CERTIFIED PUBLIC ACCOUNTANT

FOUNDATION LEVEL 2 EXAMINATIONS

F2.2: ECONOMICS AND BUSINESS ENVIRONMENT

DATE: 28, NOVEMBER 2024

MARKING GUIDE & MODEL ANSWERS

QUESTION ONE

Marking Guide

Question 1	Description	Marks	Total Marks
a	**Types of economic systems**		
	Types (1 Mark each, maximum 2 Marks)		**2**
b	**Factors that influence demand**		
	Factors (1 Mark each, maximum 5 Marks)		**5**
c	**Assumptions related to market economy**		
	Assumptions (2 Marks each, maximum 6 Marks)		**6**
d	**Calculation of Price Elasticity of Demand (PED)**		
	Formula of PED	1	
	Calculation of quantity demanded (1 Mark for formula and 1 Mark for calculation)	2	
	Calculation of Price (1 Mark for formula and 1 Mark for calculation)	2	
	Calculation of PED	1	
	Interpretation of PED	1	**7**
	Total Marks		**20**

Model Answers

a) Types of economic systems

Free Market System/Market Economy/Capitalist

It's an economic system whereby there is absence of government intervention and where the forces of demand and supply determine the price and the quantity. Decisions are made largely by private individuals and firms. They decide what to produce, how to produce and for whom to produce. Therefore, resources are allocated through the forces of supply and demand. This system works under private authority and its aim is to earn maximum profit.

For TUBURA Ltd, this is reflected when juice prices are adjusted based on market forces, impacting demand and supply.

Socialist/Command/Centrally Planned Economic System

The decisions are made by the Government. The government makes plans about what to produce, how to produce and for whom to produce. Therefore, resources are allocated by the government through a system of planning This system is governed by one central authority and its aim is social welfare. Prices here are fixed by the central authority.

Mixed Economic Systems

It combines elements of the market and command economy. Decisions are made by private individuals and firms, and some by the Government. Therefore, some resources are allocated through the forces of supply and demand and others by the state planning system.

For TUBURA Ltd, government intervention to control the demand and supply of food products to protect citizens from exploitation illustrates this type of economy.

b) Factors that influence demand

1. Product's own Price

This is regarded as the most important influence on demand. If there is a rise in a price of a commodity, this will lead to a fall in quantity demanded, and a fall in price leads to a rise in quantity demanded.

Example: When the price rose from FRW 100 to FRW 130, demand dropped from 1,400 to 1,000 units. This reflects the law of demand, which states that demand and price have an inverse relationship, holding other factors constant.

2. Prices of other products

- **Substitute Goods.** If the price of a commodity increases, consumers may switch to its close substitute. **Examples** of substitutes could be Colgate and Close up.
- **Complementary Goods.** These are goods that can be consumed together. For example, cars and gasoline. If the price of a commodity increases, the demand of its complement decreases.

3. Advertising or marketing effort

Very few products sell themselves. Most have to be marketed, and the more extensive the advertising effort, the more is likely to be sold. Some marketing specialists suggest that there is a direct relationship between the firm's share of market advertising and its share of market sales. Certainly, it is the volume of advertising in relation to competitors' advertising that is likely to be important.

4. Taste and preferences

This is a quality difficult to define. People's desire to buy products is the result of many influences, not all of which are fully understood. Fashions change, and these changes cannot always be caused by advertising. The successful firm is often the one that is able to make an accurate prediction of changes in fashion and taste.

5. Expectations

Expectations of future changes in any of the above influences can affect present demand. For example, people expecting rising prices will buy now rather than later. On the other hand, if they fear unemployment and falling incomes, they will cut down their present spending. Notice that these reactions may actually help to bring about the feared future changes.

6. Market Size

Many factors can change market size. A firm selling clothes to teenagers will benefit from any increase in the numbers of teenagers in the population. Market size can be increased by improvements in communications and technology. The development of commercial television greatly increased the market area open to many consumer-goods firms. Increased foreign travel helped to extend the demand and market area for foreign wines and foods. Improved techniques of refrigeration extended the market for frozen vegetables.

7. Income Available for spending

An increase in income can lead either to a rise or a fall in the demand for goods. For the majority of goods and services, i.e. for normal goods, we would expect the change in demand to be in the same direction as the change in income but for some, inferior goods, the changes would be in the reverse direction so that a rise in income produces a fall in demand and vice versa. Notice that a good is inferior only if it is perceived as offering less satisfaction for a particular type of want. Thus, as a normal means of transport a motor cycle may be perceived as inferior to a car even though, as a piece of engineering, it may be superior. Suppliers may be able to revive demand for an inferior good by changing its appeal; adapted and marketed as a sporting and leisure good, the motor cycle has enjoyed such a demand revival and as such is often bought by people who also possess cars.

Example: If the economy improves and household incomes rise, consumers might buy Ubuzima juice more frequently or in larger quantities. Conversely, during economic downturns, demand could drop as people prioritize necessities like staple foods

8. Seasonal factors

Changes in the seasons can affect the demand of a commodity. For example, during a rainy season the demand for umbrellas, heavy jackets and sweater could be higher than during summer season. On the other hand, the demand for lighter clothes could be high in the summer season.

Example: During the summer or festive seasons, demand for Ubuzima juice may peak as people celebrate or seek refreshment. Conversely, during colder months, sales might decline, especially if there are fewer outdoor activities or gatherings.

9. Government policies

Subsidies and tax incentives for a commodity by the government can affect demand of such commodities.

c) Assumptions related to the market economy

1. Consistency and rationality

It is possible to predict with rather more confidence what groups of people are likely to do over a period of time rather than individuals. On this basis it becomes possible to estimate, for example, how many sweet potatoes will be consumed in a certain town each week or month. A supermarket manager does not know what any shopper will buy when that shopper enters the store, but can estimate how much, on average, the total number of shoppers will spend on any given day in the month and will know how much is likely to be spent on each of the many classes of goods stocked. There will be trends that will enable projections to be made into the future with some degree of confidence. As groups, therefore, people tend to be consistent and to behave according to consistent and predictable patterns and trends.

People are also assumed to be rational in their behaviour**. For example**, if, given the choice between, say, bread and tea and sweet potatoes and porridge for breakfast we choose bread and tea and if given the choice between, say, sweet potatoes and porridge and fruit we choose sweet potatoes and porridge, then, if we are rational and offered the choice between bread and tea and fruit, we would be expected to choose bread and tea, because we prefer bread and tea to sweet potatoes and porridge and sweet potatoes and porridge to fruit. It would be irrational to choose fruit in preference to bread and tea if we have already indicated a preference for sweet potatoes and porridge over fruit and for bread and tea over sweet potatoes and porridge.

2. The Forces of supply and demand

In studying the modern market economy, we assume that the economic community is large and specialised to the extent that we can realistically separate organisations which produce goods and services from those that consume them. We are not studying village, subsistence economies which can consume only what they themselves produce. Those who have to live on what they produce do not have a high standard of living. We can, of course, be both producer and consumer, but the goods and services we help to produce are sold and we receive money which enables us to buy the things we wish to consume.
As individuals and members of households we are, therefore, part of the force of consumer demand. As workers and employers, we are part of the separate force of production supply. Right at the start of your studies it is important to recognise that supply and demand are two separate forces. These do, of course, interact in ways that we examine in later study units but essentially, they exist independently. It is quite possible for demand to exist for goods where there is no supply and only too common for goods to be supplied when there is no demand, as thousands of failed business people can testify. As students of economics, you must never make the mistake of saying that supply influences demand or that demand influences supply.

3. Basic objectives of producers and consumers

In a market economy we assume that all people wish to maximize their utility. This is simplified to suggest that producers seek to maximize profits, since the object of production for the market is to make a profit and, if given the choice between producing A or B and if A is more profitable than B, we would expect the producer to choose to produce A.

At the same time consumers can be expected to devote their resources, represented by money, to acquiring the goods and services that give them the greatest satisfaction. This is not to say that we all spend our money wisely or eat the healthiest foods or wear the most sensible clothes. We perceive satisfaction or utility in more complex ways. Economists, as economists, do not pass judgements on the wisdom or folly of particular consumer wants. They recognise that a want exists when it is clear that a significant group of people are prepared to sacrifice their resources to satisfy that want.

4. Consumer Sovereignty – The Customer is King

The market economy operates on the assumption that, of supply and demand, consumer demand is dominant. Consumers decide what they want to buy and that influences suppliers; however, monopolies and advertising reduce customer sovereignty. The market production system is demand-led: supply adjusts to meet demand. In this sense the consumer is sovereign. Producers who cannot sell their goods at a profit fail and disappear from the production system. Profit is the driving force of the production system, and profit is achieved by the ability to produce goods that people will buy at prices that people will pay while enabling the producer to earn sufficient profit to stay in business - and to wish to stay in business. However strong the demand for goods, if they cannot be produced at a profit they will not, in the long run, be supplied.

Other assumptions include: Perfect Competition, Perfect Information, No Externalities, No Public Goods, Stable Preferences among others.

d) Calculation of Price Elasticity of Demand

Original Price = FRW 100, New price = 130 Original quantity = 1,400 units, New quantity = 1,000 units.

Price Elasticity of Demand (PED) =$-\frac{\%\ change\ in\ quanity\ demanded}{\%\ change\ in\ quanity\ demanded}$

Percentage change in quantity = $\frac{(New\ quantity - Original\ quantity}{Original\ quantity} \times 100$

Percentage change in quantity = $\frac{(1{,}000 - 1{,}400)}{1{,}400} \times 100$ = - 28.57%

Percentage change in price = $\frac{(New\ price - Original\ price}{Original\ price} \times 100$

Percentage change in quantity = $\frac{(130 - 100)}{100} \times 100$ = 30.00%

Price Elasticity of Demand (PED) =$-\frac{\mathbf{-28.57\%}}{\mathbf{30.00\%}} = -\frac{\mathbf{-0.2857}}{\mathbf{0.3000}}$ **= 0.95**

Interpretation: When the Price Elasticity of Demand is less than 1, then the demand is inelastic. PED for Ubuzima juice is 0.95. This means that a 1% increase in price of the product will lead to a drop in quantity demanded of the same by product by less than 1%. This means the price rise is insignificant. The company can increase the price of the juice more since it may not lose its consumers significantly.

QUESTION TWO

Marking Guide

Question 2	Description	Marks	Total Marks
a	**Types of economic systems**		
	Types (1 Mark each, maximum 2 Marks)		**2**
b	**Factors that influence demand**		
	Factors (1 Mark each, maximum 5 Marks)		**5**
c	**Assumptions related to market economy**		
	Assumptions (2 Marks each, maximum 6 Marks)		**6**
d	**Calculation of Price Elasticity of Demand**		
	Formula	1.0	
	Calculation	6.0	**7**
	Total Marks		**20**

Model Answers

a) Sources of monopoly

1. Operation of law

This is a very old source of monopoly power. Kings used to sell monopolies in Europe to raise money, i.e. they sold people the right to be sole suppliers of a necessary product, such as salt, in a given area. The monopolist could rely on the support of the King’s officers to protect his monopoly and the profits he could make more than covered the fee he had to pay for his position. Today, some countries may grant a company the right to be sole supplier of a product or service in return for some measure of State inspection and control over profits and prices. Some important public utilities.

A more limited monopoly power is granted under patent and copyright laws, which are similar in most countries. The idea of a patent is that the inventor of a new idea shares his knowledge with the State for the public benefit, in return for a monopoly control over the use of his idea for a limited number of years. If rival suppliers are unable to develop a competing product without breaking the patent, this form of monopoly can be very valuable - take, for example, the monopoly enjoyed for some years by the Polaroid instant film-developing process.

Example: If IGIRE Ltd. is the only authorized company to supply fertilizers to local farmers due to a government mandate, no competitor can legally enter the market.

2. Possession of a unique feature

Individuals have monopoly control over the supply of their own skills, and this may be a source of considerable profit. The top footballers, tennis players and entertainers are monopolists of this type. When the skill lies in producing something written or recorded, then the monopoly position is protected by copyright laws - which modern technology has made more difficult to enforce, however.

3. Market Control

It is difficult to achieve total monopoly over supply without the protection of the law, although it is not unknown - especially in the production of some fertilizers and agricultural inputs. For 10 years, the fertilizer will be produced by one manufacturer. Such a monopoly rarely lasts very long. When a large rival decides to challenge the monopolist, there is little that can be done to prevent this.

4. **Legal licensing**

The government may come up with laws restricting competition into fertilizer industry. Some large-scale manufacturers require government shield before setting up their capital - intensive factories in new markets.

5. Monopolies through economies of scale

Igire Ltd as a big factory enjoyed economies of scale such that it becomes difficult for new factories to compete with it. The new firm may have higher average cost.

b) Challenges of unregulated markets

1. Inequalities of Income

One of the merits of the unregulated market is that it makes the consumer sovereign and that resource allocation responds to demand pressures. However, if we imagine that consumers influence allocation by votes cast when they buy or refrain from buying goods and services, we have to admit that some consumers have more votes than others and large numbers have very few votes. Markets respond quickly to those groups which have the most purchasing power. This does not always ensure that resources are allocated in ways that meet the social expectations of the community.

Example: It has always been difficult to ensure that the poorest sections of the community are adequately housed. Normal commercial suppliers of houses are unwilling to meet this demand because the people concerned cannot afford to pay the full "economic costs" of housing, i.e., it is not usually possible to make a profit from providing housing for the poor. It is much more profitable to provide second homes for the wealthy. Only the State can intervene to improve housing for the poor.

2. Market power of some large suppliers

Consumers may not always be powerful in markets dominated by large firms. If such firms become very powerful, they can influence both supply and demand through controlling the goods allowed into the market and by heavy advertising.

Example: The sale of tobacco and alcohol, both are potentially dangerous to health and society but because of the power of the tobacco and alcohol producing companies, they are still being produced.

3. Deficiencies in the supply of public goods

The market economy operates on the principle of self-interest. Consumers wish to maximise their own utility; producers their profit. In most cases this works to the public benefit but not always. If it is in no one's interest to provide a community or public good, it will not be provided without the intervention of the government. **Example**: Public sewers, public roads and transport, police and social services, even fire services, fall into this class. The community clearly needs adequate services but left to the market only the wealthy would attempt to purchase their own, and the community as a whole would be subject to the risk of contagious diseases, unchecked crime and fires.

4. Environmental degradation

Prices may not fully reflect the cost or benefits of certain goods or services especially costs to the environment. Public goods are underinvested and firms produce in a way that environmental effects will be borne by the future generation

5. Lack of transparency in production

Firms in unregulated markets are not compelled to inform the public about how they conduct their activities. Without government intervention firms may commit fraud at consumers' risk.

6. **Negative Externalities:** externalities refer to the side effects of production or consumption that affect third parties. In an unregulated market, businesses might not take these side effects into account because they do not directly affect their profits.

Example: Fertilizer production can lead to harmful runoff into rivers, harming aquatic life and water quality. In an unregulated market, IGIRE Ltd. might not be incentivized to reduce this environmental damage, as they aren't required to account for the broader societal impact.

c) Advantages and disadvantages of a market economy

Advantages

1. Foreign investment is attracted as word gets out about the new opportunities for earning profit.
2. Individuals are allowed to start their own businesses hence more enterprise.
3. It increases efficient allocation of the resources through reduction of wastage of resources

Disadvantages

1. **Distorted investment priorities,** as wealth gets directed into what will earn the largest profit and not into what most people really need (so public health, public education, and even dikes for periodically swollen rivers receive little attention)
2. **Worsening exploitation of workers**, since the harder, faster, and longer people work just as the less they get paid the more profit is earned by their employer (with this incentive and driven by the competition, employers are forever finding new ways to intensify exploitation)
3. **Overproduction of goods**, since workers as a class are never paid enough to buy back, in their role as consumers, the ever-growing amount of goods that they produce (in the era of automation, computerization and robotization, the gap between what workers produce and can produce and what their low wage allows them to consume has increased enormously)
4. **Unused industrial capacity** (the mountain of unsold goods has resulted in a large percentage of machinery of all kinds lying idle, while many pressing needs but needs that the people who have them can't pay forgo unmet)
5. **Growing unemployment** (machines and raw materials are available, but using them to satisfy the needs of the people who don't have the money to pay for what could be made

would not make profits for those who own the machines and raw materials and in market economy profits are what matters)

6. **Growing social and economic inequality** (the rich get richer and everyone else gets poorer, many absolutely and the rest in relation to the rapidly growing wealth of the rich)
7. **Income Inequality,** since market economies can exacerbate income disparities. Wealth tends to concentrate among those who own more productive resources or possess specialized skills, widening the gap between the rich and the poor.
8. **Monopoly Power**, since market economies may lead to the emergence of monopolies or oligopolies. This concentration of market power can reduce competition, leading to higher prices, reduced consumer choice, and potentially lower quality goods and services.

QUESTION THREE

Marking Guide

Question 3	Description	Marks	Total Marks
a	**Difference between external costs and external benefits & measures against externalities**		
	Explanation of external costs	1	
	Explanation of external benefits	1	
	Measures (2 Marks each, maximum 6 Marks)	6	**8**
b	**Small firms**		
	Reasons (2 Marks each, maximum 8 Marks)		**8**
c	**Total revenue, demand functions and price**		
i)	Total revenue function (1 Mark for the formula and 1 Mark for computation)	2	
ii)	Demand function (0.5 Marks for the formula and 0.5 Marks for computation)	1	
iii)	Price	1	**4**
	Total Marks		**20**

Model Answers

a) Difference between external costs and external benefits

External Costs

External costs are costs imposed by other parties other than the firm. They are also called negative externalities. Not all the costs of factors used in the production process are paid by the producer as private costs. Suppose, for example, that, during a dry summer, a farmer watered his crops with water pumped from a canal, and as a result, the canal level fell and it could no longer be used by waterway travelers. Unless the farmer paid compensation to the travelers, it is clear that they would be contributing to the costs of the farmer's production. Because these costs are being paid by people external to the production process, they are called "external costs".

External Benefits

In contrast, it is possible for people to receive benefits from production towards the cost of which they have not contributed. These are external benefits. If a large firm builds modern roads or provides other transport facilities which are then available for use by the general community, then that community gains external benefits. If a business firm provides a good canteen and housing for its workers and, by improving standards of housing and welfare, improves the health of workers and their families, then this, too, is an external benefit. We are well aware of cases where firms cause damage to the environment but there are also cases where firms improve the environment by renovating property, creating sports grounds, or even parks.

Effective measures regulated by the government

1. **Legislate to make actions considered undesirable illegal and enforce the law.** In a democracy such laws must be acceptable to the community as a whole; care must be taken to ensure that desirable benefits are not lost and that the cost of law enforcement is not out of proportion to the costs avoided.

2. **Legislate to ensure that manufacturers behave in a socially acceptable way and follow practices designed to avoid the undesirable external costs.** Water and sanitation companies may be required to achieve certain minimum standards. The costs of complying with the law thus become private costs and part of the production cost which must be met by users of the goods and services. All producers then become subject to the same requirements so that none can gain a competitive advantage by not complying with the standards. If producers have to compete with foreign imports, the government will have to ensure that these imports are subject to the same minimum standards.

3. **Impose special taxes designed to make some products very expensive and so discourage their use.** There are several objections to this course of action. The government might start to rely on the revenue from the taxes and so take care to keep them at a level where the products are still bought and used; the taxes may well then cease to deter or reduce the external costs. Alternatively, the government might impose very high taxes with the result that there is widespread tax evasion; the cost of collecting the tax and punishing evaders then rises to impose additional burdens on the community.

b) Small firms can compete with large firms

Small firms operate alongside the large firms because of the following reasons:

1. **Activities requiring small scale firms**: There are some activities which do not require large firms and for example shoe shining, hair dressing and many others.
2. **Inadequate market size**: Where the market size is small, it necessitates the establishment of small firms
3. **Personal contacts with customers**: Owners of small firms can easily develop personal contacts with customers and they start selling on credit, in this case they maintain their market despite selling at a higher price.
4. **Bulk sales**: Large firms tend to sell in bulk while small firms sell to customers in appropriate small quantities.
5. **Cost Control and Efficiency**: Small firms are easy to manage and this has a positive impact on the cost of production
6. Most of the times small firms are located far from bigger firms for the sake of monopolizing the market and this gives them an advantage to sell at a higher price.
7. Small firms do not need to advertise extensively as large firms and hence they incur less costs.

c) (i) Finding total revenue and demand functions as well as price

Given that MR = $18 - 3Q^2 + 6Q$ k = 0

Total revenue is obtained by integrating the marginal revenue function

$R = \int (MR)dQ + k$

$= \int (18 - 3Q^2 + 6Q)dQ + k$

$= 18Q - Q^3 + 3Q^2 + k$

$R = 18Q - Q^3 + 3Q^2$

The total revenue function is $18Q - Q^3 + 3Q^2$

ii) demand function for the product from the total revenue function obtained.

The demand function obtained by taking total revenue and dividing it by quantity

Demand function P = Total revenue/quantity

$P = (18Q - Q^3 + 3Q^2)/Q = 18 - Q^2 + 3Q$

The demand function is $18 - Q^2 + 3Q$

iii) Price in FRW for the product at the quantity demanded of 5 units from the demand function obtained.

Given the quantity of 5 units, price is obtained by substituting in the quantity given

Price = $18 - Q^2 + 3Q$ where $Q = 5$

Price = $18 - 5^2 + 3(5)$ = FRW 8

So, the price is **FRW 8** when the quantity demanded is 5 units.

QUESTION FOUR

Marking Guide

Question 4	Description	Marks	Total Marks
a	**Barriers to free trade and arguments for protectionism**		
	Barriers to free trade (1 Mark each, maximum 2 Marks)	2	
	Arguments for protectionism (1 Mark each, maximum 6 Marks)	6	**8**
b	**International trade**		
	Reasons (1 Mark each, maximum 6 Marks)		**6**
c	**Economic Integration**		
	Stages (1 Mark for stating the stage and 1 Mark for explaining, maximum 6 Marks)		**6**
	Total Marks		**20**

Model Answers

a) Barriers to free trade

1. **Tariffs** – a tax on imports having the effect of raising the price of the imports on the domestic market. These increase the prices of commodities from outside the country making them less competitive in the local market.
   Example: Rwanda imposes tariffs on certain imported agricultural products like maize and rice to protect local farmers and encourage domestic agricultural production. These tariffs raise the prices of foreign goods, making local products more attractive to consumers.

2. **Import Quotas** – an upper limit on the value or quantity of a product that it is permissible to be imported into the country. The restrict the volume of foreign goods and protect domestic producers from competition.
   Example: Rwanda may set quotas on the import of foreign rice to protect the domestic rice production industry. If only a limited amount of rice can be imported, local rice producers have a better chance to meet domestic demand without being undercut by cheaper foreign rice.

3. **Export Subsidies** – enables exporters to sell in foreign markets at prices that do not reflect the true relative cost. These subsidies are in form of grants, loans of low interests and tax holidays.
   Example: The Rwandan government may provide subsidies to its coffee farmers to make Rwandan coffee more competitive on the international market, helping local producers meet the global demand without having to lower their prices too much.

4. **Standards and regulations:** Standards and regulations can create barriers by imposing specific requirements that foreign goods must meet, increasing costs and limiting market access for exporters.

5. **Trade embargoes and sanctions:** Trade embargoes and sanctions restrict or prohibit trade with certain countries, severely limiting their ability to export or import goods, thus disrupting free trade.

6. **Manipulation of currencies such as currency devaluation:** Currency manipulation, including devaluation, can give a country an unfair competitive advantage by making its exports cheaper and imports more expensive, distorting trade balances.

Arguments for protectionism

1. **Protection of domestic employment**:

Protecting local industries through tariffs, quotas, and subsidies can help preserve domestic employment. Foreign competition can sometimes lead to job losses in industries unable to compete with cheaper imports.

Example: The agriculture sector in Rwanda benefits from protectionist policies, as they help ensure that local farmers are not displaced by cheaper, mass-produced foreign agricultural products, which helps protect jobs in farming and related industries.

2. **Infant industries**

Some industries may require protection from superior foreign competitors if they are to develop and prosper. Particularly where efficiency is based on economies of scale, protectionist measures may enable an industry to develop on the home market and become internationally competitive in the longer term.

Example: Rwanda's technology sector, particularly in software development, may benefit from protectionist policies that limit foreign competition, giving local tech companies the opportunity to grow and eventually compete on an international scale.

3. **Strategic industries**

The government, for political reasons, may consider it undesirable to be over-dependent on foreign suppliers of certain products such as armaments. Protection of agriculture, since a country without its own food supplies would be very vulnerable in times of war or economic recession.

4. **Anti-dumping measures**

To prevent "Dumping" – i.e. the sale of goods on the domestic market at prices lower than the costs of production in their origin, i.e. to protect domestic producers against unfair competition.

5. **Nationalism**

Nationalistic feeling or patriotism requires that people of a country should buy products of their domestic industries rather that foreign products.

6. **Redistribution of income**

Countries provide protection to domestic producers, their profits can be raised at the expense of consumers who suffer a loss in consumer surplus as protection denies them consumption of low-priced imported goods. That is protection redistributes income in favor of domestic procedures.

7. **Source of government revenue**

To raise revenue for the government – through tariffs.

8. **Balance of Payment improvement**

BoP deficit – if imports constantly exceed exports there is a great temptation to introduce protective measures (but this does not solve the underlying problems)

Example: Rwanda's emphasis on exporting goods like coffee, tea, and minerals while restricting certain imports can help strengthen its balance of payments by ensuring a positive net export flow, which supports its currency and financial stability.

b) Reasons why countries engage in international trade.

Countries trade engage in international trade to:

1. **Improve efficiency in production**: competition rise promotes quality products and with reliable quantity.
2. **Improve the balance of payment position of Rwanda**: trade liberalization comes with many opportunities for exploitation with entry hence increase in participation and commodities for export and source of foreign exchange.
3. **Increase government revenue:** it attracts more people into production activities and trade which is a source of revenue in tax to government.
4. **Increase consumer sovereignty:** which results from freedom of choice with rising enterprises.
5. **Encourage foreign direct investment:** through attraction of investors to Rwanda because of freedom of performance with improved technology and skills.
6. **Reduce the extent of income inequalities:** with people joining economic activities at all stages without limits reducing the unemployed to bridge gap between the rich and poor.
7. **Increase in resource utilization:** with greater local and private investment by taking advantage of policy to fully utilize idle resources.
8. **Encourage innovation and inventions:** through engaging into production ventures driven on self-interest and profit motives that attract creativity.
9. **Increase the market size and power:** based on the fact that many firms rise up to become customers to each other in search for raw materials for business activities.
10. **Promote diversification of firms:** as new users are attracted to the business sector due to liberalization; competition comes with change that is diversification in the short and long run.
11. **Increase innovation and entrepreneurship:** which promotes high risk taking by investors through giant capital investments a key to innovation.
12. **Reduce risk in business ventures** due to wide market situation and freedoms of interaction in entrepreneurship which opens doors to a variety of activities.

c) Stages of economic integration

1. **Free trade area**

Participating countries agree to abolish tariffs and quotas with a view to liberalizing merchandise trade. It is characterized by:

- No internal tariffs or restrictions on trade between member countries.
- Each member country maintains its own external trade policies and tariffs.

2. **Customs union**

Participating countries agree to free trade among themselves but also they agree to common commercial policies regarding non-members. This stage is characterized by:

- No tariffs or restrictions on trade between member countries.
- A common external tariff is applied to imports from non-member countries.
- Harmonized trade policies and standards.

3. **Single market/common market:**

Member countries agree as well to do the elimination of tariffs and quotas, members agree to the abolition of a range of non-tariff barriers (NTB's); allow free factor mobility and adopt a common set of rules regarding competition, etc. This stage is characterized by:

- Free trade of goods and services.
- Common external tariff for non-members.
- Free movement of labor (workers can move between countries without restrictions).
- Free movement of capital (businesses and investors can invest across borders within the market).

4. **Economic and Monetary Union (EMU)**

Members agree to a single currency (or at least irrevocable locked exchange rates), a single Central Bank operating a common monetary policy and harmonization of fiscal policies where appropriate. This stage is characterized by:

- All aspects of a Common Market, plus common economic policies.
- Unified policies on areas like taxation, labor laws, competition, and monetary policy.
- Shared currency (in some cases) and central institutions.

5. Political Union: This is the highest level of integration, where countries go beyond economic cooperation to form a political entity. It involves the creation of a single government or central authority, with unified political structures that oversee key areas such as defense, foreign policy, and internal governance. It is characterized by:

- Political unification and centralized political institutions.
- Shared governance in key areas such as foreign policy, defense, and law enforcement.
- Centralized decision-making on most national issues.

QUESTION FIVE

Marking Guide

Question 5	Description	Marks	Total Marks
a	**Multiplier Effect**		
	Limitations (1 Mark each, maximum 4 Marks)		**4**
b	**Underemployment**		
i)	Labelling of axes (1 Mark each, maximum 2 Marks)	2	
	Demand (AD) and supply (AS) curves well drawn (1 Mark each, maximum 2 Marks)	2	
	Correct drawing of intersection points E and F (1 Mark each, maximum 2 Marks)	2	
	Identification of full and under employments (1 Mark each, maximum 2 Marks)	2	
	Explanation	2	**10**
ii)	**Calculation of MPC and MPS**		
	MPS (1 Mark each, maximum 3 Marks)	3	
	MPC (1 Mark each, maximum 3 Marks)	3	**6**
	Total Marks		**20**

Model Answers

a) Limitations of multiplier

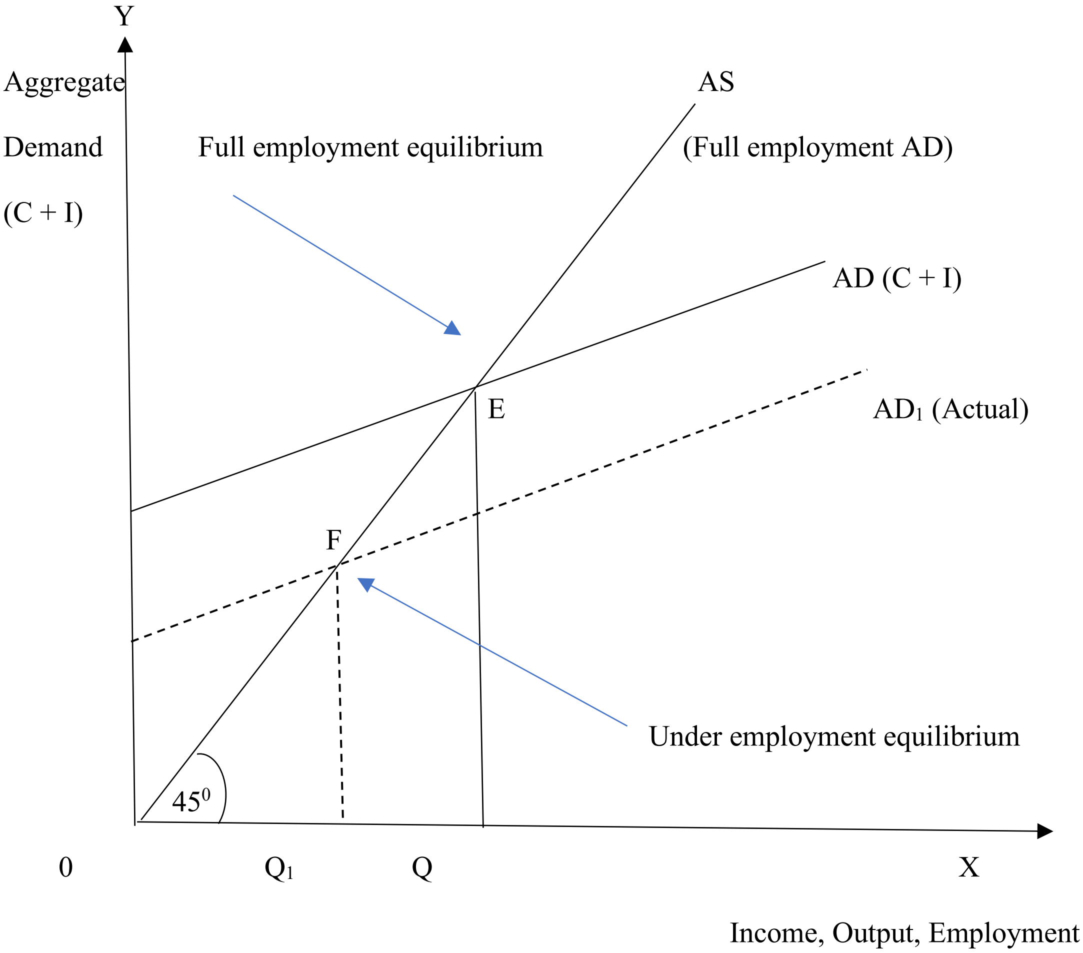
1. If there is full employment, any increase in demand will be inflationary which can result into the additional spending as result of greater price increase. (But can use the "de - multiplier" effect here).
2. If the withdrawals (i.e. leakages) from the circular flow, savings, taxation or imports, are high the multiplier will be very small so "pump priming" will have little effect (i.e. Multiplier will decrease within economy).
3. **There may be a long-term lapse before the benefits of the multiplier take effect**: Delays in policy implementation or consumer responses slow the multiplier effect, postponing its impact on the economy.(So it is no good as a short-term solution to unemployment or inflation).
4. **Uncertainties within consumption:** The consumption function in modern times is volatile therefore the effects of the multiplier are also unpredictable.
5. **Unusual changes within economy:** If the government tries to increase spending it can lead to other problems in the economy. The extra spending must be financed. If the government raises taxes, the multiplier will be lower and people may work less hard. If it borrows the money it can lead to high national debt problems and cause interest rates to rise.

b) i) **Underemployment equilibrium**

Unemployment equilibrium refers to a situation when equilibrium is attained (when aggregate demand is equal to aggregate supply below full employment level or when resources are not fully employed). On the other hand, full employment equilibrium is attained when all resources in the economy are fully employed(utilized).

According to Keynes, it was possible for the economy to be in equilibrium but with high levels of unemployment (an underemployment equilibrium).

This situation is illustrated in figure below.



We can see from the figure above that at point F, AD = AS which is the point where all the are not fully employed. $0Q_1$ is less than 0Q (AS at full employment level). Here F indicates the underemployment equilibrium.

From the above graph, under employment equilibrium exists at F while E represents full employment equilibrium. Where aggregate supply exceeds aggregate demand like between F and E, it represents a deflationary gap that can be overcome by increasing aggregate demand.

ii) **Computation of MPC and MPS for the brothers**

MPS = Change in savings/change in income

MPC = 1 - MPS

Mugisha; MPS = (120,000 – 100,000)/ (280,000 – 250,000) = 0.67

MPC = 1 – MPS = 1 – 0.67 = 0.33

Mugire; MPS = (140,000 – 100,000)/ (400,000 – 300,000) = 0.40

MPC = 1 – MPS = 1 – 0.40 = 0.60

Muhirwa; MPS = (180,000 – 120,000)/ (530,000 – 420,000) = 0.55

MPC = 1 – MPS = 1 – 0.55 = 0.45

QUESTION SIX

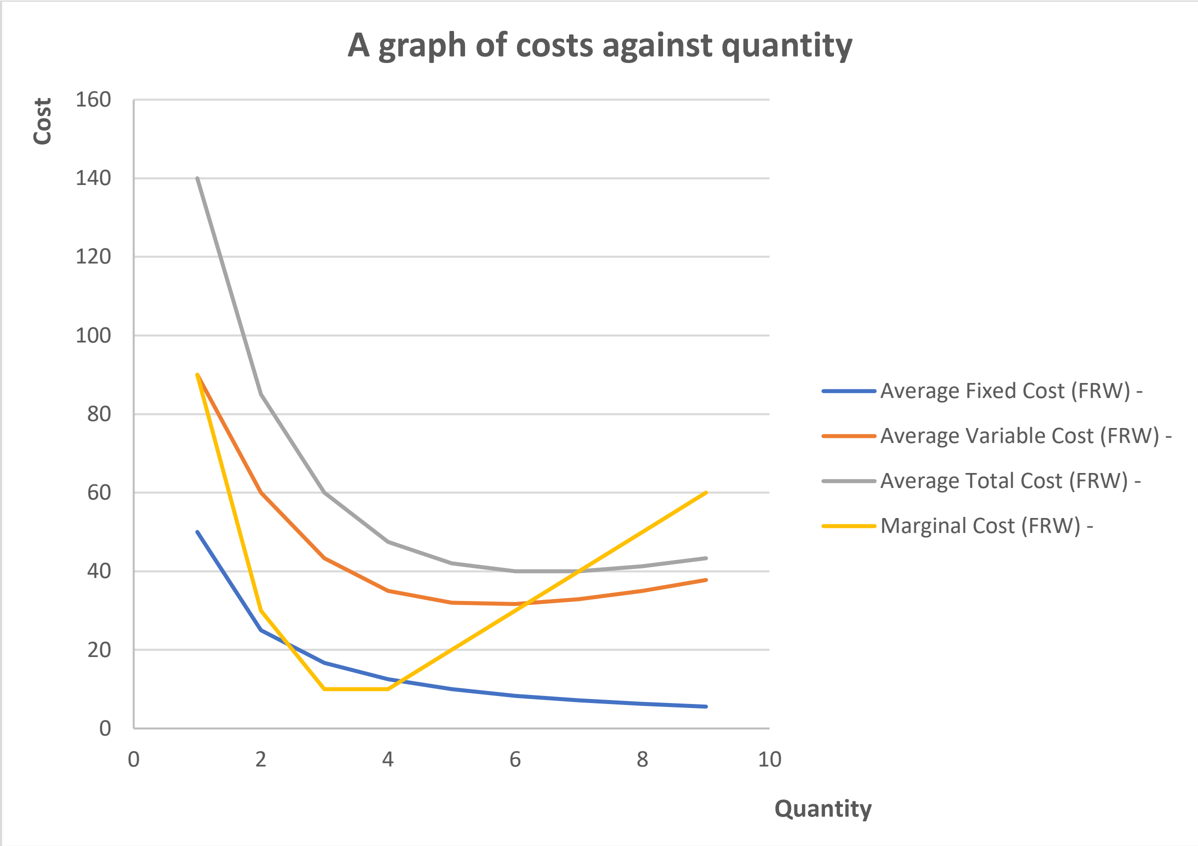
Marking Guide

Question 6	**Description**	**Marks**	**Total Marks**
a	**Relationship between costs**		
	Calculation of marginal cost (0.5 Marks each, maximum 5 Marks)	5	
	Each correctly drawn curve 1 Mark, maximum 5	5	
	Labelling (0.5 Marks for each axis, maximum 1)	1	
	Explanation (1 Mark each point, maximum 4)	4	**15**
b	**Economic welfare**		
	Definition	1	
	Types of efficiency (2 Marks each, maximum 4 Marks)	4	**5**
	Total Marks		**20**

Model Answers

a) Relationship between costs

Quantity in Kgs	**Fixed Cost (FRW)**	**Variable Cost (FRW)**	**Total Cost (FRW)**	**Average Fixed Cost (FRW)**	**Average Variable Cost (FRW)**	**Average Total Cost (FRW)**	**Marginal Cost (FRW)**
0	50	0	50	-	-	-	-
1	50	90	140	50	90	140	**90**
2	50	120	170	25	60	85	**30**
3	50	130	180	17	43	60	**10**
4	50	140	190	13	35	48	**10**
5	50	160	210	10	32	42	**20**
6	50	190	240	8	32	40	**30**
7	50	230	280	7	33	40	**40**
8	50	280	330	6	35	41	**50**
9	50	340	390	6	38	43	**60**



Explanation of the relationship between costs

1. **All costs** reduce as the quantity increases before they reach their minimum points and then after they gradually increase except for average fixed cost which decreases continuously as it approaches zero.
2. **Marginal cost**, average cost and average total cost first decease, reach their minimum points and they increase as the quantity increases
3. **Marginal cost curve crosses** the average fixed cost and average cost curves at their minimum points.
4. **Average cost** is declining when marginal cost is below average cost.
5. **Average cost** is increasing when marginal cost is above average cost.
6. The gap between average variable cost and average total cost is large as they are declining and it becomes smaller as they are increasing.
7. The gap between average fixed cost and the other costs widens as the quantity increases.

b) Economic welfare

Economic Welfare means the use of scarce resources to bring the greatest benefit to the largest possible number of people in the community. Welfare is said to be maximized when resources are used and production distributed in such a way that it is impossible to make one person better off without making another person worse off.

Types of efficiency

1. **Production or technical efficiency** arises when producers are able to increase the quantity of goods and services from a given quantity of production factors. This kind of efficiency can be measured without too much difficulty. For example, we can calculate how many motor cars one firm can produce from a set quantity of capital and labour and compare this figure with the number of similar vehicles produced from the same amount of capital and labour by a rival producer.

2. **Allocative efficiency** relates to the distribution of production to meet the expressed wants of the community. It is of no great benefit to the community to become more technically efficient in the production of motor cars if there is already a surplus of these but a severe shortage of other goods, say homes to live in. A production system would achieve allocative efficiency if it were able to eliminate both surpluses and shortages. The measurement and achievement of allocative efficiency presents rather more problems than technical efficiency given the basic economic problem of unlimited wants and scarce resources. If there are never going to be enough resources to satisfy everyone there will always be some who feel that there are not enough of certain goods or services and others who consider that resources could be better used on the forms of production they consider to be of most importance.

Example: In Rwanda, if the government supports industries such as agriculture (especially coffee and tea) that meet both domestic demand and global demand, this is an example of allocative efficiency. Coffee and tea are key exports and are grown in areas where the climate is optimal, reflecting both consumer demand and efficient use of resources.

QUESTION SEVEN

Marking Guide

Question 7	Description	Marks	Total Marks
a) i)	**Difference between progressive tax and regressive tax**		
	Definition of progressive tax	1	
	Definition of regressive tax	1	**2**
a) ii)	**Advantages and disadvantages of direct tax**		
	Advantages (1 Mark each, maximum 2 Marks)	2	
	Disadvantages (1 Mark each, maximum 2 Marks)	2	**4**
a) iii)	**Functions of taxation and qualities of a good tax**		
	Functions (1 Mark each, maximum 2 Marks)	2	
	Qualities (1 Mark each, maximum 2 Marks)	2	**4**
b)	**Graph and explanation**		
	Correct drawing of M^D, M_1^S and M_0^S curves (1 Mark each, maximum 3 Marks)	3	
	Explanation	2	**5**
c)	**Monetary Policy**		
	Tools (1 Mark each, maximum 5 Marks)		**5**
	Total Marks		**20**

Model Answers

a) i) Differences between progressive tax and regressive tax

❖ **Progressive tax** is a tax system where the tax increases with the level of income. High income earners pay a higher proportion of tax while low-income earners pay a lower proportion of tax.

While

❖ **Regressive tax** is a tax system where the tax decreases with the level of income. High income earners pay a lower proportion of tax while low-income earners pay a higher proportion of tax.

ii) Advantages and Disadvantages of direct tax

Advantages

1. Fair and equitable, levied by ability to pay.
2. They tend to be stabilizers, take more money out of the system at boom times when incomes and wealth are higher.
3. They are hard to pass on and so are less inflationary than indirect taxes.
4. These taxes are clear to the people who have to pay.

Disadvantages

1. Direct taxes can cause distortions, especially to incentives to work.

2. High taxes in areas of good employment or in good/well paid industries may deter people moving into these areas.
3. High marginal rates, by narrowing differentials in the after tax pay of skilled and unskilled labour, may reduce the incentive to train and cause a shortage of skilled labour.
4. High marginal rates may encourage tax avoidance, i.e. finding legal loop holes.
5. direct tax on profits is likely to be disincentive to risk-taking and enterprise and will reduce the ability to invest, by reducing after-tax profits and therefore retained earnings.

iii) Functions of taxation and qualities of good tax system

The functions of taxation are to:

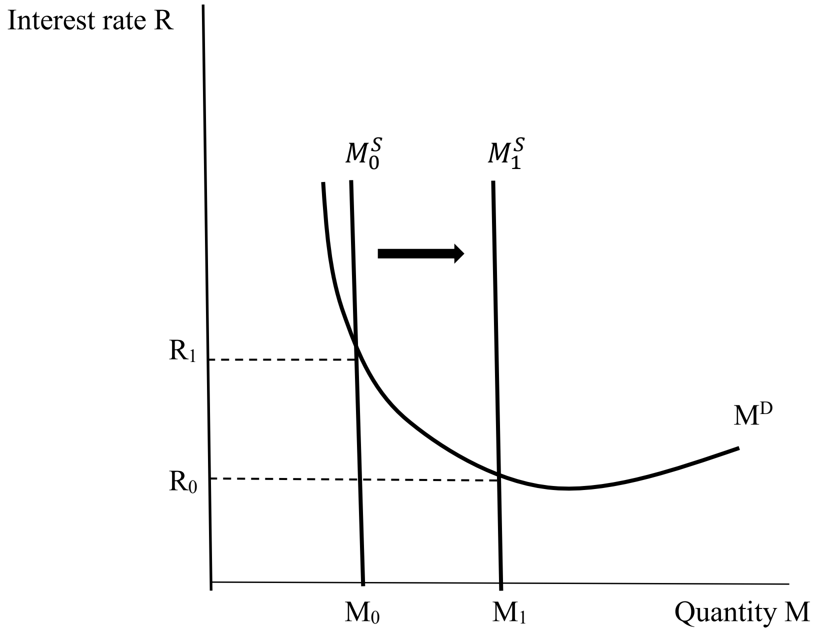
1. Raise revenue: to pay for goods and services and for the upkeep for government administration.
2. Discourage bad habits: e.g. tax on cigarettes, alcohol.
3. Make private firms/people pay for externalities e.g. pollution.
4. Redistribute wealth tax the better off and pay for social welfare and old age pensions.
5. Protect domestic industries from foreign competition – import taxes and export subsidies (reverse taxes).
6. Stabilize national income – taxation reduces the effect of the multiplier so it dampens swings in the trade cycle.
7. Target particular sections of the economy – e.g. taxes on wealth, capital, income, goods can be used with relative precision to affect specific sectors.

Qualities of a good tax system

1. Based on the system ability to pay.
2. The tax should be certain and understood by all.
3. Payment should be related to how and when people receive and spend their income (e.g. PAYE deducted when wages are paid, VAT is charged when goods are bought).
4. Cost of collection should be small relative to its yield.
5. Should be easily adjustable. E.g. the rates
6. Should not harm initiative
7. Evasion should be difficult.
8. It should be fair.

b) Determination of interest rate

Monetary policy and interest rates



- Where R is the interest rate, M is the quantity of money, M^D and M^S are demand for money and supply of money respectively.

- It can be assumed that the money supply in the economy is determined by the Bank's monetary policy. This can be illustrated by a vertical supply of money at whatever quantity the Bank decides.

- The equilibrium rate of interest will be determined at the point of intersection of the money supply and money demand curves. If the bank decides on a money supply of M_0 and if the demand for money in the economy is as represented by M^D, then the equilibrium rate of interest in the economy is R_0.

- If the Bank decides on expansionary or contractionary monetary policy then, by implication, it is choosing lower or higher interest rates.

c) Monetary policy tools

1. Open Market Operations (OMO)

OMO is the practice of buying or selling government securities by the Bank with a view to influencing commercial bank liquidity. For effectiveness, these sales or purchases must be carefully targeted. If the Bank sells government securities to the non-bank private sector, these securities will be paid for by the public by the writing of cheques payable to the Bank to be drawn on accounts in the banks. The banks when honouring these cheques will be required to transfer funds to the Bank resulting in a loss of commercial bank liquidity. For a given RAR, this will result over time in a multiple contraction of commercial bank deposits. An expansionary OMO would entail the Bank buying back securities from the non-bank private sector resulting in an increase in commercial bank liquidity.

2. Interest Rates

In the process of credit creation, banks lending money, presuppose the existence of willing borrowers. The willingness to borrow will in turn depend on the rate of interest charged. The Bank has the power to influence interest rates and thereby the desired level of borrowing in the economy.

In a modern economy, there is a structure of inter-related interest rates rather than a single rate. The rate charged to a borrower will depend on two factors: (i) the duration of the loan and (ii) the degree of risk attached to the borrower.

3. Alternative Instruments of Control

The Bank may resort to alternative means of controlling credit creation. One way is by means of special deposits. This is where the Bank reduces the liquidity of the commercial banks by requiring them to deposit funds in special accounts at the Bank. These funds are not eligible to act as reserve assets. Another way is by means of moral persuasion. The Bank indicates to the banks that it wishes them to curtail lending. Whether or not the banks comply will depend on how the banks expect the Bank to respond to non-compliance.

4. Reserve requirement

The central bank may require that commercial banks retain a proportion of their clients' deposits as a reserve to be able to meet the needs of the customers. When the reserve requirement is low the banks will release more loans to the customers. On the other hand, increasing the reserve requirement makes banks to reduce lending to their clients.

5. Discount rate

This is the rate that the central bank charges the commercial banks to borrow through the central bank's discount window. The banks can borrow from the central bank at a specified interest rate during shortages in liquidity.

6. Moral suasion

The central bank uses moral suasion where they directly communicate to the banks and other financial institutions. They can influence their clients through public statements, discussions, speeches and encourage efficient lending practices.

END OF MARKING GUIDE AND MODEL ANSWERS