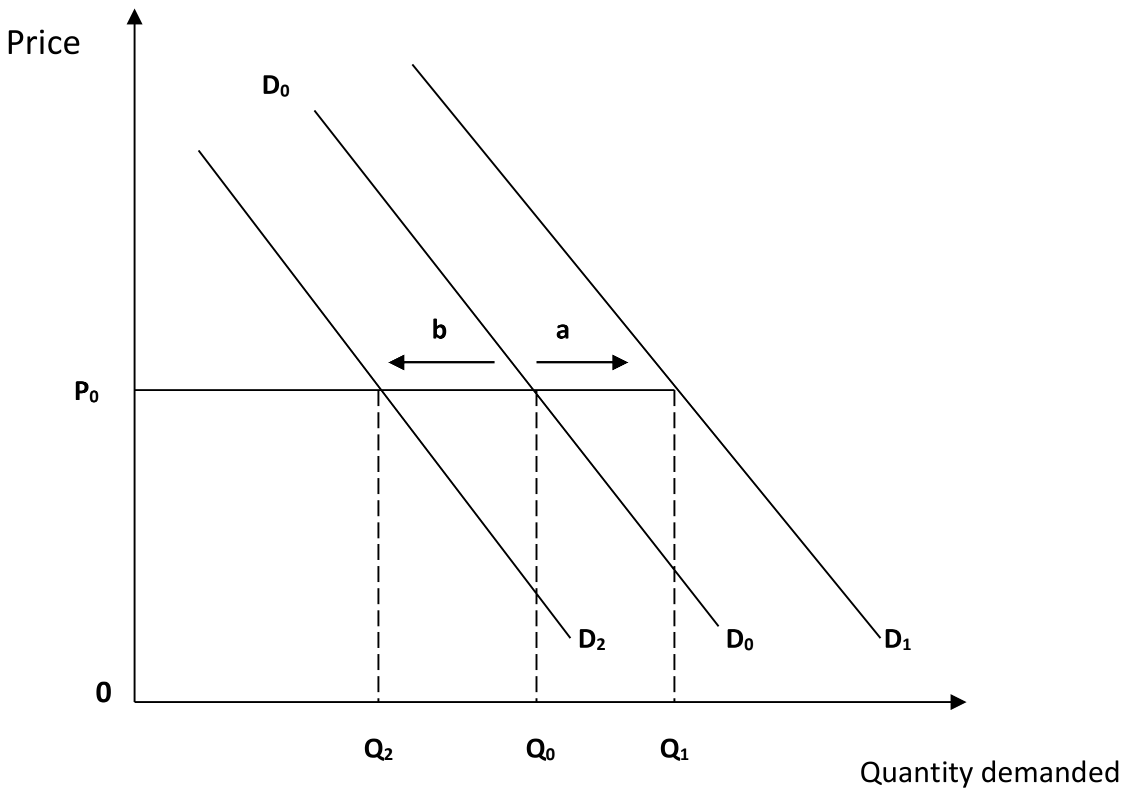
Change in demand

Refers to increase or decrease in amount demanded of a commodity at a constant price due to change in other factors that affect demand.

OR This is where more or less of a commodity is demanded at a constant price (due to changes in other factors that affect demand).

A change in demand is illustrated by a shift of the demand curve either to the right or the left. An increase in demand is represented by a shift of the demand curve to the right while a decrease in demand is shown by a shift of the demand of the demand curve to the left.

Illustration of change in demand



The shift of the demand curve from D_O to D_1 shows an increase in demand while a shift of the demand curve from D_O to D_2 shows a decrease in demand.

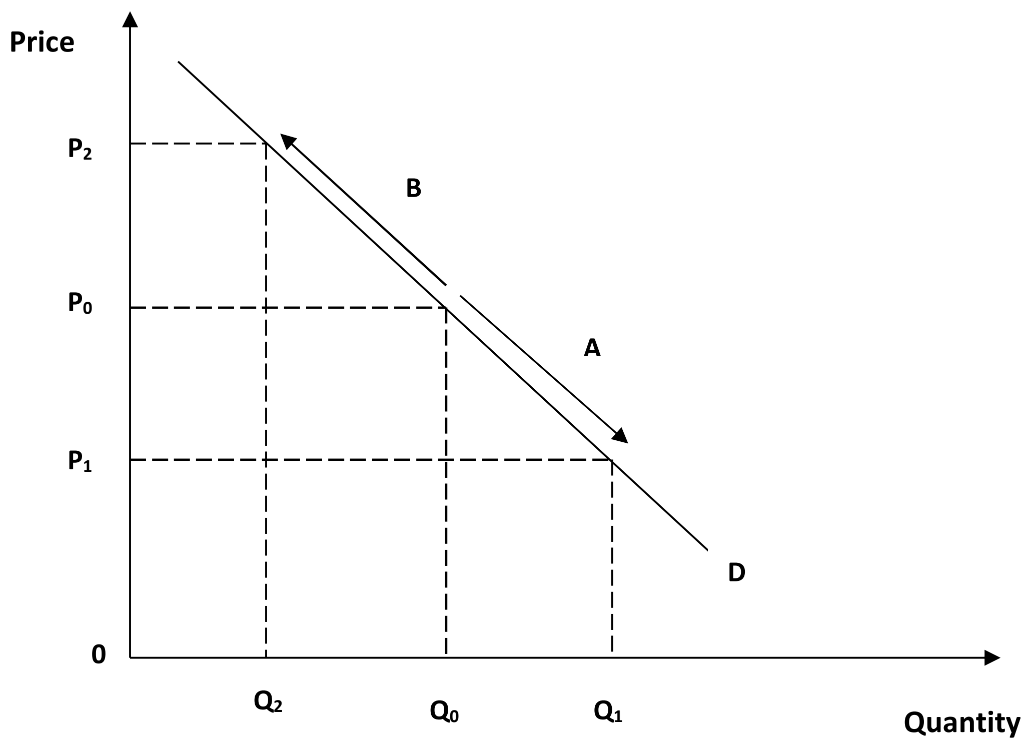
Change in quantity demanded

Refers to increase or decrease in amount demanded of a commodity <u>due to change in the price of that commodity</u>, other factors remaining constant/ ceteris paribus.

OR This is where more or less of a commodity is demanded due to change in the price of that commodity.

A change in quantity demanded is illustrated by the movement along the same demand curve either upwards or downwards. An upward movement is called a contraction and it represents a decrease in quantity demanded. While a downward movement is called extension and it represents an increase in quantity demanded.

Illustration of change in quantity demanded



As the price rises from OP_O to OP_2, there is a decrease in quantity demanded of the commodity from OQ_O to OQ_2. However as price falls from OP_0 to OP_1, there is an increase in quantity demanded of the commodity from OQ_0 to OQ_1.

Note:

- **Increase in demand(expansion in demand)**
  Refers to a situation where more of a commodity is demanded at a constant price.

Or this is an increase/rise in amount demanded of a commodity at a constant price (due to a favourable/positive change in the other factors that affect demand). It is illustrated by a shift of the demand curve to the right.
Illustration of increase in demand

- **Decrease in demand**
  Refers to a situation where less of a commodity is demanded at a constant price.
  Or this is a fall in amount demanded of a commodity at a constant price (due to unfavourable /negative change in the factors that affect demand). It is illustrated by a shift of the demand curve to the left.
  Illustration of decrease in demand

- **Increase in quantity demanded**
  Refers to a situation where more of a commodity is demanded due to a reduction in the price of that commodity, ceteris paribus.
  It is shown by downward movement along the demand curve. It is also called **extension in demand**.

Illustration of increase in quantity demanded

- **Decrease in quantity demanded**
  Refers to a situation where less of a commodity is demanded due to increase in the price of that commodity. It is shown by upward movement along the demand curve. It is also called a **contraction in demand**
  Illustration of decrease in quantity demanded

Guiding questions:

1) (a) Distinguish between change in demand and change in quantity demanded (4mks)
2) (b) Explain the causes of a change in demand for commodities in your country (16mks)

Note*: stating of the points must bring out the aspect of change, and in the explanation bring out an increase in demand and a decrease in demand*.

Example: ***Change in the income level of the consumer***. Increase in the income level of the consumer leads to an increase in the purchasing power of the consumers/ induces the consumers to buy more units of the commodity, hence an increase in demand. While a decrease in the income level of the consumer reduces the purchasing power of consumers leading to decrease in demand.

3) (a) Distinguish between increase in demand and decrease in demand (4mks)

(b) Under what circumstances may demand for a commodity increase at a constant price? (16mks)

4) (a)Distinguish between increase in demand and increase in quantity demanded (4mks)

   (b)Assuming the price of a commodity remains constant, account to an increase in demand for a commodity (16mks)

5) (a) Explain the meaning of demand schedule (4mks)

   (b)Assuming there is no increase in price of a commodity, how would you explain a decrease in the demand of such a commodity? (16mks)

6) (a) Distinguish between extension in demand and expansion in demand (4mks)

   (b)Under what conditions may consumers buy more of a good whose price has not changed? (16mks)

7) Give the reasons why consumers tend to buy less when price falls

- They expect further fall in price in the near future
- The country being in a state of a depression
- Suspecting a decline in quality of the commodity/ due to decline in the quality of the commodity
- Where the commodity is a giffen good
- Incase consumers want goods of ostentation (snob effect)
- Where consumers have enough quantity of a commodity.

Interrelated demand/ types of demand

Interrelated demand refers to a situation where the demand of one commodity affects the demand of another commodity either positively or negatively.

1. **Joint demand (complimentary demand)**
   Refers to the demand of two or more commodities which are used together to serve a particular purpose, such that an increase in demand for one commodity results into an increase in demand for the other.
   For example demand for books and pens, demand for cars and fuel, demand for tooth paste and tooth brush, demand for sugar and tea leaves. (*It is sometimes called twin demand)*
2. **Competitive demand**

Refers to the demand of two or more commodities which serve the same purpose (close substitutes) such that an increase in demand for one commodity results into a decrease in demand for the other.

For example demand for Omo and Aerial (washing detergents), demand for beans and peas, demand for tea and coffee, demand for beef and fish,

3. **Derived demand**

   Refers to the demand for a commodity not for its own use/ sake but due to the demand for another commodity (it facilitates to produce).

   Or Refers to a situation where demand for a commodity results directly from demand for another commodity.

   For example the demand for factors of production is derived from demand for goods and services they produce—demand for cameras from the demand for photos, demand for cotton from the demand for clothes, demand for sugar from the demand for sweets.

4. **Composite demand**

   Refers to the demand for a commodity that can be used for more than one purpose/ that has multiple uses. Therefore total demand for the commodity is the sum of the various demands for the commodity for various purposes/uses.

   For example demand for electricity (used for lighting, ironing, cooking), demand for water (for washing, cleaning, drinking, irrigating etc), demand for steel, demand for sugar, demand for timber

5. **Independent demand**

   Refers to the demand for a commodity which does not depend on any other commodity. The price or demand of one commodity does not affect the others. For example a change in price of cement does not affect the demand for books.

6. ***Aggregate demand**

   Refers to the total demand of all commodities demanded by all sectors of the economy at different aggregate price levels. It involves demand by consumers/ households ©, firms/business sector (I), demand by government (G), and the foreign sector (X-M).

   Aggregate demand= C+ I+G+ (X-M)

   Determinants of aggregate demand

- The general price level/ rate of inflation
- Income level of consumers.
- Availability of consumer goods and services
- Government policy of taxation and subsidization
- Money supply in the economy/ amount of money in circulation
- Level of advertisement
- Size of the population
- Level of income distribution in the economy

UTILITY ANALYSIS

Utility refers to the satisfaction a consumer derives/gets from the consuming a commodity. Utility is measured in imaginary units called utiles.

Total utility

Refers to the total satisfaction derived from consumption of various units of a commodity.

Marginal utility

Refers to the additional satisfaction a consumer derives from consuming an additional/extra units of a commodity.

$$\textbf{Marginal utility} = \frac{\text{Change in total utility}}{\text{Change in quantity of a commodity}}$$

The law of diminishing marginal utility

The law states that, '***as one consumes more and more units of a commodity, the additional satisfaction derived from additional units consumed diminishes /declines***'**.**

Assumptions of the law of diminishing marginal utility

a) Assumes that utility is measurable in monetary terms
b) Assumes that utility is measured in physical quantities. This means that the consumer is able to measure numerically how much satisfaction he derives from consumption of the good.
c) Assumes that marginal utility of money is constant
d) Assumes that the consumer is rational. This means that he chooses the best commodity for himself which brings him total satisfaction given the income level and price level.
e) The commodity is not substitutable (*has no substitutes*).
f) The consumer has perfect knowledge of the goods consumed
g) Assumes uniformity (homogeneity) of the different units of the commodity

Applications/importance of the above law

1) Used to explain the theory of consumption. The law of demand and the concept of consumer surplus are based on this law.
2) Used to determine the price of a commodity. The price of a commodity is equal to its marginal utility (P_x=MU_X). Therefore if MU declines the consumer can only buy more units when price reduces.
3) The theory is used to explain the famous water—diamond paradox. Diamond has higher marginal utility because it is relatively scarce and therefore highly priced. Water is relatively abundant and hence has low marginal utility and low price even though its total utility is high.
4) The sellers often offer discounts to consumers. This may be in line with the law of diminishing marginal utility, that is, additional units to be bought if the price is reduced.
5) There is a limit in the amount that people consume even for free goods.

Limitations/ exceptions of the law of diminishing marginal utility

1) It is difficult to calculate the utility of durable goods, because their use is spread over a long period of time (such as household furniture).

2) The law does not apply to goods of addiction or habit forming goods such as cigarettes and wines. The marginal utility does not diminish since the more one takes the more he needs.
3) Units of the commodity are not homogeneous as the law assumes. There are differences in weight, quality among others.
4) Commodities are not perfectly divisible as the law assumes.
5) The law does not apply in case of (*desire for money*) money utility, in which case the more money one gets the more he desires.
6) Where the consumption of a commodity is widely spaced in time, the law does not apply.
7) *Where the commodity is consumed in small units, utility may not diminish.
8) The law does not apply in case of demand for knowledge. One desires for more knowledge as he gets more education.
9) *The law does not apply in case of change in tastes and preferences of the consumers.
10) *Money is a poor measure of utility because the value of money changes frequently.
11) The law may not apply to medicine where a second doze may be as important as the first one.

Relationship between total utility, marginal utility and price

Utility schedule—refers to a table showing different units of a commodity consumed yielding different levels of utility.

Example 1:

Units of a commodity	Total utility (TU)	Marginal utility (MU)
0	0	-
1	12	12
2	22	10
3	29	7
4	33	4

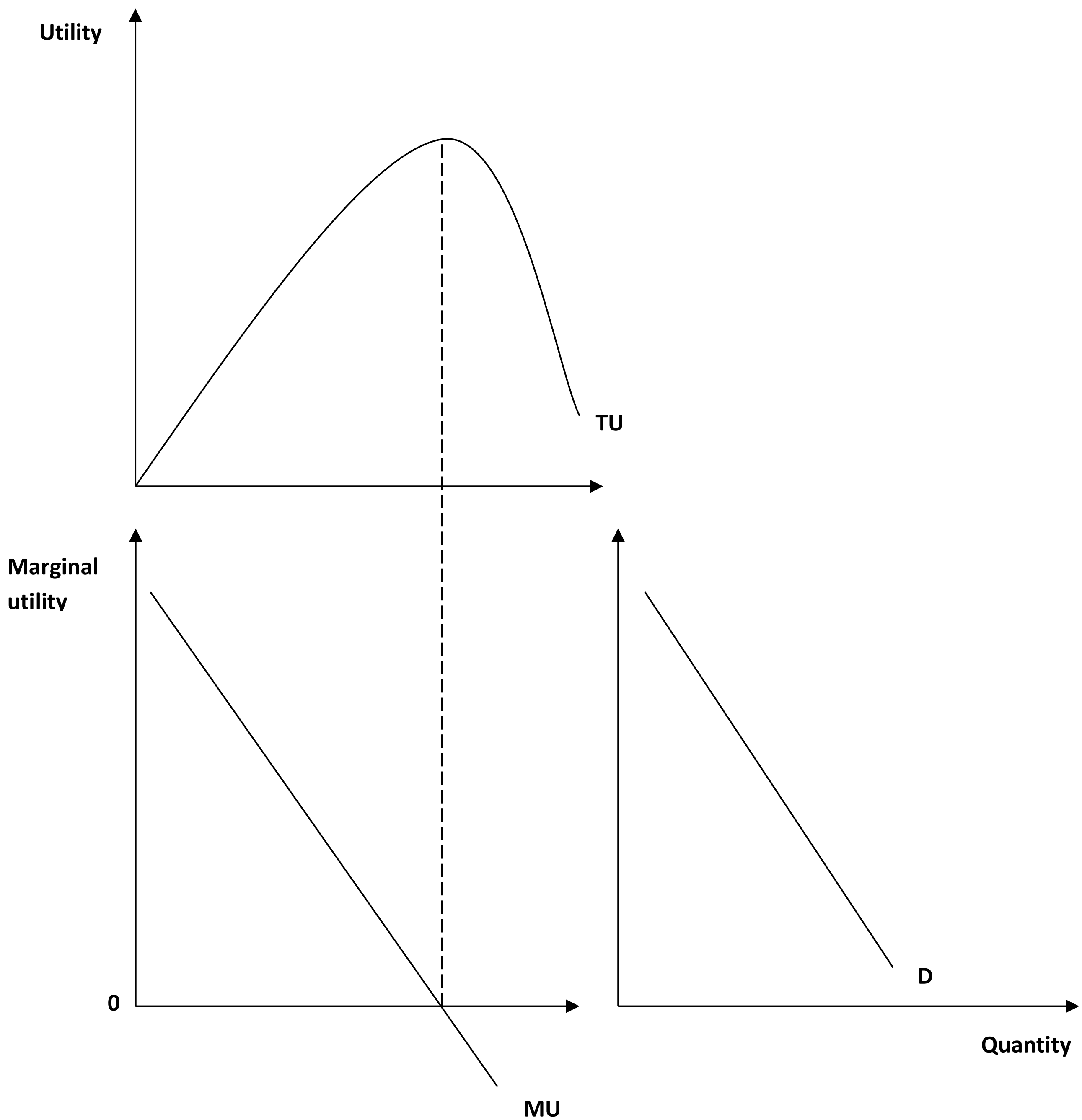
5	35	2
6	36	1
7	36	0
8	34	-2

Example 2:

Units of a commodity	Total utility	Marginal utility
0	0	--
1	10	10
2	18	8
3	24	6
4	28	4
5	30	2
6	30	0
7	28	-2

Utility curve—refers to the graphical representation of the utility schedule.

Relationship between total utility, marginal utility and price



From the table and graph the following relationship is observed:

- When total utility is increasing, marginal utility is decreasing but still positive.
- When total utility is at maximum (bliss point) marginal utility is at zero.
- When total utility is decreasing, marginal utility is negative i.e. there is disutility.
- The marginal utility curve is downward sloping like the demand curve. This means that the price of the commodity is equal to the marginal utility $P_x=MU_X$. This implies that the consumer is willing to pay a lower price for additional units consumed because he derives less satisfaction from those units. The demand curve is identical to the positive segment of the marginal utility curve.

Note:

(a) When utility is measured in money terms, the marginal utility of the commodity to the consumer would be the maximum amount of money a consumer is willing to pay for one unit of the commodity.
(b) The MU curve falls continuously because of the law of diminishing marginal utility.
(c) The demand curve cannot be negative because this would give rise to negative utility implying negative price which is not true in reality.

Qn 1***. Explain the relationship between marginal utility, total utility and the price of the commodity***

- Illustrate using the graph
- State the relationship

2(a) Distinguish between total utility and marginal utility

(b) Using an illustration explain the relationship between marginal utility, total utility and price.

THE THEORY OF SUPPLY

Supply refers to the amount /quantity of a commodity that the producer is willing and able to put on the market at a given price during a given period of time.

Factors determining amount supplied of a commodity

1. ***Price level of the commodity***. High price of a commodity makes production more profitable and therefore suppliers put more on the market. However low price of a commodity makes production less profitable and thus producers / sellers put a small amount on the market.
2. ***Price level of substitutes (in production)***. High price of a substitute makes the producers to divert their resources to the production and supply of that substitute because it is more profitable—hence low supply of the commodity in question. However a low price of a substitute encourages production and supply of the commodity in question which is more profitable/ better priced.
3. ***Price level of a complimentary good***. High price of a compliment results into more production and supply of both commodities because they have linked production process. For example as more beef is supplied, more hides are also supplied. However low price of a compliment leads to lower production and supply of the good in question.
4. ***The cost of production***. Higher cost of production such as high price of raw materials, high cost of transport and distribution discourages production and hence limiting amount supplied. However low cost of production such as low price of raw materials encourage production and hence more is supplied.
5. ***Availability of factors of production***. Readily available factors of production such as land, labour and easy access to capital encourage producers/ firms to produce more goods which they put on the market. However limited factors of production discourage producers and hence limiting supply.
6. ***Government policy such as taxation and subsidization***. Favourable government policy in form of low taxation of firms and subsidization of

production encourages producers and hence high supply. However unfavourable government policy in form of high taxation discourages production and hence limiting amount supplied.

7. ***Size of the market/ level of demand for the commodity***. High/increased market for a commodity encourages production since it is more profitable and hence more is supplied. However low demand for a commodity makes production less profitable and thus limited supply.
8. ***Gestation period / period of production***. Gestation period is the time lag between the decision to produce and when the product actually comes into the market. Commodities with long gestation period do not quickly respond to market demand and thus supply is usually low. While commodities with a short gestation period are easily increased in a short period and therefore their supply is high.
9. ***Number of producers/ firms in the market***. Large number of producers / firms leads to high supply of a commodity because more amounts is produced in a short period of time to meet market demand. While a small number of producers limits supply of a commodity because less is produced.
10. ***Level of technology***. Modern and efficient technology such as use of computers, use of tractors increases the production capacity of firms and hence more amounts supplied. However backward and inefficient technology such as outdated technology results into low quantity produced and supplied.
11. ***The goal of the producer***. Producers aiming at sales maximization ensure that they produce and supply as much as possible. While firms aiming at profit maximization produce and supply less since they do not want to waste resources.
12. ***Political climate***. Stable/ improved political climate encourages investment and production resulting into increased supply of the commodity. However political instabilities in some parts of the country discourages investment and production (due to high risk of losses) resulting into limited supply.
13. ***Natural factors in case of agricultural output***. Favourable natural conditions such as adequate rainfall, absence of pests and diseases encourage agricultural production resulting into high supply on the market. However unfavourable

natural conditions such as floods, soil exhaustion, drought limit agricultural production and hence limited supply.

14. ***Working conditions during production***. Better working conditions such as high wages to labour, less risky jobs, better allowances result into increased productivity of workers and thus high supply. However poor working conditions such as low wages, absence of workers' allowances reduces labour productivity and hence limited supply.
15. ***Level of development of transport infrastructure***. Well developed transport routes lead to easy movement / distribution of goods and thus more put on the market. However poor transport infrastructure limits the distribution of goods and thus limited supply.
16. ***Expected price change of the commodity in the near future***. Expectation of a fall in price of the commodity in the near future makes producers to supply more currently to clear stock and avoid unbearable losses. However expectation of a rise in price in the near future makes the producers to supply less of the commodity currently with hope of benefiting from the higher future price.

Guiding questions

1) ***Account for the low supply of commodities in your country.***
   OR Discuss the factors that limit the amount supplied of a commodity in an economy.
   - Low prices of commodities
   - High price level of substitutes in production
   - Low price level of jointly supplied goods/ complimentary goods
   - High costs of production
   - Limited/Low supply of factor inputs/ raw materials
   - Poor land tenure system
   - Unfavourable natural factors—in case of agricultural output
   - Poor techniques of production employed/ low level of technology
   - Low demand for the commodity/ small market size
   - Unfavourable government policy towards production of a commodity such as high taxation.

- Long gestation period
- Political instabilities in some parts of the country
- Limited entrepreneurial skills/ small number of producers
- Profit maximization objectives of producers
- Poor working conditions during production
- Poorly developed infrastructure
- Speculation of high prices in the near future by producers

2) ***Explain the factors that cause a change in supply of a commodity***.
   - Change in the price level of a commodity
   - Change in the price a competitively supplied good
   - Change in the price of a complimentary good
   - Change in the cost of production
   - Change in the supply of factor inputs such (as raw materials, labour)
   - Change in natural factors—a case for agricultural output
   - Change in the level of technology
   - Change in the level of demand
   - Change in government policy towards production of the commodity such as subsidization and taxation
   - Change in the political situation
   - Change in the number of producers/firms
   - Change in the objectives of producers
   - Change in the working conditions during production
   - Expected change in the price of a commodity in the near future.
   - Change in the level of infrastructural development.

3) ***Explain the conditions that lead to a decrease in the supply of a commodity in your country***
   - Decrease in the price of a jointly supplied commodity.
   - Increase in the price of a competitively supplied commodity.
   - Increase in the cost of production
   - Fall in the market size/ decline in demand for the commodity
   - Decrease in the supply of factor inputs/ factors of production

- Natural factors becoming unfavourable / natural hazards
- Decline in the level of technology/ depreciation of capital (machines)
- Government policy towards production of a commodity becoming unfavourable such as increase in taxation.
- Political atmosphere/ situation becoming unfavourable/ political insecurity increasing in the country
- Break down of infrastructure
- Change in the main objective of producers for example from sales maximization to profit maximization.
- Fall in efficiency of factors of production (labour , entrepreneurship)/ decline in working conditions during production
- Expectations of future price increase by producers

4) Examine the factors that lead to an increase in supply of a commodity.

The law of supply

The law states that, '*the higher the price of a commodity the higher the quantity supplied and the lower the price the lower the quantity supplied, ceteris paribus/other factors remaining constant*'.

Supply schedule

Refers to a table showing the various quantities of a commodity that are supplied (*put on the market*) at different price levels in a given period of time.

OR Refers to a table that shows the relationship between price and quantity supplied of a commodity in a given period of time.

Individual supply schedule—Refers to a table showing the various quantities of a commodity that are supplied by an individual firm/supplier at different price levels in a given period of time.

Illustration of individual supply schedule

Price (shs)	Quantity supplied (kg)

100	15
150	20
180	24
220	30
250	36
280	42

Market supply schedule—Refers to a table showing the summation of various quantities of a commodity that are supplied by many/various firms/ producers at different price levels in a given period of time.

Or Refers to the summation of all the individual supply schedules.

Illustration of market supply schedule

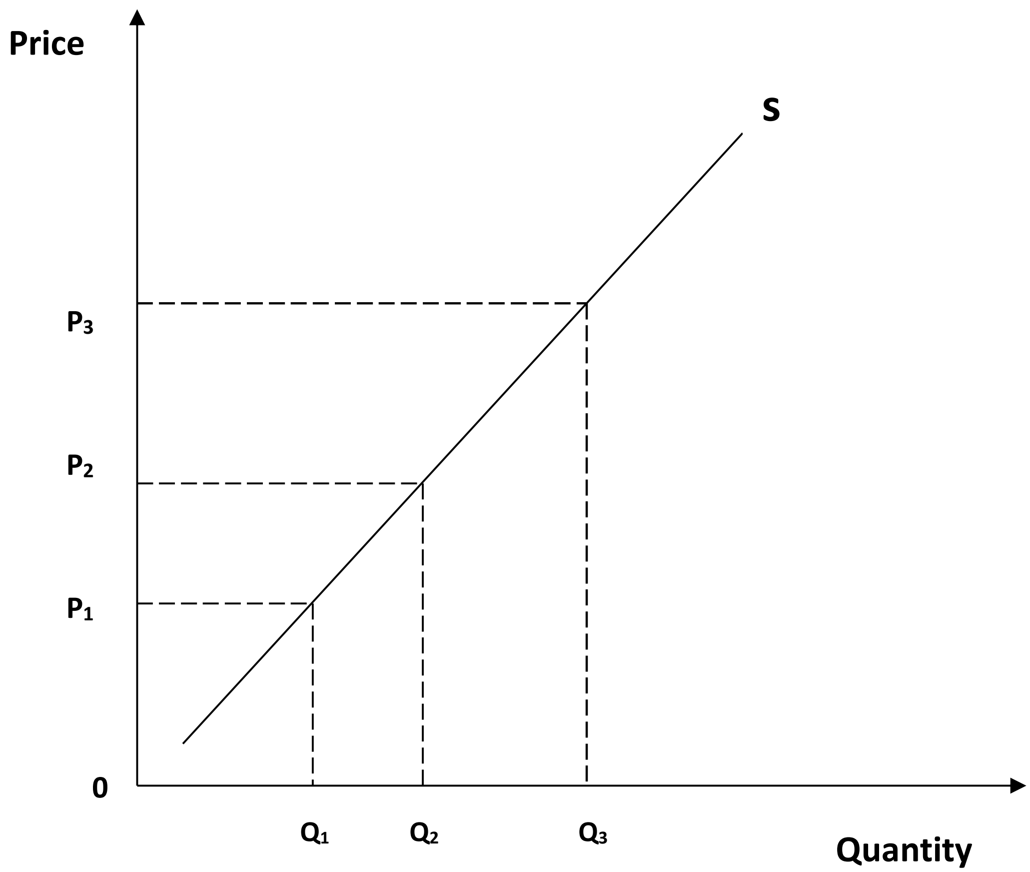
Price(shs)	Producer A (kg)	Producer B (kg)	Market supply (kg)
100	15	12	27
150	20	22	42
180	24	25	49
220	30	32	62
250	36	35	71
280	42	45	87

Individual supply curve (supply curve)—Refers to a locus of points showing the quantity supplied of a commodity by a given firm at different price levels in a given period of time.

OR supply curve refers to the graphical representation of the relationship between price of a commodity and quantity supplied.

OR *Refers to the graphical representation of the supply schedule*.

Illustration of individual supply curve



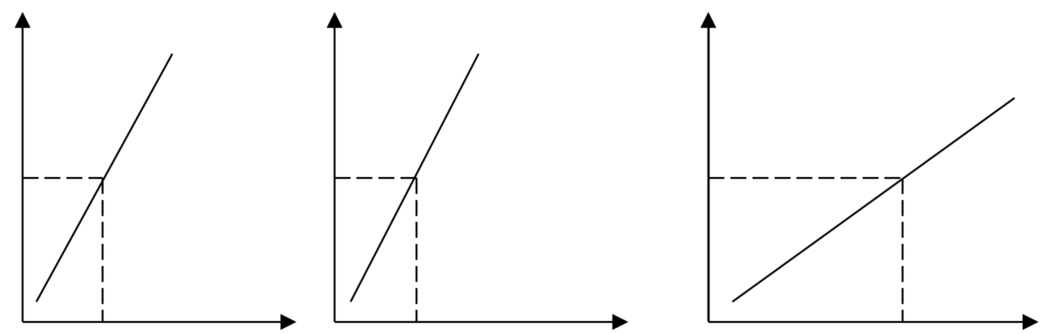
As price increases from P_1 to P_2, amount supplied also increases from Q_1 to Q_2.

Market supply—Refers to aggregate / summation of all individual firms' supply for a commodity at a given price during a given period of time.

Market supply curve—refers to the horizontal summation of all individual supply curves for a commodity in the market.

OR *refers to the graphical representation of the total sum of quantities supplied of a commodity at various price levels by all firms /producers in the market (in a given period of time).*

Illustration of the market demand curve



The market supply curve is more elastic (more gentle/less steep) than the individual supply curve because it is a combination of the individual supply curves.

Supply function—Refers to an (algebraic) expression showing the (*technical)* relationship between quantity supply of a commodity and the major determinants of supply.

$Qs_x=Q(P_X, P_s, P_C, T, G, F, D......)$

Where; Qs_x is quantity supply of commodity x

P_X is price of commodity x

P_s is price of a substitute

P_c is price of a compliment

T is level of technology

G is government policy such as taxation on production.

F is availability of factors of production

D is the level of demand

(*The supply function implies the quantity supplied depends on those factors)*

The slope of the supply curve

The supply curve is positively sloped that is, moves upwards from left to right showing a direct relationship between price and quantity supplied.

Reasons for the upward slope of the supply curve

1. **Entry of new firms in the industry**. As price for a commodity increases, new firms are attracted to enter the industry due to prospects of increased profits and this leads to increase in supply as price increases.
2. **The profit motive of the firm**. Firms aiming at earning more profits, expand production and supply more as price of the commodity increases in order to maximize profits.
3. **The ease of diverting resources from one commodity to another**. As price increases the supplier /producer can shift the resources from the commodity whose price has remained constant to another whose price has increased.
4. **The need to maintain equilibrium in free market conditions**. As demand increases for a commodity, price also increases due to shortages. The producer therefore increases output in order to cover the shortage.

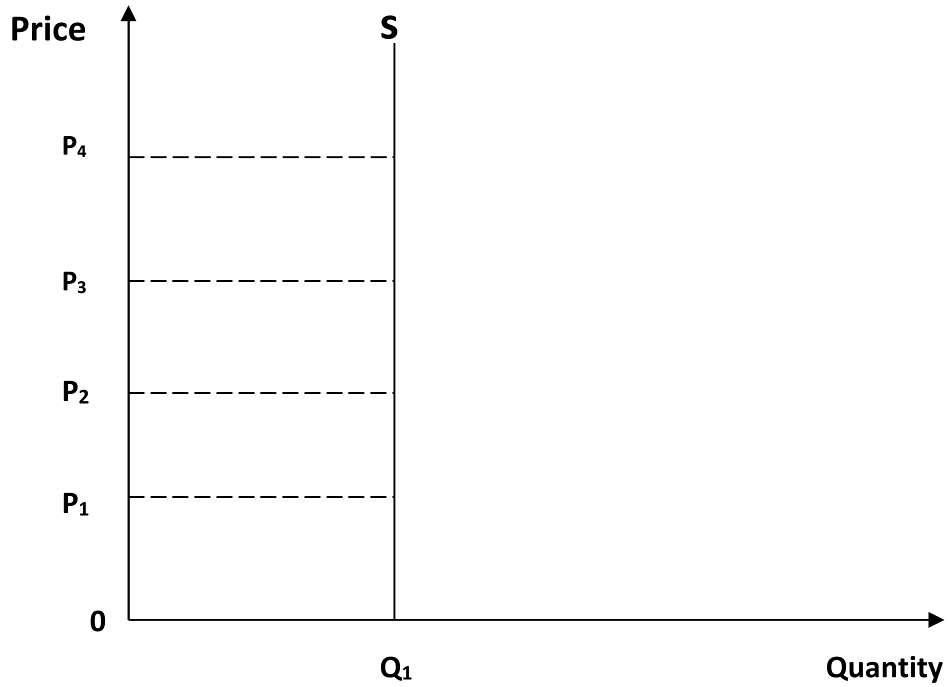
Abnormal / regressive/ exceptional /perverse supply curve

Refers to a supply curve which does not obey the law of supply.

Regressive supply curves occur under the following circumstances:

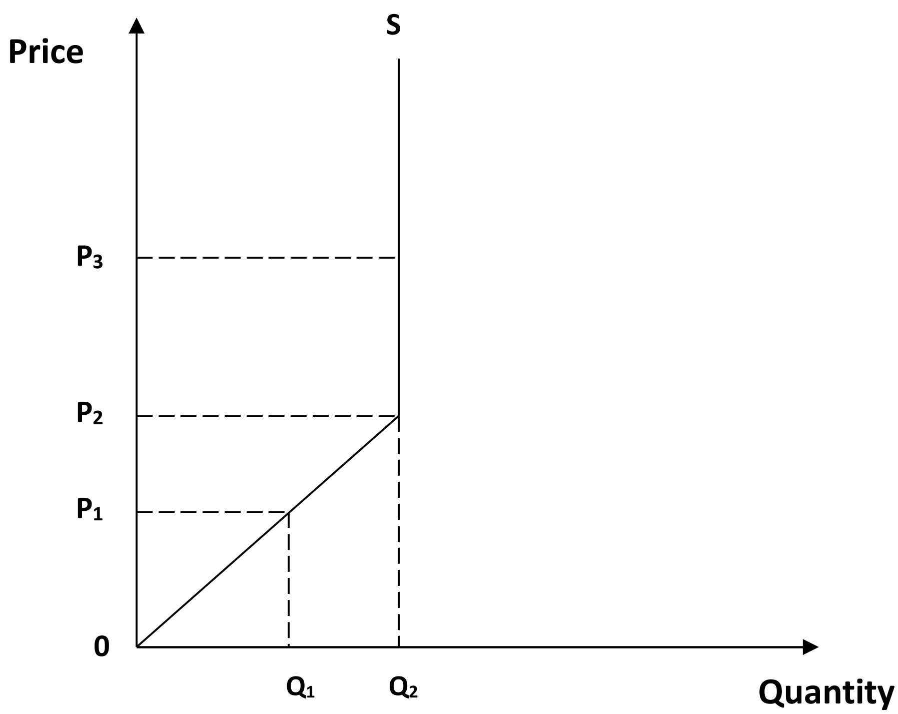
1. **In case of fixed supply (*perfectly inelastic supply)***
This is a situation where quantity supplied of a commodity does not change even when the price is changing (i.e. quantity supplied remains constant). Examples include: supply of land, supply of agricultural products in the short run.

Illustration of fixed supply



Price increases from P_1 to P_2 to P_3, but quantity supplied remains fixed at Q_1.

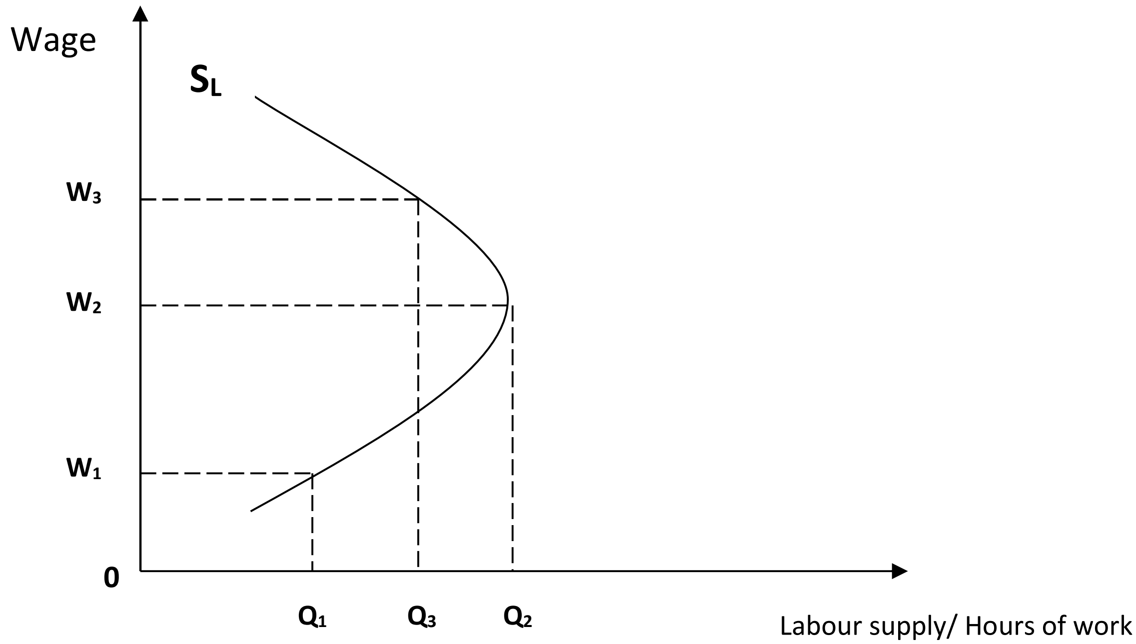
2. **Supply with capacity constraints**. In this case the firm can increase supply for initial units of output as price increases but after reaching its full capacity the quantity supplied cannot increase any further and thus becomes perfectly inelastic.



At first quantity supplied increases from Q_1 to Q_2 with increase in price from P_1 to P_2, after which supply remains constant.

3. **In case of speculation by suppliers/producers**. Where producers expect further increase in prices they tend to hoard commodities and supply less currently even when the prices are increasing ,expecting to benefit from the very high prices in future.
   [However when suppliers expect prices to reduce even with further …they may supply highly even as price falls to avoid incurring miserable loses/ to clear stock].
4. **In case of catastrophes/ during periods of catastrophes such as wars, floods, drought, and earth quakes**. Commodities may be supplied highly even at low prices to the consumers especially by non-profit oriented suppliers like relief agencies, government firms (such that all people can afford the commodities).
5. **In case of dumping of commodities**
   Suppliers may sell the commodities even at cheaper prices in other countries because they want to dispose off surplus, in addition to shortage of storage facilities.
6. **In case seasonal changes (especially for perishable agricultural goods).** For such goods more is put on the market immediately after harvest even at lower prices (like cabbage, tomatoes).
7. **In case of regressive supply of labour**.
   Labour has a backward bending supply curve. As wages increase, initially labour supply increases (more hours of work are supplied by labour). However beyond a certain point further increase in wages results into a decrease in labour supply (less hours of work are offered).

Illustration of the supply curve of labour



S_L is supply curve of labour.

The wages increase from OW_1 to OW_2 and this leads to increase in labour supply from OL_1 to OL_2. After point X further increase in wages to OW_3 leads to a reduction in labour supply from OL_2 to OL_3.

The backward bending/ regressive supply curve of labour is due to the following reasons:

a) **Increase in demand for leisure as wages increase/ labour having a strong preference for leisure**. As wages increase the some labourers work for a short period of time in preference for leisure (and can afford to pay for leisure).
b) **Presence of target workers**. These work in order to fulfill a certain objective/target and they reduce their hours of work after achieving their targets (At increased wages they achieve their targets in a short period and reduce their hours of work).

c) **Physical limitation such as old age, fatigue, laziness / presence of ageing workers**. This makes workers to offer less hours of work even at very high wages.
d) **Reduction in the real income due to high rates of inflation**. Where real income is falling even after wage increases the labourers are able to afford less goods and services which is a disincentive to working for more hours.
e) **Where there is progressive tax system (Fear of progressive taxation)**. This is where the tax rate increases as the wages/income increase. In this case the labourers work for less hours as the wages are increased because they are to face high tax rate at high wages and will not be any better-off. [Increased tax on extra income makes labourers reduce hours of work even at high wage level].
f) *Substitution of labour by machines.

Change in supply and change in quantity supplied

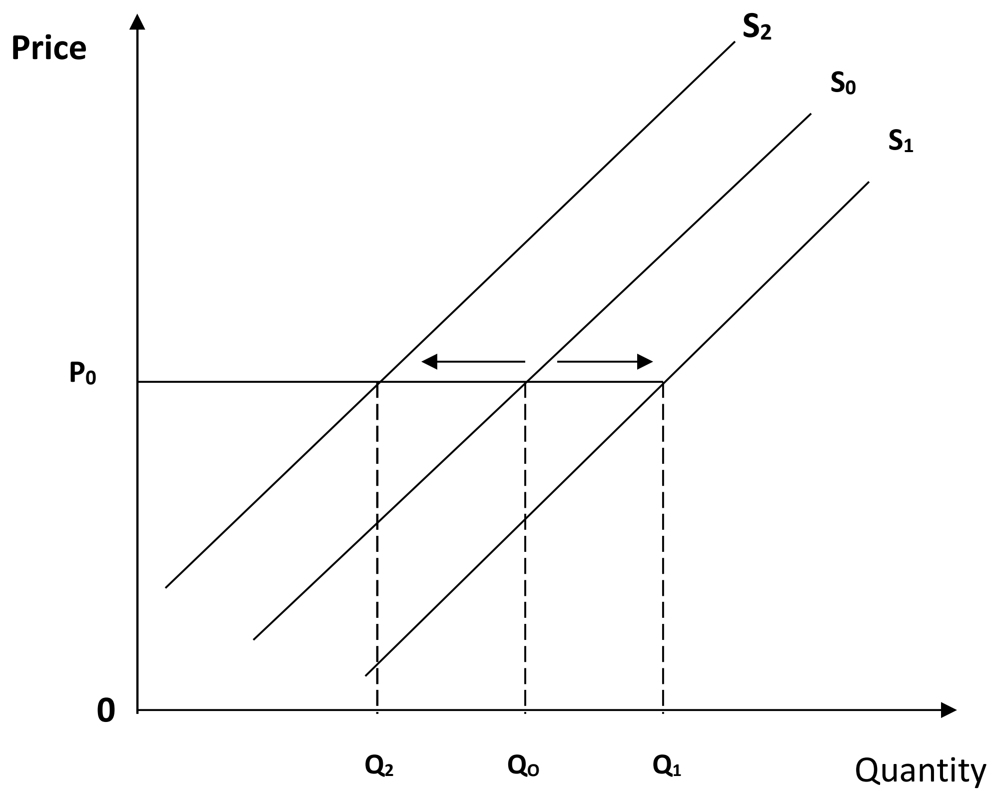
Change in supply

Refers to increase or decrease in amount supplied of a commodity at <u>a constant price</u> due to change in other factors that affect supply.

OR This is where more or less of a commodity is supplied at a constant price (due to changes in other factors that affect supply).

A change in supply is illustrated by a shift of the supply curve either to the right or the left. An increase in supply is represented by a shift of the supply curve to the right while a decrease in supply is shown by a shift of the supply curve to the left.

Illustration of change in supply



The shift of the supply curve from s_O to s_1 shows an increase in supply while a shift of the supply curve from s_O to s_2 shows a decrease in supply.

Change in quantity supplied

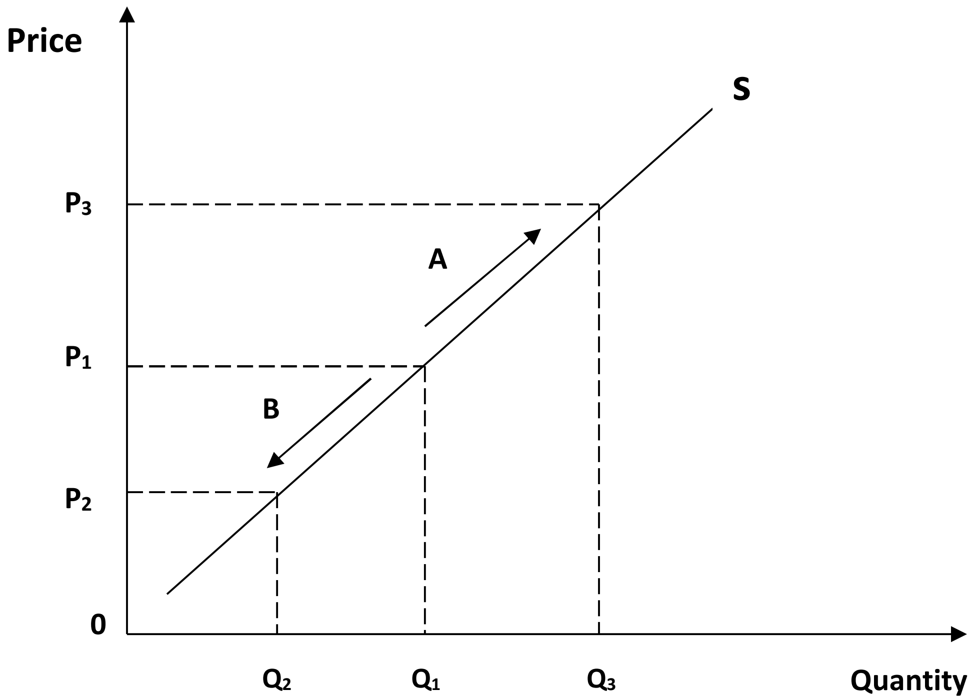
Refers to increase or decrease in amount supplied of a commodity due to change in the price of that commodity, other factors remaining constant/ ceteris paribus.

OR This is where more or less of a commodity is supplied due to change in the price of that commodity, ceteris paribus.

A change in quantity supplied is illustrated by the movement along the same supply curve either upwards or downwards. An upward movement is called

extension and it represents an increase in quantity supplied. While a downward movement is called **contraction** and it represents a decrease in quantity supplied.

Illustration of change in quantity supplied



As the price rises from OP_1 to OP_3, there is an increase in quantity supplied of the commodity from OQ_1 to OQ_3. However as price falls from OP_1 to OP_2, there is a decrease in quantity supplied of the commodity from OQ_1 to OQ_2.

Note: concepts

- **Increase in supply(expansion in supply)**
  Refers to a situation where more of a commodity is supplied at a constant price.
  Or this is an increase/rise in amount supplied of a commodity at a constant price (due to a favourable/positive change in the other factors that affect supply). It is illustrated by a shift of the supply curve to the right.
  Illustration of increase in supply

- **Decrease in supply**
  Refers to a situation where less of a commodity is supplied at a constant price. **Or** this is a fall in amount supplied of a commodity at a constant price (due to unfavourable /negative change in the factors that affect supply). It is illustrated by a shift of the supply curve to the left.
  Illustration of decrease in supply

- **Increase in quantity supplied**
  Refers to a situation where more of a commodity is supplied due to an increase in the price of that commodity, ceteris paribus.
  It is shown by upward movement along the supply curve. It is also called **extension in supply**
  Illustration of increase in quantity supplied

- **Decrease in quantity supplied**
  Refers to a situation where less of a commodity is supplied due to a decrease in the price of that commodity. It is shown by downward movement along the supply curve. It is also called a **contraction in supply.**
  Illustration of decrease in quantity supplied

Guiding questions:

1. (a) Distinguish between change in supply and change in quantity supplied (4mks)
   (b) Explain the causes of a change in supply for commodities in your country (16mks)

Note*: stating of the points must bring out the aspect of change, and in the explanation bring out an increase in supply and a decrease in supply*.

Example: ***Change in the level of technology.*** Improvement in technology (such as use of computers, tractors) results into increased efficiency in production/ productive capacity of firms and thus increase in supply. While decline in technology (such as use of outdated technology) results into inefficiency in production and hence a decrease in supply.

2. (a)What is meant by the term 'change in supply'? (4mks)
   (b)Explain the factors that lead to a change in supply at a constant price in an economy (16mks)
3. (a) Distinguish between increase in supply and increase in quantity supplied (4mks)
   (b)Account for an increase in supply of a commodity at a constant price (16 mks)

Interrelated supply

This is a situation where the supply of one commodity affects the supply of another either positively or negatively.

1. **Joint supply (complimentary supply)**

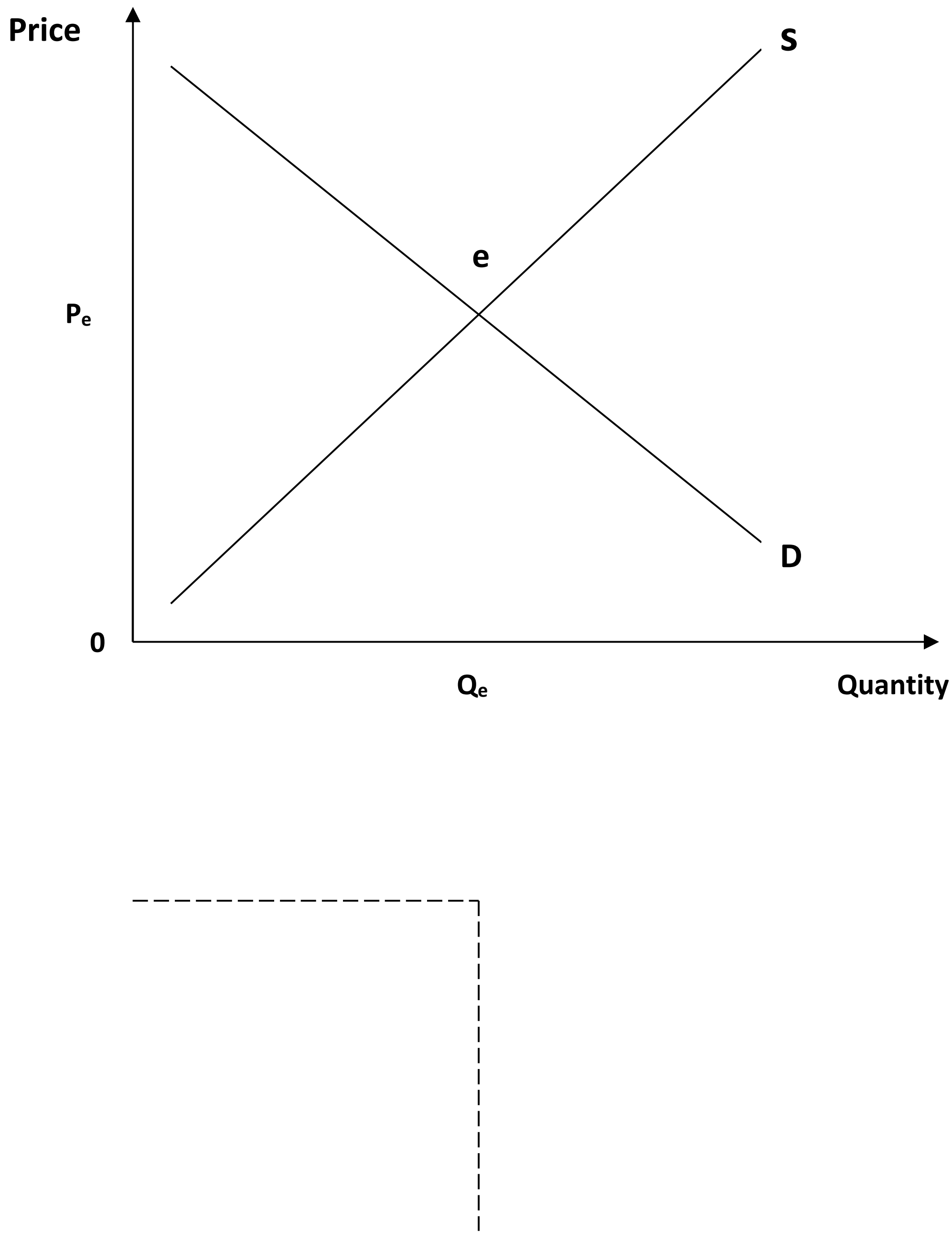
Refers to the supply of two or more commodities produced together in the same production process, such that an increase in the supply of commodity results into an increase in the supply of the other.
For example supply of beef and hides from animals, supply of wool and mutton (from sheep), supply of cotton and cotton seeds.

2. **Competitive supply**
   Refers to the supply of two or more commodities that use the same resources (factors of production) for their production, such that an increase in the supply of one commodity leads to a decline in the supply of the other.
   For example supply of potatoes and maize from the same piece of land, supply of eggs and meat from chicken, supply of milk and meat from cows, crop and animal production from a piece of land.
3. ***Composite supply**
   Refers to the total supply of goods that are substitutes to one another. For example total supply of tea and coffee.

Aggregate supply

Refers to the total amount of all goods and services supplied in an economy at different level of prices in a given time period. It is the total amount of domestic goods and services supplied by businesses and government; including both consumer products and capital goods.

INTERACTION BETWEEN FORCES OF DEMAND AND SUPPLY



From the above graph point e is the equilibrium point, Q_e is the equilibrium quantity and P_e is the equilibrium price.

1. **Equilibrium** –Refers to the state of stability in the market where economic forces of demand and supply have no tendency to change.

2. **Equilibrium point**—Refers to appoint where the forces of demand and supply are equal. Such as point e on the above graph.
3. **Equilibrium price**—Refers to the price determined where quantity supplied is equal to quantity demanded. **OR** price determined by the interaction of forces of demand and supply in the market. It is sometimes called ***market clearing price*** (since it just clears the market without leaving excess supply or excess demand).
4. **Equilibrium quantity**—Refers to the quantity of a commodity determined by the interaction of forces of demand and supply in the market.
5. ***Equilibrium of a firm**—Refers to a situation where a firm has no tendency to change (increase *or reduce*) the level of output during production.
6. ***Equilibrium of an industry**—Refers to a situation where the industry has no tendency to either increase its size by new firms entering or decrease its size by existing firms leaving the industry.
7. ***Consumer equilibrium**--

Exercise

1) Study the table below and answer the questions that follow:

Price per kg (shs)	Quantity demanded (kg)	Quantity supplied (kg)
900	20	95
800	30	80
700	40	72
600	50	68
500	60	60
400	75	46
300	80	37
200	90	20
100	100	15

(a) Determine the equilibrium price and equilibrium quantity (2mks)

(b) If the price is fixed at shs. 700 per kg, state whether there will be a surplus or a deficit and by what magnitude?

Solution:

(a) Equilibrium price = shs.500
(b) Equilibrium quantity is 60 kg
(c) At shs 700, there is a surplus since quantity exceeds quantity demanded.

Magnitude= quantity supplied—quantity demanded

=72—40

= 32kg.

2) Study the table below and answer the questions that follow:

Price per kg(shs)	Quantity demanded (kg)	Quantity supplied (kg)
1500	400	2000
1300	600	1500
1000	700	1300
950	900	900
760	1000	800
600	1100	600
500	1200	450

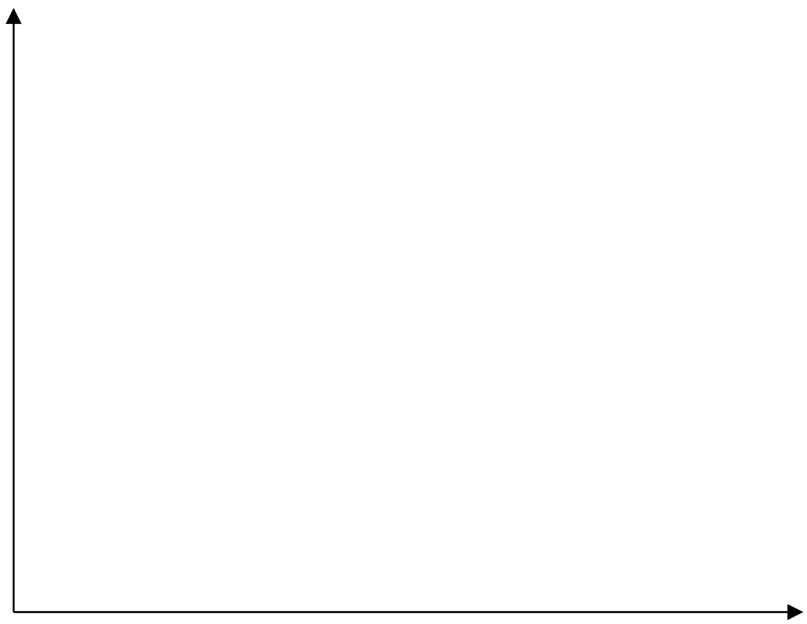
(a) Determine the equilibrium price and equilibrium quantity (2mks)
(b) Suppose the government offered to pay for all surplus output at shs.400 per kg, how much will it pay? (2mks)

Effect of a change in demand and supply on equilibrium price and quantity

When there is an increase or decrease in market supply or market demand, the equilibrium position changes and therefore the equilibrium price and equilibrium quantity also change. This is shown as below:

1. Increase in demand with constant supply

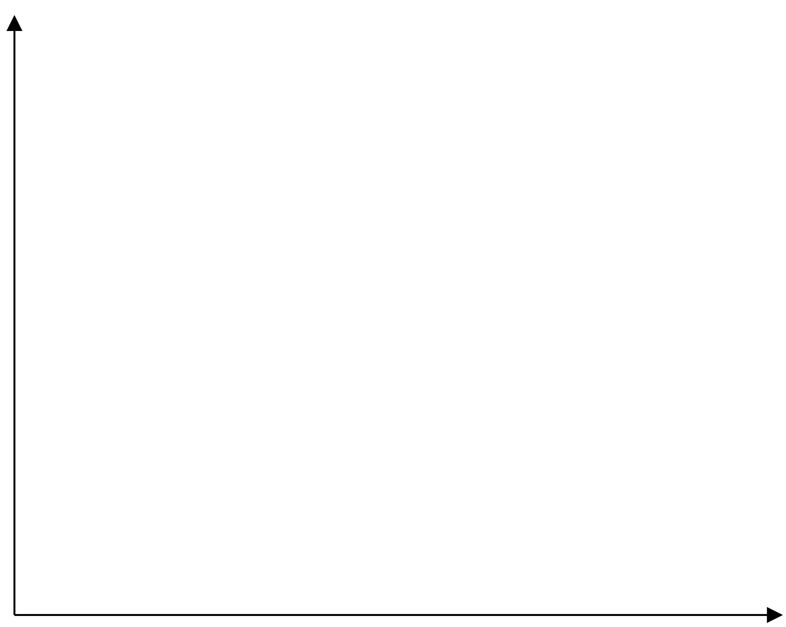
This is indicated by a shift of the demand curve to the right.



Equilibrium point changes from e_0 to e_1, equilibrium quantity increases from Q_0 to Q_1 while equilibrium price increases from P_0 to P_1.

2. **Decrease in demand with constant supply**

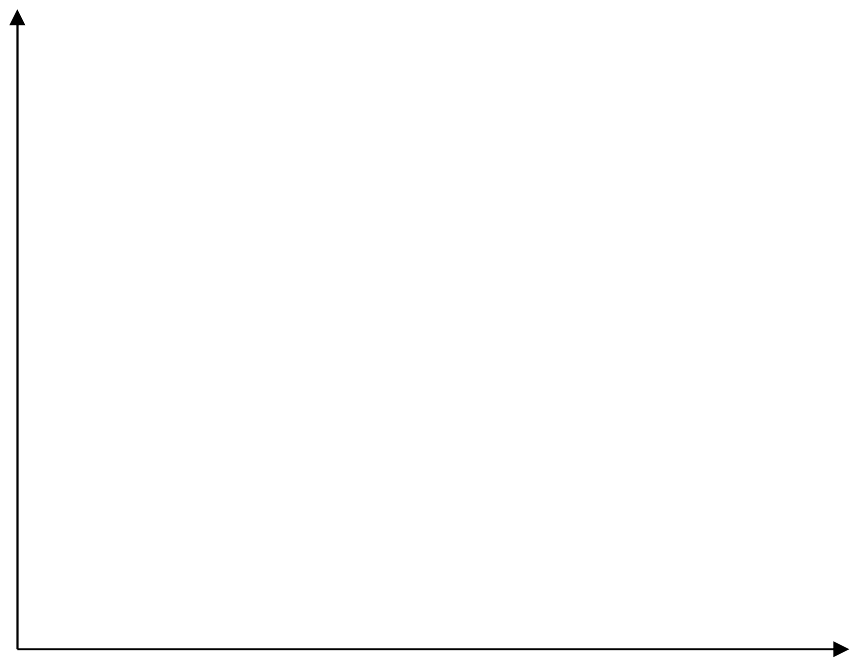
   This is indicated the shift of the demand curve to the left.



Equilibrium point changes from e_1 to e_2, equilibrium quantity decreases from Q_1 to Q_2 and equilibrium price decreases from P_1 to P_2.

3. Increase in supply with constant demand

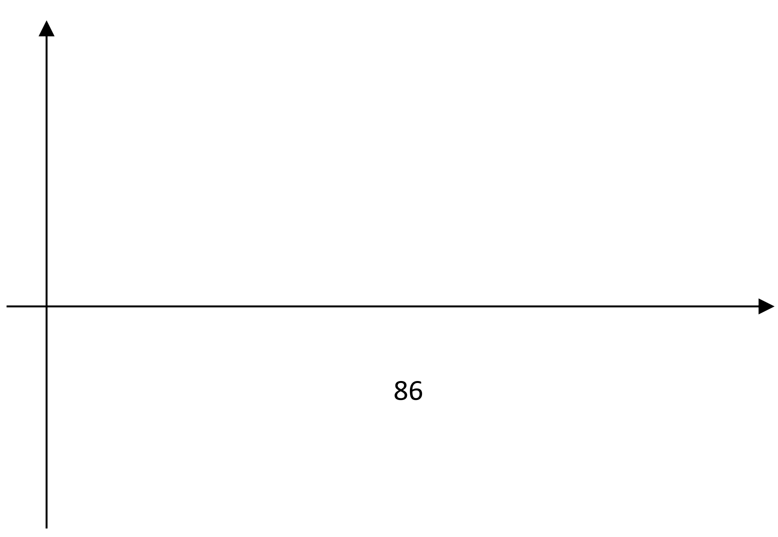
This is indicated by the shift of the supply curve to the right.



Equilibrium point changes from to e_1 to e_2, equilibrium quantity increases from Q_1 to Q_2 and equilibrium price falls from P_1 to P_2.

4. Decrease in supply with constant supply

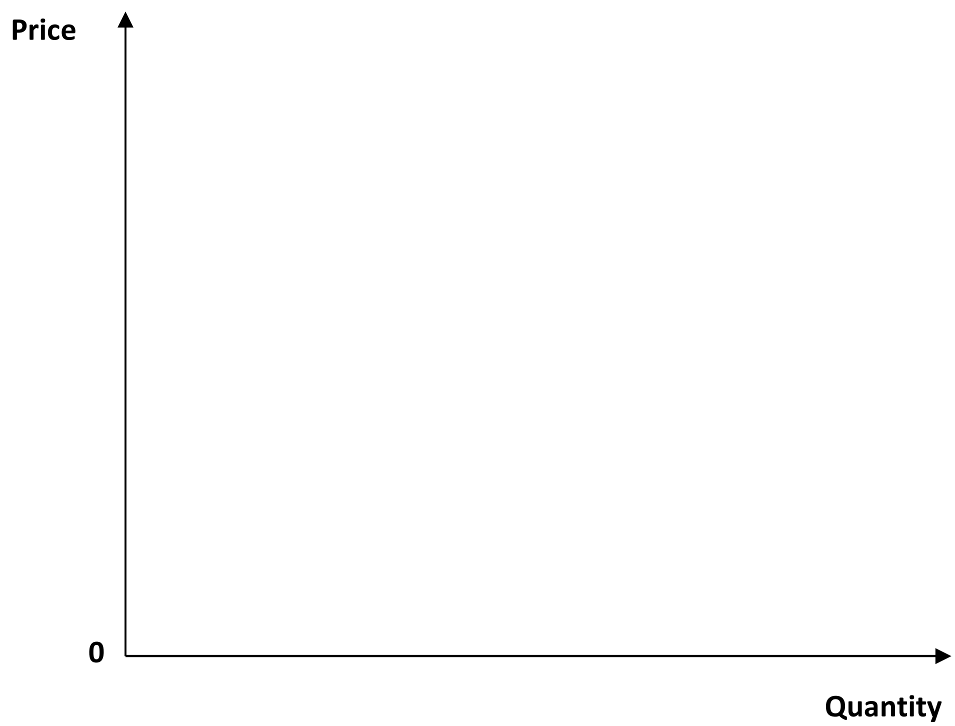
This is indicated by the shift of the supply curve to the left.



Equilibrium point changes from e_1 to e_2, equilibrium quantity reduces from Q_1 to Q_2 and equilibrium price increases P_1 to P_2.

5. Increase in demand and supply

This is indicated by the shift of both the demand curve and supply curve to the right.



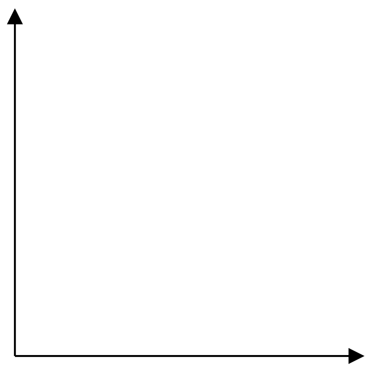
Equilibrium point changes from e_1 to e_2, equilibrium quantity increases from Q_1 to Q_2 and equilibrium price remains constant at P_1.

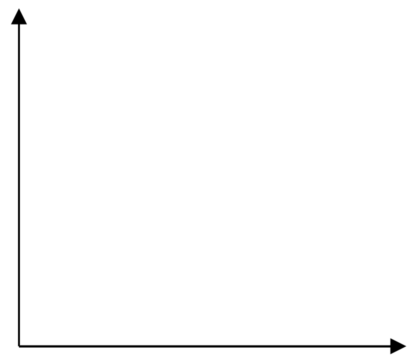
Exercise/ guiding questions:

1) Commodities Z and X are jointly supplied. How is an increase in demand for Z likely to affect the price of X? Illustrate your answer

An increase in demand for commodity Z results into increase in supply of Z and this also causes an increase in supply of X (since they are produced together/ have linked production) resulting into a fall in price of X (due to excess supply/ surplus).

Increase in demand for Z *increase in supply for X*

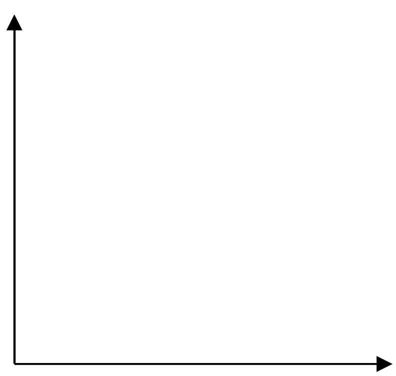




2) **Assuming two commodities L and M have complimentary supply. How does a decrease in demand for L likely to affect the supply and price of M?**

A decrease in demand for L results into decrease in supply for L and this also results into a decrease in supply of M causing a rise in price of M.

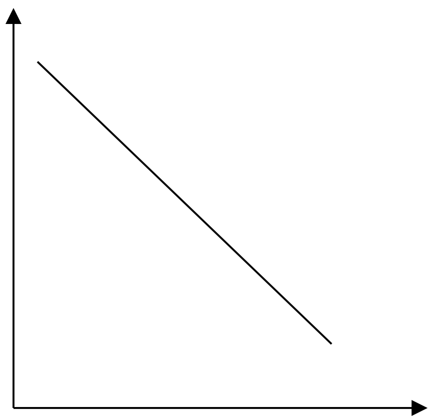
Decrease in demand for L decrease in supply for M

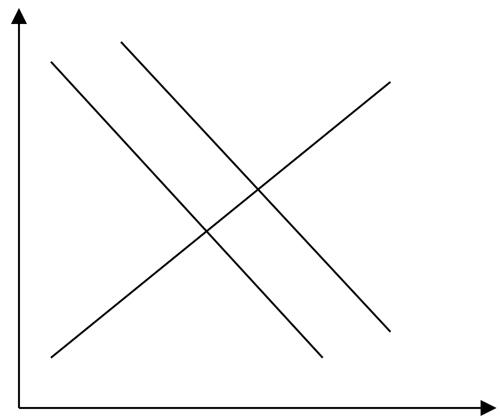


3) **Commodities P and Q have complimentary demand. Using an illustration briefly explain how an increase in price for P will affect the quantity demanded for commodity Q**

Increase in price for P results into a decrease in its demand and this also causes a decrease in demand for Q since they have complimentary demand.

Increase in price of P *decrease in demand for Q*





4) **Commodities Z and X are jointly demanded. How does an increase in demand for Z likely to affect the price of X?**
   An increase in the demand of Z leads to increase in demand for X which eventually results into an increase in the price of X (due to excess demand on the market)

5) **Suppose commodities A and B are competitively supplied. Explain how an increase in demand for A affects the price of B.**

6) **Suppose two commodities Y and Z are competitively demanded, explain how an increase in the demand for Y affects the price of Z.**
   An increase in the demand for Y leads to decrease in the demand for Z and consequently a fall in the price of for Q.

7) Assuming that two commodities A and B are competitively demanded. How does a decrease in demand for A likely to affect the price of B?

Conditions of market equilibrium

1) **Stable equilibrium**. This is a situation where market forces adjust themselves automatically to bring the economy back to equilibrium position after a shock/ disturbance.
2) **Unstable equilibrium/ Dynamic equilibrium**. This is a situation when the economy cannot be restored back to equilibrium position after a disturbance /shock.
3) **Neutral equilibrium**. This is a situation when any deviation in equilibrium results into a negligible or no change in equilibrium position.
4) **Partial equilibrium**. This is a situation when equality of supply and demand is only in a subset of an economy's market. Partial equilibrium is appropriate for products that constitute a negligible or a small part of the economy.
5) **General equilibrium**. This is a situation when equality of supply and demand exists in the market for all commodities and factors of the economy simultaneously.

CONSUMER AND PRODUCER SURPLUS

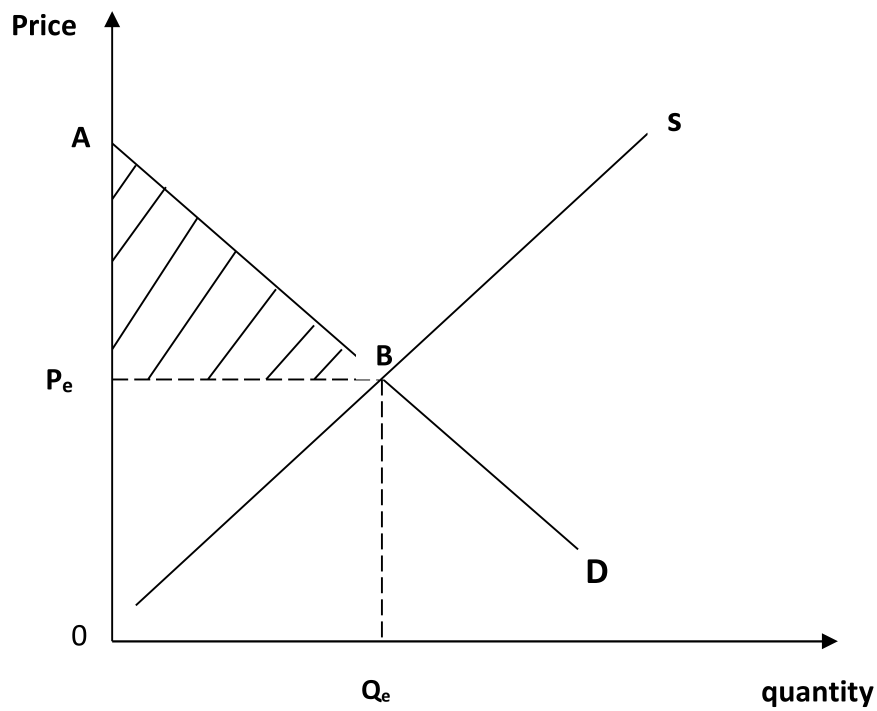
Consumer surplus

Refers to the difference between the price the consumer is willing and able to pay for a commodity and what he actually pays for the (same) commodity.

Or Refers to the additional satisfaction that a consumer enjoys without paying for, when he finds the market price lower than the price he is willing to pay.

Consumer surplus is illustrated using a demand curve or demand schedule.

Illustration of consumer surplus (using a demand curve)



From the diagram above, the consumer's willingness to pay is shown by the area under the demand curve. At equilibrium price P_e the consumer will demand quantity Q_e. The consumer is willing to pay an amount equal to area $OABQ_e$ for quantity Q_e. But because the market price is P_e the consumer actually pays OP_eBQ_e. The difference which is equal to P_eAB (shaded area) is the consumer surplus.

Consumer surplus= Planned expenditure—Actual expenditure

(Willingness to pay—Actual payment)

$CS=OABQ_e--OP_eBQ_e$

$CS=P_eAB$

Examples :(***consumer surplus using a demand schedule)***

1. Study the table below

Price consumer is willing to pay	Units consumed
800	1

750	2
650	3
500	4
450	5
300`	6

Calculate the consumer surplus if 4 units of the commodity were bought at shs.500.

Cs=willingness to pay –actual payment

Cs=800+750+650+500 –(500*4)

Cs=2700-2000

Cs=700/=

2. Study the table below and answer the questions

Price	170	160	140	120	110	90	80	70
Quantity demanded	0	1	3	6	11	17	25	34

Suppose the market price is shs.90, determine the consumer surplus.

Producer surplus

Refers to the difference between the price a producer is willing to accept for a commodity and what he actually charges for the commodity.

OR Refers to the excess of producer's receipts over the minimum that would have to be paid to persuade him to produce a given quantity of a commodity.

Illustration of producer surplus

B

The producer is willing to sell the commodity at an amount equal to OP_1BQ_e. However he actually receives amount OP_eBQ_e. Therefore the difference between the two amounts is the producer surplus (shaded area P_1P_eB).

Producer surplus =Actual revenue—Expected revenue
(Actual earnings—Willingness to accept)

Example:

1. Study the table below and answer questions

Price(shs)	10	20	30	40	60	80	100	120
Quantity supplied (kg)	1	2	3	4	5	6	7	8

(a) Calculate the producer surplus if 6 units were sold at shs. 80

(b) Calculate the producer surplus if all units were sold at shs. 80 (determine the producer surplus given that the market price is shs.80).

Solution:

(a)Producer surplus = actual earnings—willingness to accept

= (80 x 6) – (10+20+30+40+60 +80)

= 480—240

= <u>shs.240</u>

(b) Producer surplus = actual revenue—expected revenue

= (80 x 8) --(10+20+30+40+60+80+100+120)

= 640—380

=<u>shs.260</u>

2. Study the table below and answer the questions

Price(shs)	100	120	140	200	250	320	380	420
Quantity supplied (kg)	1	3	7	12	18	26	33	38

Given that the market price is shs.320, calculate the producer surplus

3. Study the table below and answer the questions

Price (shs)	1000	1200	1500	1900	2000	2500	2800	3100
Quantity supplied	2	5	9	14	20	27	35	43

Suppose the market price is shs. 2500, determine the producers surplus

4. Study the table below and answer the questions

Price	100	120	160	200	240	280	300	340	380
Quantity supplied	1	2	4	7	12	19	27	36	46

Determine the producer surplus if all units were sold at shs.300

ELASTICITY

Refers to the measure of the degree of responsiveness of dependent variable to independent variable. Dependent variable is demand or supply while independent variable are the factors that affect them.

OR ***Elasticity refers to the measure of the degree of responsiveness of demand or supply of a commodity due to change in any of the factors that affect demand or supply***.

Elasticity is divided into two major categories:

- Elasticity of demand
- Elasticity of supply

ELASTICITY OF DEMAND

Refers to the measure of the degree of responsiveness of demand for a commodity due to changes in any of the factors that affect demand. The factors include: price of the commodity, income level of the consumer, price of another commodity e.g. Substitutes and compliments among others.

Accordingly the major forms of elasticity of demand are:

a) Price elasticity of demand
b) Income elasticity of demand
c) Cross elasticity of demand

PRICE ELASTICITY OF DEMAND

Refers to the measure of the degree of responsiveness of quantity demanded of a commodity due to change in the price of that commodity/ its price.

It is given by the formula;

$$\textbf{PED} = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price of the commodity}}$$

Note: Price elasticity of demand is always negative because of the inverse/ negative relationship between price and quantity demanded. Hence we multiply -1.

Since the rate of demand increases as price falls, and vice versa , the price elasticity of demand is negative and we ignore the negative and only consider the absolute value.

Example:

1) Given that the price of a commodity increased from shs.3000 to 3500 per kg and as a result the quantity demanded reduced from 60kg to 40kg. Calculate the price elasticity of demand.

2) The table below shows the quantities demanded of a commodity at different price levels

Price (shs)	Quantity (Kg)
8000	15
12,000	13

Determine the price elasticity of demand for the commodity.

Categories / degree of price elasticity of demand

(Interpretation of price elasticity of demand)

The coefficient of elasticity ranges between zero and infinity. The categories of elasticity of demand therefore include:

- Perfectly inelastic
- Inelastic demand
- Unit elasticity / unitary
- Elastic demand
- Perfectly elastic

1) Perfectly inelastic demand

This is where a given (percentage) change in price of a commodity has no effect on the quantity demanded. The price elasticity of demand is zero (Ped=0). The demand curve is a vertical straight line.

Illustration of perfectly inelastic demand

2) Inelastic demand

This is where a given percentage change in price of a commodity leads to a smaller percentage change in quantity demanded. For example a 20% change in price results into a 10% change in quantity demanded.

The price elasticity of demand is greater than zero but less than one (0<Ped<1). The slope of the demand curve is steep.

Illustration

3) **Unit elasticity of demand**. This is where a given percentage change in price of a commodity leads to an equal (the same) percentage change in quantity demanded. For example a 20% change in price causes a 20% change in quantity demanded.

   Price elasticity of demand =1, and the slope of the demand curve is the same at all points.

   Illustration

4) Elastic demand

This is where a given percentage change in price of a commodity leads to a bigger percentage change in quantity demanded. For example a 10% change in price results a 25% change in quantity demanded. The price elasticity of demand is greater than one but less than infinity ($1 < Ped < \infty$) and the slope of the demand curve is gentle.

Illustration

5) **Perfectly elastic demand**

This is where a change in price of a commodity leads to an infinite change in quantity demanded.

Any increase in price of a commodity results into quantity demanded going to zero (nothing will be bought). The price elasticity of demand is equal to infinity (Ped = ∞) and the demand curve is a horizontal straight line.

Illustration

Guiding questions;

1) Given that the price of a commodity increased from shs. 1800 to shs.2100 and quantity demanded decreased by 50%
   (a) Determine the price elasticity of demand for the commodity
   (b) State the degree of elasticity
2) Assuming that the price of commodity increases from shs. 4500 to shs. 7000 and quantity demanded reduces by 20%, calculate the relevant elasticity and state the degree of elasticity.
3) Study the table below and answer questions

Price	Quantity demanded

1000	130
800	190

(i) Determine the price elasticity of demand

(ii) State the degree of elasticity and give a reason for your answer

Determinants of price elasticity of demand (factors affecting/ influencing)

1. ***Availability of close substitutes*****s**. Commodities with many close substitutes have elastic demand because a change in price causes a big change in quantity demanded. While commodities with no close substitutes or no substitute at all have inelastic demand (because even after increase in price people continue buying them since there is no alternative).
2. ***Degree of necessity of a commodity.*** Necessity commodities have inelastic demand because people cannot do without them while commodities with low degree of necessity (not essential) have elastic demand since people can do without them.
3. ***Habit in use of a commodity/ degree of addiction to a commodity***. Habit forming goods such as alcohol, cigarettes have inelastic demand because consumers cannot do without them even after price increases. However commodities that are not consumed as a habit have elastic demand because consumers can abandon them and buy other goods.
4. ***Proportion of income spent on a commodity/ price level of the commodity***. Commodities that take a big percentage of consumers income have elastic demand while commodities that take a small proportion/fraction of consumer' s income have inelastic demand.
5. ***Level of consumer's income***. High income earners/ the rich have inelastic demand since they are least affected by price changes (they are able to continue buying the commodity even at increased prices). However low income earners have elastic demand for a commodity.

6. ***Number of uses to which a commodity can be put***. Commodities with many uses such as electricity have elastic demand since increase in price makes consumers restrict to only the most important purposes. While commodities with a single use or a few uses have inelastic demand.
7. ***The possibility of postponing the use of the commodity***. Commodities whose use can be postponed have elastic demand while commodities whose use cannot be postponed have inelastic demand.
8. ***Convenience of acquiring a commodity***. Commodities which can be acquired conveniently/ easily (such as from nearby) have inelastic demand while those commodities which are not acquired conveniently/ difficult to acquire have elastic demand.
9. ***Time period***. In the short run demand for a commodity tends to be inelastic since consumers are not aware of the existence of substitutes/alternatives while in the longrun the demand for a commodity is elastic since consumers can easily discover alternatives /substitutes (change spending habits).
10. ****Nature of the commodity as regards Perishability and durability***. Durable commodities tend to have inelastic demand because they are used for a long period of time. While perishable commodities tend to have elastic demand because they are used over a short period of time.
11. ***Level of advertisement of a commodity***. High level of advertisement/ persuasive advertisement leads to inelastic demand for a commodity since people become attached to that commodity. However low level of advertisement leads to elastic demand.

Qn Account for the high price elasticity of demand (elastic demand) for a commodity

- A commodity being perishable
- Inconvenience in acquiring the commodity
- Longrun periods
- High proportion of income spent on a commodity
- Many uses of a commodity
- Low income level of consumer

- Commodities which are not addictive
- Low level of advertisement
- Commodity having many substitutes

Qn Account for the low price elasticity of demand for a commodity

- Commodity having limited/ few uses
- Commodity having few/ no substitutes
- High degree of addiction to a commodity / a commodity being consumed as a habit.
- High degree of necessity of a commodity
- High income level of consumers/ presence of high income earners
- Small proportion of income spent on a commodity/ low price level of a commodity.
- Short run period.
- High level of advertisement of the commodity.
- Convenient acquiring of a commodity
- A commodity being durable.

Guiding questions:

1. (a) Distinguish between price elasticity of demand and income elasticity of demand (4 mks)
2. (b) Explain the factors that influence price elasticity of demand (16 mks)
3. What are the factors responsible for elastic demand/ high elasticity of demand
4. What are the factors leading to inelastic demand in an economy?

Point and Arc elasticity of demand

Point elasticity refers to the measure of elasticity at one point on the demand curve.

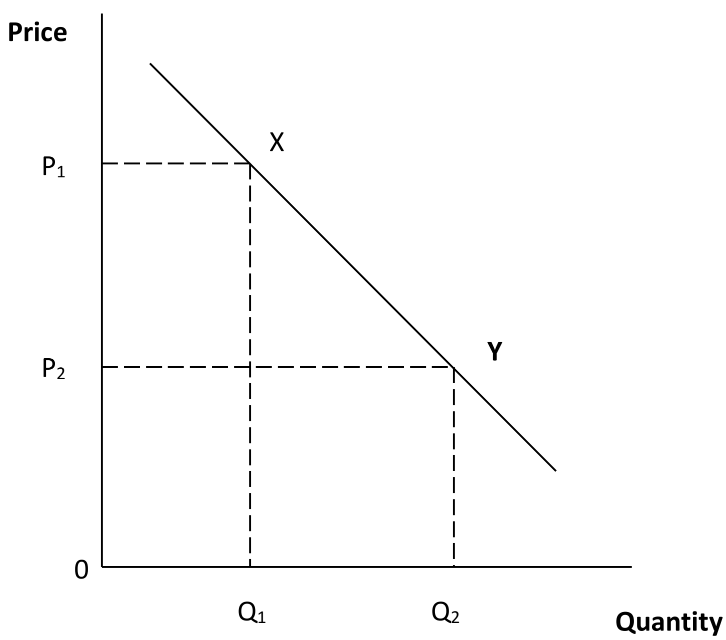
$$\text{Point elasticity} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Where,….

Arc elasticity refers to the average elasticity between two points on the demand curve.

$$\text{Arc elasticity} = \frac{\Delta Q}{\Delta P} \times \frac{(P_1+P_2)/2}{(Q_1+Q_2)/2}$$

Point and arc elasticity are illustrated below:



Importance / Application of price elasticity of demand

The producer, government and the consumer

To the producer

1. ***Guides the producer in price determination***. Producers aiming at getting much revenue charge high prices for commodities with inelastic demand and low prices for commodities with elastic demand.
2. ***Guides producers in price discrimination***. Price discrimination refers to the selling of a similar commodity to different consumers at different prices without considering the cost of production. In markets with elastic demand , low prices are charged while in markets with inelastic demand high prices are charged.
3. ***Guides in determination of wages***. High wages are paid to labour whose demand is inelastic since their services are highly demanded while low wages are paid to labour whose demand is elastic since they are easily substituted.
4. ***Determines incidence of a tax***. For commodities with inelastic demand , the tax burden is easily extended to the final consumers unlike a commodity with elastic demand.
5. ***Guides in making decisions regarding advertisement of a product/ gives producers the knowledge of competition***. Producers dealing in commodities with elastic demand ensure that they use persuasive advertisement so as to capture markets while those dealing in commodities with inelastic demand do not need to advertise a lot since they have established market.

To the Consumer

1. ***Guides consumers in planning and predicting their expenditures***. Consumers expenditure is low where the commodities consumed are of elastic demand and consumer expenditure is high for commodities of elastic demand.

2. ***Guides consumers in predicting the tax burden***. For a commodity with inelastic demand consumers are prepared to have a big tax burden since a bigger percentage of tax is shifted to consumers. However, for commodity with elastic demand the consumer has a small tax burden.

To the Government

1. ***Guides the government in taxation policy.***
   (a) ***To raise revenue***. For the government to raise high revenue it taxes commodities with inelastic demand highly (they are demanded irrespective of price changes) while commodities with elastic demand are taxed less (because their demand greatly lowers as price increases).
   (b) ***To discourage production and consumption of a certain commodity***. The government succeeds in discouraging consumption of a certain commodity when it has elastic demand by imposing heavy taxes on such a commodity.
2. ***Guides the government in devaluation of the currency***. Devaluation refers to the legal reduction in the value of a country's currency in terms of other currencies. It makes a country's exports cheaper and imports expensive. devaluation is successful when the demand for both imports and exports is elastic.
3. ***Guides the government in nationalization policy***. Firms producing commodities with inelastic demand should be nationalized first (taken over by government) because it is aware that such firms can easily exploit the public through high prices.
4. ***Guides the government in price controls***. Maximum prices are fixed for commodities with inelastic demand to protect consumers from producer exploitation. Minimum prices are fixed for commodities with elastic demand to protect producers from consumer exploitation.
5. ***Guides government in subsidization policy***. A subsidy is financial assistance given by government to producers and the effect is to reduce the cost of production. Usually a subsidy is given to those firms whose products have elastic demand, and this would lead to relatively small reduction in price but relatively large increase in consumption of the commodity.

6. ***Guides government in determining tax incidence*** *(determining who bears the tax burden between the producer and consumer)**.*** For a commodity with inelastic demand, consumers pay the highest portion of the tax but for a commodity with elastic demand, producers pay the highest portion of tax.
7. ***Guides government in determining prices for public utilities***. For services with inelastic demand a higher price is charged while for those with elastic demand, a lower price is charged.

Income elasticity of demand

Refers to the measure of the degree of responsiveness of quantity demanded of a commodity due to change in the income level of the consumer.

OR the percentage change in quantity demanded for a commodity due to a given percentage change in the level of consumer's income.

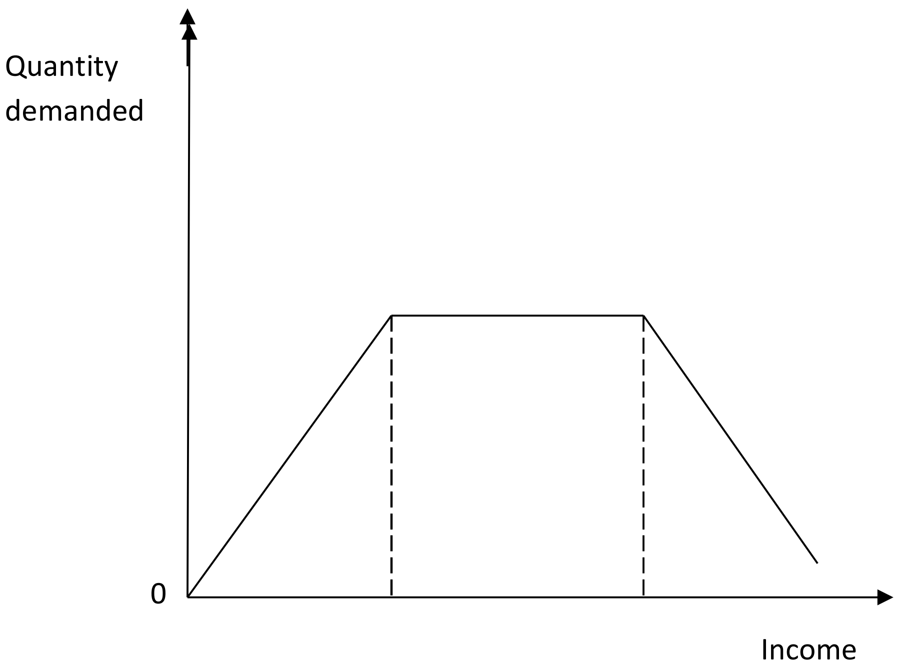
$$\textbf{Yed} = \frac{\text{Percentage change in quantity}}{\text{Percentage change in income}}$$

Interpretation of income elasticity of demand

1. Income elastic. Refers to a situation where a small change in consumer's income results into a very big change in quantity demanded of a commodity. In this case income elasticity is greater than one (Yed >1).
2. Income inelastic. Refers to a situation where a big change in consumer's income results into a very small change in quantity demanded of a commodity. A given change in consumer's income results into a less than proportionate change in quantity demanded of a commodity.
   In this case, the income elasticity of demand is greater than zero but less than one (0<yed <1).
3. When the income elasticity of demand is positive, the commodity is a normal good. This is because as consumer's income increases, quantity demanded also increases.

4. When the income elasticity of demand is negative , the commodity is inferior . this is because as income increases quantity demanded decreases.
5. When the income elasticity of demand is zero, the commodity is a necessity. This is because as consumer's income increases , quantity demanded remains the same.

Illustration of income elasticity of demanded at different income levels



Guiding questions

1. Given that increase in consumer's income from shs. 90,000 per month resulted into a change in quantity demanded from 520 unit to 470 units. (a) (a) Calculate the income elasticity of demand

   (b) State the type of commodity and give a reason for your answer
2. Study the table below and answer the questions that follow

Income (shs)	Quantity demanded of x (kg)
40,000	100
80,000	240

(i) Determine the relevant elasticity for commodity x

(ii) What type of commodity is x? give reasons for your answer

3. Assuming that the income of the consumer increases from shs. 14,000 to shs. 20,000 and quantity demanded per month reduces by 40%. Calculate the income elasticity of demand and state the nature of the commodity giving a reason for your answer.

Importance of income elasticity of demand

1. ***Guides producers in estimating the future demand for a commodity as consumer's income changes***. With high-income elasticity of demand (elastic) as consumer's income increases, the producers supply more due to increase in demand. However with income inelastic demand producers supply less as income increases since there is a small increase in demand.
2. ***Guides in distinguishing different types of commodities***. This is important for taxation purposes whereby necessities of life are taxed less than luxuries.
3. ***Guides government in determining the degree of income inequality***. It does this by looking at the purchase of different commodities.

Determinants of income elasticity of demand

1. ***Degree of necessity of a good***. Necessities are demanded at whatever income level while non-essentials are income elastic.
2. ***Level of income of the consumer***. Individuals with more income have inelastic demand while those who are poor have elastic demand.
3. ***Time period when consuming a good***. Consumption patterns adjust with changes in income such as immediately after people receiving income, they have inelastic demand but long after receiving income , people have elastic demand.

Cross elasticity of demand

Refers to the measure of the degree of responsiveness of quantity demanded of a commodity due to change in the price of another commodity.

OR the percentage change in quantity demanded of a commodity resulting from a given percentage change in price of another commodity.

$$\text{Cross elasticity of demand} = \frac{\text{Percentage change in quantity demanded (x)}}{\text{Percentage change in price (y)}}$$

Interpretation of cross elasticity of demand

1. When cross elasticity of demand is positive, the two commodities are substitutes, which means that increase in price of one commodity (y) results into increase in quantity demanded of another commodity (x).
2. When the cross elasticity of demand is negative, the two commodities are complements, which means that increase in price of one commodity (y) results into decrease in quantity demanded of another commodity (x).
3. When the cross elasticity of demand is zero, the two commodities are not related. This means that quantity demanded of one commodity is not affected by change in price of another commodity.

Guiding questions

1. Study the table below and answer questions

Price of x (shs)	Quantity demanded of y (kg)
4500	650
5500	770

   (a)Calculate the coefficient of elasticity
   (b) Explain the relationship between the two commodities x and y
2. The price of commodity A reduced from shs.2000 to shs. 1600 per unit and quantity demanded of commodity B increased from 350 to 450 units per day.

Calculate the cross elasticity of demand and show the relationship between A and B

3. Given that a household reduced its weekly demand for commodity Q from 62kg to 50 kg as a result of a fall in the price of a related commodity P BY 15 %
   (i) Determine the coefficient of elasticity
   (ii) How is commodity Q related to P? Give reasons for your answer.

Application of cross elasticity of demand

1. Shows the relationship between commodities such as substitutes , compliments etc
2. Shows consumers the extent to which they can bargain. Normally for substitutes, the consumers have a strong bargaining power.
3. Producers determine the degree of competition. For substitutes , producers must be prepared for stiff competition.

ELASTICITY OF SUPPLY

Refers to the measure of the degree of responsiveness of quantity supplied of a commodity due to a change in any of the factors that affect supply.

The types of elasticity of supply include:

- Price elasticity of supply
- Cross elasticity of supply

PRICE ELASTICITY OF SUPPLY

Refers to the measure of the degree of responsiveness of quantity supplied of a commodity due to a change in the commodity's own price.

$$\text{Price elasticity of supply} = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price of the commodity}}$$

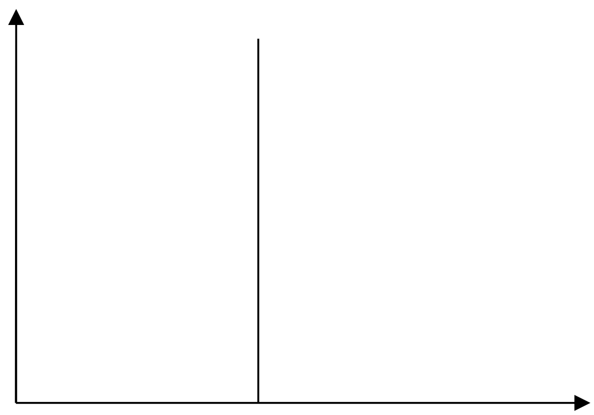
Categories / degree of price elasticity of supply

- Perfectly inelastic supply
- Inelastic supply
- Unit elasticity of supply
- Elastic supply
- Perfectly elastic supply

1) Perfectly inelastic supply

This is where a given percentage change in price of a commodity has no effect on the quantity supplied. The price elasticity of supply is zero (Pes=0). The supply curve is a vertical straight line.

Illustration of perfectly inelastic supply

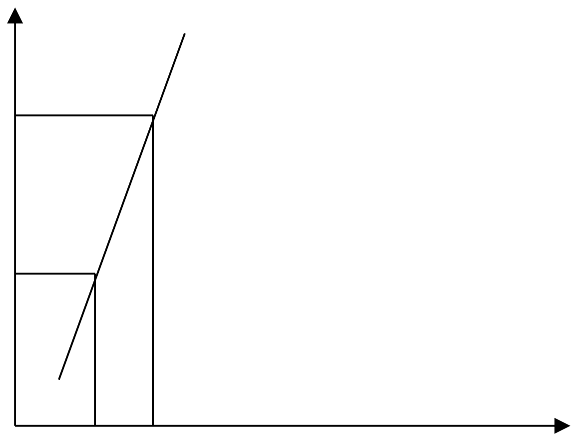


2) Inelastic supply

This is where a given (big) percentage change in price of a commodity leads to a smaller percentage change in quantity supplied. For example a 20% change in price results into a 10% change in quantity supplied.

The price elasticity of supplied is greater than zero but less than one (0<Pes<1). The slope of the supply curve steep.

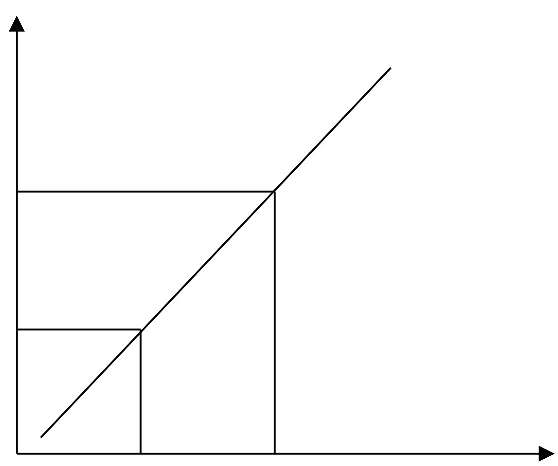
Illustration of inelastic supply



3) **Unit elasticity of supply**. This is where a given percentage change in price of a commodity leads to an equal (the same) percentage change in quantity supplied. For example a 20% change in price causes a 20% change in quantity supplied.

   Price elasticity of supply =1, and the slope of the supply curve is the same at all points.

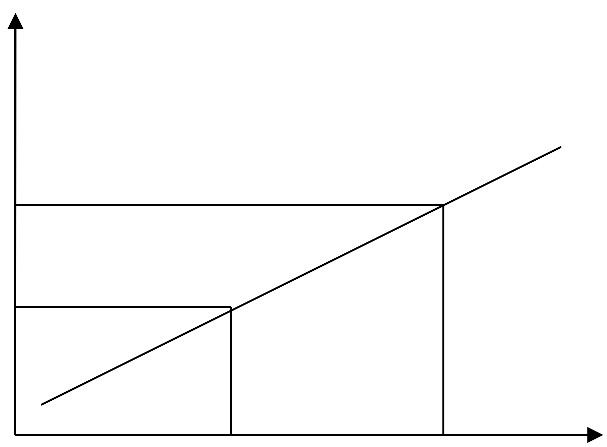
Illustration of unitary elasticity of supply



4) **Elastic supply**

This is where a given (small) percentage change in price of a commodity leads to a bigger percentage change in quantity supplied. For example a 10% change in price results a 25% change in quantity supplied. The price elasticity of supply is greater than one but less than infinity (1<Pes< …..) and the slope of the supply curve is gentle.

Illustration of elastic supply



5) **Perfectly elastic supply**

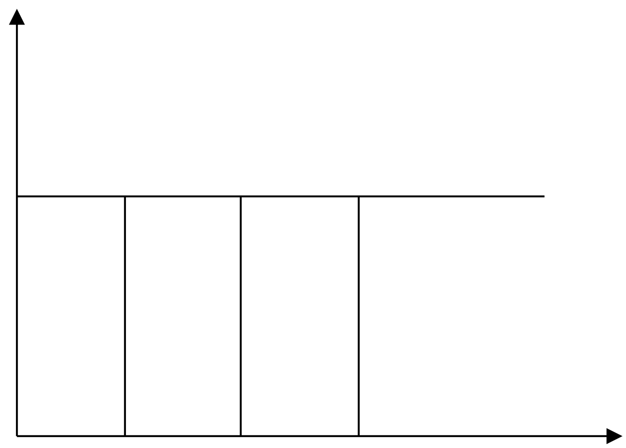
This is where a given percentage change in price leads to an infinite change in quantity supplied**.**

Or

This is where a slight increase in price of a commodity leads to unlimitedness in quantity supplied of a commodity.

The price elasticity of supply is equal to infinity (Pes = …..) and the supply curve is a horizontal straight line.

Illustration of perfectly elastic supply



Guiding questions

1. The price of the commodity increased from shs.6000 to shs. 10,000 and quantity supplied increased from 150 kg to 170 kg. calculate the price elasticity of supply and state the degree of elasticity
2. The price of a commodity decreased from shs. 80 to shs. 65 and quantity supplied reduced by 18 %. Calculate the relevant elasticity and explain the degree of elasticity.

Determinants of price elasticity of supply

1. ***Availability of factor inputs***. Readily available factor inputs lead to elastic supply because supply is easily increased as price increases. While scarce factor inputs make supply price inelastic (since it is not easily increased) due to the limited output produced.

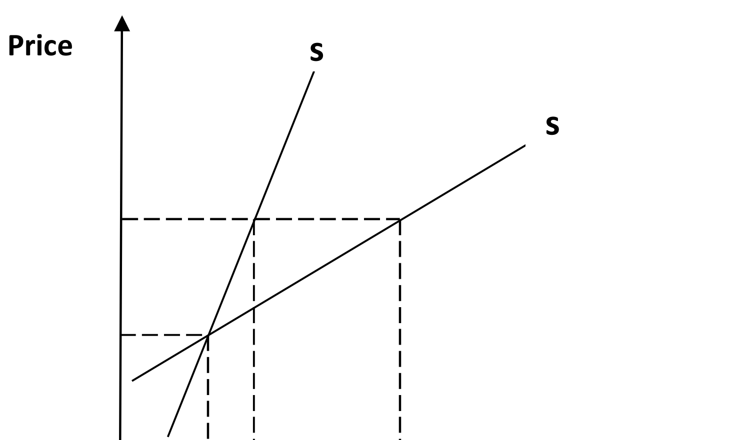
2. ***Cost of production***. High cost of production leads to inelastic supply of a commodity because supply is not easily increased due to being expensive. While low cost of production leads to elastic supply because supply is easily increased.
3. ***Level of technology used in production***. Efficient or improved technology leads to elastic supply since supply is readily increased/ adjusted. However inefficient technology leads to inelastic supply since it is difficult to adjust supply.
4. ***The gestation period/ period taken in the production process***. Commodities with long gestation tend to have inelastic supply (in the short run) since it takes long to produce and supply output. But commodities with a short gestation period tend to have elastic supply since supply is easily increased in a short period of time.
5. ***Nature of the commodity as regards durability and Perishability***. Supply of durable commodities tends to have elastic supply since they can be stored for long and readily put on the market as price increases. While perishable commodities tend to have inelastic demand since it is difficult to store and supply them at a later time.
6. ***Degree of mobility of factors of production***. High mobility of factors of production makes supply elastic while immobile factors of production (highly specific) lead to inelastic supply since it is difficult to shift resources to increase production/ supply.
7. ***Availability of excess capacity in the firms.*** Where a firm is producing at full capacity, supply tends to be inelastic since it is difficult to increase output and supply. While where a firm is producing at excess capacity (less than full capacity)supply tends to be elastic because the firms easily increases supply as there are some resources that are underutilized.

   Note*: Excess capacity is a situation where a firm produces a level of output that is less than installed capacity/ at less than optimum level of output.*
8. ***Ease of entry of new firms in the industry***. Free entry of new firms into the industry makes supply of the commodity elastic because supply easily increases as price increases. However blocked or restricted entry of new firms

into the industry makes supply inelastic (since supply is not easily increased as price increases).

9. ***Government policy towards a commodity such as taxation and subsidization***. Favourable government policies such as reduced taxation, increased subsidization makes supply price elastic because producers readily increase supply. However unfavourable government policies like increased taxation make supply price inelastic since supply is not readily increased.
10. ***Level of development of transport facilities***. Improved transport facilities makes supply price elastic since more goods are readily put on the market while poorly developed transport facilities make supply price inelastic since it is difficult transport output from areas of plenty to areas of scarcity.
11. ***Time period when supplying commodities***. In the short run supply tends to be inelastic since some factors are fixed. However in the longrun the firms are able to vary all factors of production making supply elastic.

Illustration of the shortrun—longrun situation



In the shortrun, supply is inelastic because increase in price from P_1 to P_2 leads to small increase in quantity supplied from Q_1 to Q_2. While in the longrun, supply is elastic because increase in price from P_1 to P_2 leads to a bigger increase in quantity supplied from Q_1 to Q_3.

Qn. Explain the causes of elastic supply in an economy

- Factor inputs being readily available
- Longrun period when supplying goods
- Free entry of new firms into the industry
- Improved transport facilities available
- Efficient / improved technology
- Favourable government policy towards a commodity such as reduced taxation
- Commodities being durable
- Low cost of production
- Short gestation period
- High degree of factor mobility
- Presence of excess capacity in the firms

Qn. Explain the causes of inelastic supply in an economy

- Limited/scarce factor inputs
- Short run period when supplying goods
- Restricted entry of new firms into the industry
- Poor/inefficient technology
- Unfavourable government policy towards a commodity such as increased taxation.
- Inefficient transport facilities
- Commodity being perishable
- High cost of production
- Long gestation period.
- Immobility of factors of production
- Absence of excess capacity

Cross elasticity of supply

Refers to the measure of the degree of responsiveness of quantity supplied of a commodity due to a change in the price of another commodity.

OR the percentage change in quantity supplied of a commodity due to a given percentage change in price of another commodity.

$$\text{Cross elasticity of demand} = \frac{\text{Percentage change in quantity supplied (x)}}{\text{Percentage change in price (y)}}$$

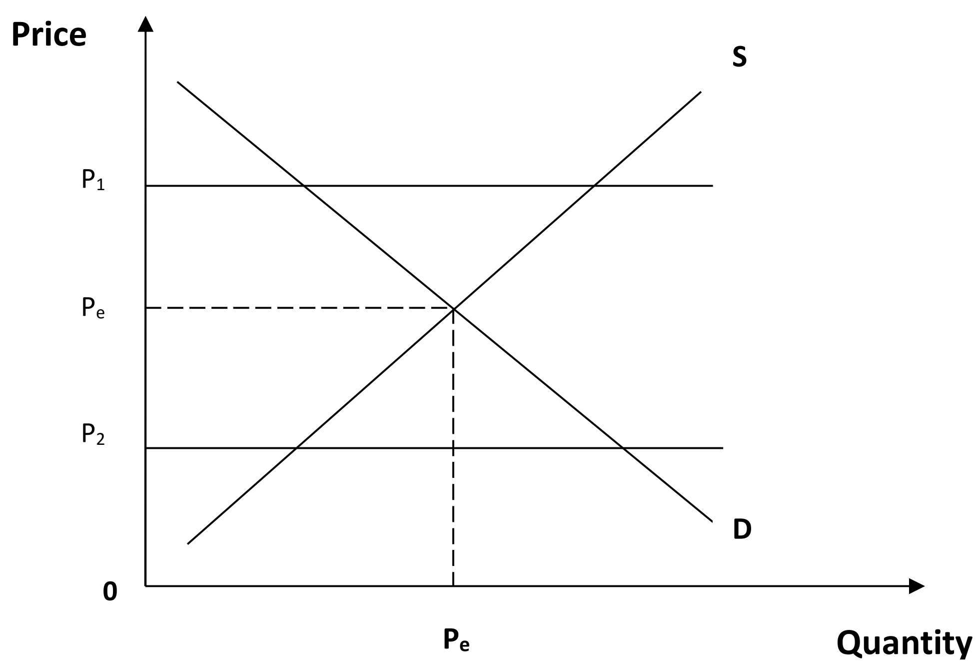
Guiding questions:

1. Calculate the cross elasticity of supply given that quantity supplied of commodity X reduced from 95 kg to 74 kg resulting from increase in price of Y from shs. 2500 to shs. 3500.
2. Given that quantity supplied of commodity B increased by 75 % due to increase in price of commodity A from shs.1700 to shs. 2100 per kg. Calculate the relevant coefficient of elasticity and explain the relationship between the two commodities.
3. (a) Distinguish between elasticity of supply and price elasticity of supply (4 mks)
   (b)Explain the factors that influence the elasticity of supply in an economy (16 mks)
4. Explain the factors that lead to elastic supply in an economy
5. What are the factors that lead to inelastic supply in an economy?

PRICE MECHANISM

Refers to a system in a free enterprise economy where resource allocation is done by market forces of demand and supply without government intervention/ interference.

When quantity demanded is equal to quantity supplied then equilibrium level is attained and the market clears such that there is no surplus or shortage.



Where price mechanism allocates resources, the producers base their production or decisions of what to produce, how to produce etc on prices bearing in mind the fact that they aim at maximizing profits.

The consumers determine how much to buy basing on prices bearing in mind the fact that they aim at maximizing satisfaction. Price mechanism is also referred to as a ***market system***.

Assumptions underlying price mechanism

1) Assumes that consumers are rational (they are of a calculative mind). They buy from the cheapest source.
2) Assumes that there is free entry and exit of firms into the market. Firms are free to enter the market when profits are realized and free to leave when losses are incurred.
3) There are many producers and many buyers in the market, such that none of them can influence market conditions.
4) The producers aim at profit maximization while the consumers aim at utility maximization.
5) Prices are determined by market forces of demand and supply
6) There is consumer sovereignty –an individual buys only what he needs and is free to decide.
7) There is no government intervention/ interference in allocation of resources/ in the economy
8) There is perfect mobility of factors of production.
9) There is perfect knowledge about the market by producers and consumers. Consumers know the prices of commodities and producers know where to buy factors of production and their prices.
10) Assumes that there is private ownership of factors of production

[How price mechanism allocates resources

The price mechanism allocates resources (in a free enterprise economy) through providing answers to the fundamental economic questions:

1) ***Determining what to produce*** i.e. what kind of commodity to produce. Since producers aim at maximizing profits more resources are devoted to the production of those commodities that are highly demanded by consumers and therefore are willing to purchase them at high prices. Therefore resources have to be moved from the production of those commodities which consumers purchase at low prices to those commodities which consumers are willing to purchase at higher prices.
2) ***Determining how to produce*** i.e. methods to be used in production. The private producers employ a method which is cheaper in order to minimize costs and maximize profits. Therefore if labour happens to be cheaper than capital, they employ labour intensive techniques of production.
3) ***Determining when to produce*** i.e. private producers carry out production during time when demand for a commodity is high because this is the time when buyers can pay higher prices and consume more which enables the producers to maximize profits.
4) ***Determining where to produce*** i.e. location of the production unit. Private producers carry out production in areas where demand is high or in areas where production inputs are cheaper so as to minimize costs and thus maximize profits.]

Note: Through price mechanism consumers allocate their resources (income) by purchasing more of those commodities that are sold cheaply and they buy from cheaper sources in order to maximize satisfaction. For example considering commodities X and Y, if A is sold at a lower price than Y , other factors remaining constant, consumers will purchase more of the commodity X which is cheaper (they vote more for the production of commodity X) and thus resources are shifted /moved from production of Y to production of commodity X.

[*Role of price mechanism in the allocation of resources*

- *Facilitates efficient allocation of resources*
- *Determines when to produce*
- *Determines where to produce*
- *Determines how to produce*

- *An increase in price leads to increased use of resources*
- *Provides an automatic adjustment between demand and supply*
- *High price leads to high profits and thus entry of new firms and more output.*
- *Encourages competition which ensures high quality products.*
- *Determines distribution of income*
- *Enables consumers to buy from the cheapest source, hence maximizing utility.]*

Consumer sovereignty

Refers to where the consumer are the kings in resource allocation by determining what to produce, when to produce, how to produce and where to produce.

[OR Refers to the freedom exhibited by consumers in determining what to produce, how to produce, where to produce through their demand, tastes and preferences).

Each individual is the best judge of what makes him better off and therefore casts a vote when he or she buys a commodity.

ROLE OF PRICE MECHANISM

Price mechanism has positive and negative roles

Positive roles (functions/Advantages of price mechanism) are:

1. **Encourages competition in production.** This results in better quality products at the lowest possible prices. The competing firms attempt to capture consumers who prefer better quality products to maximize utility.
2. **Price mechanism stimulates investment and growth in the economy**. High prices encourage investment/production leading to increased output (more goods and services).
3. **Provides an automatic adjustment between demand and supply (determines how much to produce).** High demand for a commodity leads to high prices and thus production and supply of that commodity increases. But low demand for

a commodity leads to low prices and thus discouraging production and supply reduces.

4. **Encourages consumer sovereignty**. Producers make their production decisions basing on the consumers' demand. They produce those commodities that consumers demand more and leave those that are less demanded.
5. **Results into production of a variety of goods**. This is because of free entry and that producers aim at maximizing profits so they diversify commodities that they produce.
6. **Determines income distribution in the economy**. Individuals with resources/ products that are bought at higher prices in the market get higher incomes than others without such resources.
7. **Encourages innovations and inventions among the firms** (and also hard work). This is because of the profit motive which makes producers to look for all the best ways of producing, packaging and marketing their products in order to sell as much as possible leading to increased profits.
8. ***Facilitates arbitrage**. This involves the transfer of resources from areas of plenty and low prices to areas of scarcity and high prices (geographical distribution of resources/ commodities).
9. ***Enables consumers to maximize utility by buying from the cheapest sources**. Consumers are in position to make proper consumption plans and determine their expenditure depending on prices in the market—hence promoting consumer sovereignty.
10. **Reduces administration costs**. This is due to the fact that government is not required since everything is determined by market forces of demand and supply. (*Price mechanism is cheap because it is self-determining*).
11. **Promotes efficient allocation of resources among firms**. This because producers produce according to consumers' demand. The inefficient or high cost producers are out competed and eliminated from production, leaving only the efficient firms to continue in production.
12. **Determines allocation of resources in the economy**.

- Determines what to produce. Since producers aim at maximizing profits they produce more of those commodities that are highly demanded and for which the consumers are willing and able to buy at high prices.

- Determines where to produce (location of the firm). Production takes place in areas where the production costs are lowest or where demand for a commodity is highest in order to maximize profits.
- Determines when to produce (the time when production takes place). Production takes during the time /season when there is high demand for a commodity so that the producers are able to produce and sell more in order to earn high profits.
- Determines how to produce (the method of production). It determines whether the firm uses capital intensive or labour intensive methods of production. With abundant labour and therefore being cheaper than capital, labour intensive methods are used. (*Choosing technology that minimizes the costs of production).*
- Determines whom to produce for. Presence of many high income earners (rich people), the producers mainly produce commodities they demand for because they have more votes to cast (more money to spend on the goods).

Defects of price mechanism (negative roles/ disadvantages)

1. **Leads to increase in income inequality**. People with more resources such as capital and land get higher incomes and become rich and richer unlike their counterparts who do not have resources as they remain with low incomes.
2. **Results into emergency of monopoly firms and associated problems**. As the inefficient firms are out competed from production, the remaining most efficient firms in the industry emerge as monopolists, and end up exploiting consumers by charging high prices.
3. **Results into unemployment**. This occurs as the inefficient firms are eliminated /out competed from production making labour and other resources originally employed in those firms unutilized.
4. **Divergence between private and social benefits**. Price mechanism encourages production of highly profitable goods but yet this leads to increased pollution of the environment which is costly to the society.

5. **Results into consumer exploitation due to ignorance**. Sometimes consumers are made to buy highly priced and poor quality products due to lack of information about them.
6. **Encourages misallocation of resources through production of demerit goods,** simply because they are highly demanded and profitable but disadvantageous to society. (It neglects the production of basics consumed by majority who have low purchasing power).
7. **Ignores investment in the production of public goods**. This is because it is difficult to determine prices for such goods and producers cannot make profits out of them.
8. **Results into disappearance of cheap products**. This is because price mechanism does not allocate resources to production of such goods and producers cannot make profits out of them.
9. **Leads to over exploitation and depletion of resources**. Higher demand for products leads to over use of resources such as through over fishing, deforestation –due to higher demand for fish and timber to produce certain output.
10. **Results into economic instability**. This is because prices and exchange rates tend to fluctuate a lot due to change in demand and supply conditions in the market.

Ways of reducing the defects of price mechanism

1. **Use of progressive taxation**. This helps to reduce income inequality since the higher income leads to higher tax rate and lower income leads to lower tax rate.
2. **Formation of consumer associations**. This helps to educate the consumers on prices and availability of goods which helps to reduce consumer exploitation due ignorance.
3. **Use of price controls by the government**. This involves the legislation of minimum price to protect producers and a maximum price to protect consumers from being exploited.
4. **Government investment in the production and provision of public goods**, such as providing better transport network in form of roads which helps in the

movement of goods. This because these goods are usually ignored by the price mechanism.

5. **Taxation of monopoly firms and use of anti-monopoly legislation**. Taxes help to reduce monopoly power and thus reduce exploitation of the consumers or government uses laws aimed at checking monopoly power of private producers/ investors.
6. **Use of preventive license**. This helps to reduce over exploitation of resources but sometimes government also sets up regulatory bodies to protect the environment and also enacts environmental protection laws to govern the exploitation of resources to protect wetlands and enforce proper disposal of industrial waste.
7. **High taxation on activities that result into social costs or negative externalities** such as pollution but subsidizing those activities that result into social benefits or positive externalities.
8. **Use of fiscal and monetary policies**. This involves regulating government expenditure and money supply. These help to reduce unemployment in the economy. But sometimes government subsidizes the inefficient firms to enable them remain in production.
9. **Subsidization of firms especially those providing essential and merit goods**. This enables consumers able to get such goods and services at cheaper prices.

Reasons for government interference in operation of price mechanism

- To reduce consumer exploitation by profit minded producers. This is through formation of consumer association and various laws to protect the environment.
- To reduce/ control monopoly power. This is through imposing taxes the monopoly and enacting laws aimed at checking monopoly power and the aim is to fight the dangers associated with private monopolists.
- To reduce over exploitation of resources
- To reduce income inequality
- To provide public goods like roads and national security.
- To provide goods needed by the poor.

- To cater for rapid structural changes desired in the economy.
- To reduce price instability in the economy.
- To reduce unemployment.
- To control or minimize social costs.

Limitations of price mechanism in allocating resources efficiently (factors limiting effective operation of price mechanism)

1. ***Government interference such as through taxation, price controls***. Where government fixes prices for commodities instead of leaving prices to be determined by forces of demand and supply. This distorts the efficient allocation of resources by price mechanism.
2. ***High level of persuasive advertisement***. This influences consumers' choice and therefore denying them sovereignty in allocation of resources such as making them to buy at higher prices.
3. ***Excessive dependence on imports***. This makes the local consumers have less influence in determining prices, quality and designs of goods and services.
4. ***Presence of monopoly firms in the market***. The monopoly firms operate inefficiently such as supplying less as the demand increases and over charging consumers, they produce poor quality commodities due to absence of competition.
5. **Immobility of factors of production**. It not possible to shift the factors of production from the commodities that are not highly demanded by consumers to those that are highly demanded as some factors of production are highly specific.
6. **Ignorance on the side of the producers and consumers**. Due to ignorance the producers may not be able to know the commodities that the consumers prefer (those that are highly demanded) and willing to buy at high prices. The producers may continue producing commodities that are not highly demanded due to lack of information.
   Also the consumers are not always aware of the presence of cheaper and better quality commodities , and as such continue purchasing expensive or even poor quality commodities due to lack of information.

Some producers may not produce commodities which consumers can only buy at lower prices and therefore fail to maximize profits.

7. ***Irrationality of some consumers and producers**. Some consumers behave irrationally by buying from expansive sources instead of buying from cheap sources which contradicts the operation of price mechanism.
8. **Inability to forecast the future demand**. Sometimes the producers are not able to tell or estimate the future demand for a given commodity and as such they may not be demanded for by the consumers or many fail to anticipate increased demand for their goods which gives rise to low output and consequently there is scarcity of goods on the market.
9. **Limited capital to carry out production**. This makes producers to produce and supply less than what the consumers demand for, and this creates shortages of goods on the market, hence limiting the operation of price mechanism.
10. **Limited entrepreneurship**. Poor organization of factors of production and failure to take risks limits the producers from responding to the demand of consumers due to organization of factors of production and thus slow operation of price mechanism.
11. **Limited skilled labour**. This leads to low output and makes supply not to readily respond to the demand of consumers because less volume of goods are being supplied. This limits the use of price mechanism in resource allocation.
12. ***Limited market for commodities produced***. This is due to low level of income among consumers forcing them to have limited choice and this undermines the market forces of demand and supply.
13. **Poor infrastructure such as poor road network**. This also limits the supply of goods to those areas where they are needed. Consumers may desire to buy goods but cannot get them in time due to poor transport and distribution network.
14. ***Band wagon effect in consumption***. This denies consumers their freedom of choice of commodities and prices because they consume what others consume.
15. Formation of cartels among producers.
16. Low levels of technology used in production
17. Limited entrepreneurial ability among individuals

18. Formation of consumer associations.

Guiding questions:

1) Explain the role of price mechanism in an economy
2) (a) What are the conditions necessary for the success of price mechanism? (6 mks)
   (b) Present a case for and against price mechanism in an economy (14 mks)
3) (a)Explain the role of price mechanism in the allocation of resources in an economy (8 mks)
   (b)Discuss the implications of relying on price mechanism in the allocation of resources in an economy (12 mks)
4) (a) Discuss the merits of relying on price mechanism in an economy (12 mks)
   (b) What factors limit price mechanism from allocating resources efficiently? (8 mks)
5) (a) What is meant by the term 'price mechanism'? (4 mk)
   (b)Explain the role of price mechanism in the allocation of resources (16 mks)
6) (a) Explain the defects of price mechanism in an economy (10mks)
   (b) What steps should the government take to alleviate the defects of price mechanism? (10 mks)
7) Account for government interference in the operation of price mechanism
8) Why may price mechanism be interfered with in an economy?