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CERTIFIED PUBLIC ACCOUNTANT

FOUNDATION LEVEL 2 EXAMINATIONS

F2.2 ECONOMICS AND BUSINESS ENVIRONMENT

DATE: THURSDAY 27, FEBRUARY 2025

MARKING GUIDE & MODEL ANSWERS

QUESTION ONE

Marking guide

Criteria	Marks
a. i) Computation of net exports	
Translation of exports	1
Computation of net export	1
Interpretation of balance of payment position	1
Maximum marks	3
ii) Effects of Exchange rate on balance of payment in Rwanda	
It affects increase in external debt servicing costs	2
It affects reduction in export competitiveness	2
It affects depletion of foreign exchange reserves within the country	
Any other valid point attracts 2 marks	
Maximum marks	4
b. Inter-industry and Intra- Industry	
i) Current practice of government of Rwanda	
Inter-industry trade	1
Explanation of inter industry trade	1
Maximum marks	2
ii) Factors influencing intra-industry trade	
Product differentiation	1
Increased demand for greater consumer choices	1
Economies of scale in production	1
Any other valid point attracts 1 mark	
Maximum marks	3
c. diagram A well explained point (2 marks for each * 3)	2 6
Total	**20**

Model answers

a.

i) The computation of net exports between United Araba emirates and Government of Rwanda

Computation of the net export = Exports – Imports.

Exports = 44,500,000 * 1,260 = FRW 56.07 billions

Imports = 49 billion

Net exports = 49 billion - 56.07 billion= (7 billion)

The country has faced the balance of payment deficit since total exports are less than total imports. The greater increase was due to the effect of exchange rate as all exports has been produced and valued in local currency. At the time of export, the country has faced losses due to exchange rate.

ii) Negative effects of exchange rate on Balance of payments in Rwanda.

1) It affects the increase in external debt servicing costs: as government of Rwanda hold huge external debts which are denominated in foreign currencies, this will affect the government to pay higher servicing costs hence affect balance of payment deficits.

2) It affects reduction in export competitiveness: when the exchange rate increases, the capacity of the country to export reduces as because all exported goods have initially purchased in local currency and this decreases its value to the global market which limits country's export competitiveness.

3) It affects depletion of foreign exchange reserves within the country: for example, when the exchange rate of USD increases in Rwanda, the value of USD currency reserves held by National Bank of Rwanda will decreases hence made balance of payment to decrease.

b.

i) Current practice of government of Rwanda in international trade

Inter-industry trade happens due to the difference in the factor endowments owned by the country which made the country's export differs from the imports.

Under this context, the Government of Rwanda export raw materials due its available factors of production which are limited to manufacturing and they import finished goods. i.e. country exports what they have and imports what they don't have.

Rwanda's current practice in international trade is characterized by an export-oriented economy that mainly focuses on raw material exports, such as coffee, tea, and raw minerals. This is largely due to the country's underdeveloped manufacturing sector, which limits its ability to produce finished goods for export. The government has been focusing on policies that promote exports of these raw materials to global markets, while imports mainly consist of finished products that are not yet locally produced in large quantities, often due to limited industrial infrastructure and technological capacity. These import practices reflect the challenges Rwanda faces in developing its domestic manufacturing capabilities.

ii) Factors influencing intra-industry trade

Intra-industry trade refers to the situation where the country's exports and imports the similar products within the same industry. For example, Germany can export the vehicle models of BMW and Mercedes Benz while it imports Toyota models depending the consumer choices from the local country.

Factors influencing intra-industry in respect to applicability of comparative advantage include the following:

1) Product differentiation level: the differences in product brands, which has the same uses within the country has been attractive for large extent to affect the customers of the different countries to engage in importing the similar products to the one manufactured locally.

2) Increased demand for greater consumer choices: With rising prosperity in a country, consumers tend to want greater choice regarding the goods they purchase and this affect the importation of the product within the similar industry.

3) Economies of scale in production: the firms which has reached their long run expansion are capable of producing a range of differentiated goods efficiently at low cost which can influences intra-industry exchange of goods.

4) Technological differences: The countries have different technology advancements within production of the similar goods which increases their specialization and quality output within the specific products and this facilitate its exportation and importation of other goods specialized by other countries.

5) Trade costs and barriers: when the countries have lowered or eradicated the trade barriers such as tariffs, transportation costs and other non-tariff barriers leads to the cost reduction for exchange of goods hence increases efficient exchange of similar products on the borders of the countries.

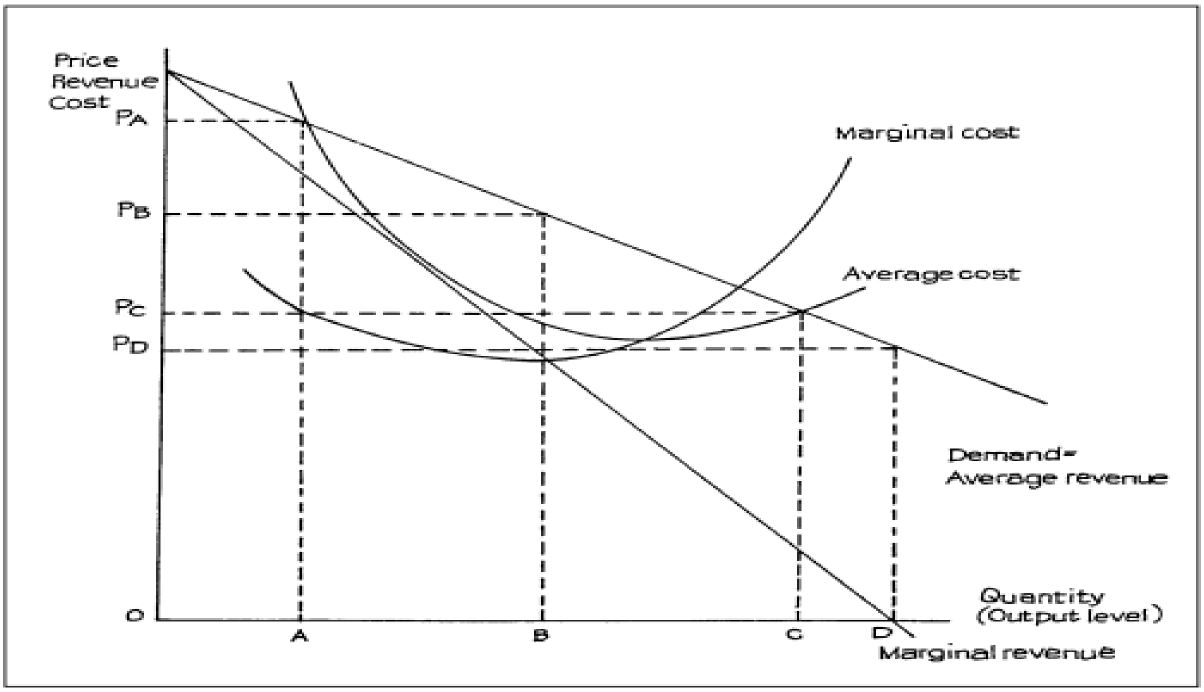
c. Objectives of the firm other than profit maximisation

Profit maximization has been the main objective focus for the firms for a couple of years. Other alternative objectives of the firm include the following:

- Revenue maximization: than profit maximization, the firm in contemporary times tries to maximize level of output at the minimum profit without changing prices which can have a result in increasing the firm's market share.
- Growth and long run stability: firm's owners are not mainly interested in the current year's profit only. They also look at the company's growth in long run including making strategic investments which are profitable in long run.

- Sustainability (Environmental and Social Responsibility)
- Stakeholder Value (Balancing interests of shareholders, employees, customers, suppliers, and the community)
- Growth and Market Share
- Customer Satisfaction and Product Quality
- Innovation and Long-Term Success

Graphical representation of alternative objectives of the firm other than profit maximization.



- The firm do not practice price discrimination which made its average revenue and the demand curve to be the same.
- The main focus of the firm is domination of the market share through its policies of enlarging the market share by increasing the level of the company output.
- The firm's price elasticity of demand tends to be elastic **(PED>1)** as indicate don graph, that symbolizes small decrease in prices having the greater impact on increasing quantities sold and this made the firm to enlarge its domination with the market for the specified product.
- The range between output level **A** corresponding price **PA** indicates the lower break-even point where the falling average cost just equals average revenue and at output level C corresponding price **PC** indicates the higher break-even point where the rising average cost just equals average revenue.
- The firm's Marginal costs start decreasing with respect to decreasing in price as the output has increase to extent greater than price decrease which made the average revenue to cover all corresponding average costs of the firm.

QUESTION TWO

Marking guide

Criteria	Marks
a. Calculation of profit maximizing output	
Formula for profit maximization: MR = MC	1
Determination of Price function (P)	1
Determination of Total Revenue (TR) function	0.5
Determination of the Marginal Revenue (MR) function	0.5
Determination of Marginal Cost (MC) function	1
Profit function	1
Profit Maximizing output	1
Maximum profit calculation	1
Maximum marks	7
b. i) Factors facilitated rise of Agaciro Hygiene Ltd as sole producer in western province.	.
Control over key raw materials	1
Barriers to entry and exit the market	1
Patents and copyright	1
Any other well explained valid point attract 1 mark	1
Maximum marks	4
ii) Conditions necessary for price discrimination applied by Agaciro Hygiene Ltd.	
Differentiable consumer groups	1
Elasticity of demand in different markets	1
Monopoly power possession by the firm	1
Maximum marks	3
c. i) Nature of the diversified market for Kima Agribusiness Ltd.	.
Related market diversification	1
Advantages of diversification to Kima agribusiness Ltd	
Access to low production costs	1
Promote expansion of the company	1
Any other valid point attracts 1 mark	
Maximum marks	3
ii) Major tests to be made by Kima Agribusiness Ltd before establishing new business segment.	
The attractiveness test	1
The cost-of-entry test	1
The better-off test	1
Maximum marks	3
Total	**20**

Model answers

a. Information provided with the alpha manufacturers Ltd

Cost function: C = 10x + 20.

Price: P = 100 - 2x.

Quantity: x

The company is able to maximize its profit when its Marginal cost(MC) equals to its Marginal Revenue (MR). i.e. MC = MR.

Total revenue (TR) function: TR = Price * Quantity

TR = (100 – 2x) * x **$TR = 100x - 2x^2$**

Marginal Cost (Mc) function: Mc = derivative of TC function

$MR = (100x - 2x^2)'$ **MR = 100 – 4x**

Marginal Revenue (MR) function: MR = derivative of TR function

$MC = (10x + 20)'$ **MC = 10**

Profit maximizing output is determined as:

MR = MC, 100- 4x = 10

4x = 90 **x = 22.5**

The profit maximizing output is 22.5 kilograms.

Profit = Total Revenue (TR) – Total Cost (TC)

Profit = $(100x - 2x^2)$- (10x + 20) **Profit = $- 2x^2 – 10x + 100x + 20$**

Maximum profit is obtained by replacing the profit maximizing output in the profit function

Maximum profit = $- 2(22.5)^2 - 10(22.5) – 100 (22.5) + 14$

= - 2(506.25) – 10 (22.5) – 100 (22.5) + 20

= - 1,012.5 - 225 + 2,250 + 14

= **1,026.5**

The company will produce 22.5 kilograms in order to get the maximum profit of 1,026.5.

b. .

i) Factors that has facilitated Agaciro Hygiene Ltd to be a sole producer and seller of hygiene materials in western Province.

Monopoly: refers to the market that exist when there is the single supplier for the whole market. Agaciro Hygiene Ltd operate as a monopolist for as it occupies the whole western province region as the single supplier of the hygiene products.

Factors that influenced Agaciro Hygiene Ltd to be a sole producer and seller include:

1. Legal and Regulatory Factors

- Patents and Intellectual Property Rights – Exclusive rights to produce and sell a material prevent competitors from entering the market.
- Government Licensing and Permits – Some industries require government approval, limiting competition.
- Trade Restrictions or Tariffs – If a country imposes heavy tariffs on imports, it discourages foreign competition.

2. Natural and Resource-Based Factors

- Control Over Key Raw Materials – If a company owns or has exclusive access to essential raw materials, it prevents competitors from producing the same product.
- Geographical Monopoly – A company operating in a location with unique natural resources can maintain exclusive production.

3. Economic and Financial Factors

- High Capital Requirements – If entering the industry requires significant investment in technology, infrastructure, or R&D, it discourages new entrants.
- Economies of Scale – A company with large-scale production can reduce costs and sell at lower prices, making it difficult for new competitors to compete.
- Cost Advantages – Proprietary technology or efficient processes allow the company to produce materials at a much lower cost than any potential competitors.

4. Technological and Innovation Factors

- Advanced or Proprietary Technology – If a company has exclusive access to superior technology, it can maintain its dominance.
- Continuous Innovation – Companies that constantly improve their products and production processes can stay ahead of potential rivals.

5. Market and Competitive Factors

- Strong Brand Recognition and Reputation – Customers may prefer the company's materials due to trust, making it difficult for competitors to gain market share.

- Exclusive Contracts and Agreements – Long-term contracts with suppliers or buyers can create barriers for competitors.
- Network Effects – If the product becomes more valuable as more people use it, competitors may struggle to gain traction.

6. Strategic Business Practices

- Aggressive Pricing Strategies – The company may lower prices to make entry unattractive for new competitors.
- Mergers and Acquisitions – Buying out potential competitors can help the company maintain a monopoly.

ii) Conditions influencing for Price discrimination practice in Agaciro Hygiene Ltd

Price discrimination refers to the situation at which the seller charges different prices to different customers on the same product.

Agaciro Hygiene Ltd is currently practicing the price discrimination as it is charging the prices of products based on the economic status and the willingness to purchase for the consumers known as “First degree price discrimination”.

Conditions influencing price discrimination within Agaciro Hygiene Ltd include:

1) **Differentiable consumer groups:** Agaciro Hygiene Ltd has classified its customers into groups based on their existing economic status and this guided the price setting for each category of the customers where those with high economic status are priced highly while others with low status charged affordable prices hence provides ground for price discrimination.

2) **Market power:** Agaciro Hygiene Ltd is a market leader and price maker as it possesses the rights for pricing of its products and this has provided the company’s ground to charge different prices to its customers.

3) **The elasticity of demand must be different in different markets**: the price elasticity of demand has assisted the classification of customers as in the market with Elastic demand especially for low economic status where the company will charge low prices and for market with Inelastic demand where the company charged the higher prices in view that customers are able and willing to pay.
4) **Possession of monopoly power**: The company has monopoly power over the supply of the product which provide the company’s ability to discriminate prices on the product between different class of consumers and charge different prices

c.

i) Nature of diversification for Kima Agribusiness Ltd

Related market diversification: related market diversification refers to the diversification where the firm diversifies its portfolio through the business units in the same industry. This is applied through both forward and the backward vertical integration.

Kima Agribusiness Ltd expects to create a business unit which will assist the company to have access on the low costly raw materials in order to afford the low cost of production and this indicate the backward integration hence diversification.

Advantages of related diversification to Kima Agribusiness Ltd:

1) **Access to low production costs**: Once Kima Agribusiness Ltd create the new business segment engaged in planting of fruits it will assist the company to access cheap raw materials and this decreases the production costs hence increase the gross profit margin to the company.

2) **Promote expansion of the company**: Once Kima Agribusiness Ltd creates the new business unit it will provide notable expansion in business operations which enlarges the strength and stability of the growth of the company within the industry.

3) **Provides room for innovation and creativity:** as the combined efforts between the manufacturing teams and planting teams will create synergies which will assist in design and implementation of innovation ideas in relation to the production process.

4) **Enlarges the company's revenue streams:** Once Kima Agribusiness Ltd opens the new business segment will be able to sell both manufactured goods and juices and fresh fruits as raw materials for other industries hence increases the revenue growth to the company.

ii) Major tests which management should consider when establishing new segment:

1) **The attractiveness test:** Management of Kima Agribusiness Ltd will assess the whether industry chosen must be attractive enough to have consistent good returns on investment based on their existing market conditions as well as company's competitive capabilities.

2) **The cost of entry test:** Management of Kima Agribusiness Ltd will have to assess the required costs to establish the business unit and assess the potentiality to the profitability and once they realize that it is cheap and profitable to the company they will join the market.

3) **The better-off test**: Management of Kima Agribusiness Ltd will decide to diversify into the business segment which will bring some potential for competitive advantage to the new business when company enters in it which adds opportunity for profitability and shareholder value.

QUESTION THREE

Marking guide

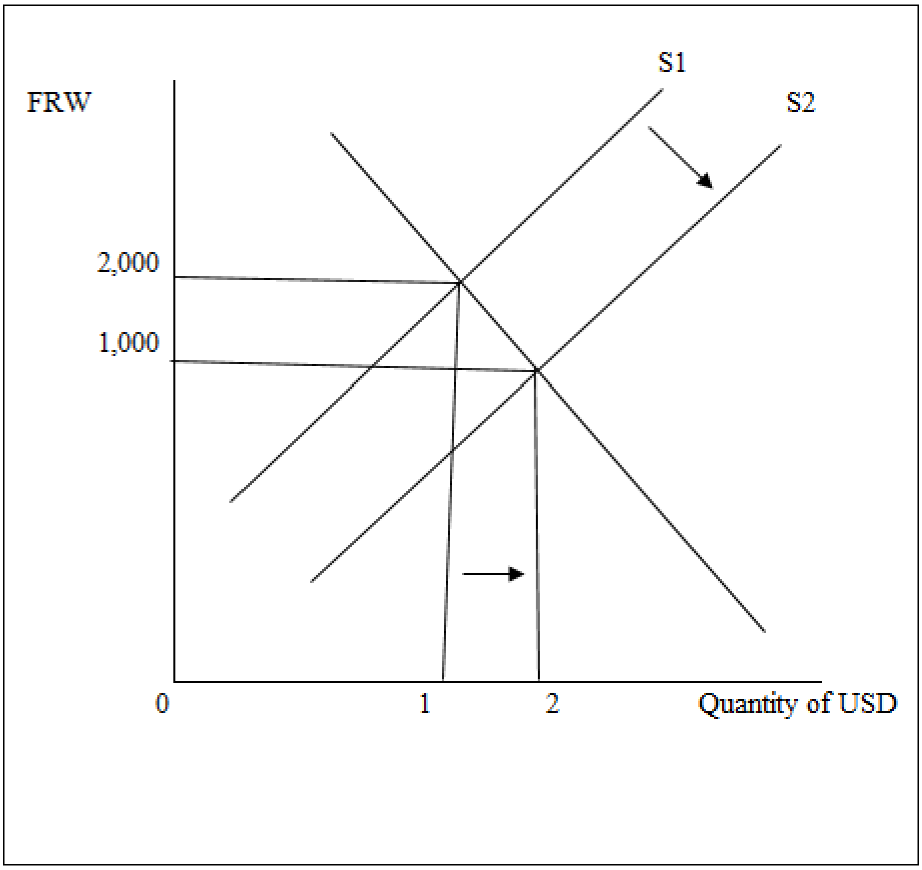
Criteria	Marks
a. Purchasing power parity graphical representation	
Drawing of the graph	3
Interpretation of effect of increase price of Rwandan coffee	3
Maximum marks	6
b. I) Importance of national income statistics	
Assist government in proper planning	1
Measures the standard of living	1
Comparison of economy in different periods	1
Any other valid point attracts 1 mark	
Maximum marks	2
ii) Negative defects encountered when measuring national income in relation to nature of good or service accounted for.	
Defects of unpaid services	1
Defects of large subsistence economic sector	1
Defects of free goods or services offered by the Government	1
Any other valid point attracts 1 mark	
Maximum Marks	3
c. I) Meaning of inflationary gap	1
Maximum marks	1
ii) Strategies which can be adopted by the government to close inflationary gap	
Reduces government spending	1
Increase taxes	1
Reduces money supply	1
Any other valid pint attracts 1 mark	
Maximum marks	3
d. Causes of the difference in shareholders and management views on investment in Agaciro Investment Company Ltd.	
Incentive scheme	2
Difference in evaluation time horizon	2
Difference in risk undertaking profile	1
Any other valid point attracts 2 marks	
Maximum marks	5
Total	**20**

Model answers

a. Purchasing power parity graphical presentation

Purchasing power parity (PPP) is a theory of the long-run determination of the exchange rate. According to PPP changes in relative prices between countries will be the most important influence on the Nominal Exchange Rate (NER) in the long run. PPP predicts that countries with relatively high inflation rates will experience a decline in the exchange rate of their currency.

Graphical representation



- Rwandan coffee's price becomes too high, Rwandan will switch their consumption to American coffee and this will create increased demand of the American coffee which will facilitate increase in concentration of USD currency within Rwandan market.

- Changes in Exchange Rate = Old Exchange Rate * (1 + Inflation Rate) = 1000 * (1 + 1) = FRW 2000. Therefore, the new exchange rate between USD and FRW should be 1 USD = FRW 2000 to maintain PPP after the increase in coffee prices.

- The purchasing power parity on Rwandan coffee consumed is achieved when the exchange rate between USD and FRW is adjusted to maintain equilibrium after inflation. In this case, the new exchange rate should be set at 1 USD = FRW 2000 to reflect the doubling of coffee prices and ensure purchasing power parity.

b.

i) Importance of the national income statistics to the government of Rwanda.

1) **Assist government in the proper planning:** national income statistics provides the government basis of the further policies making which have effects on the citizens including employment policies, government spending and others.
2) **Measures the standard of living**: the national income statistics provides the estimated per capital income which determines the level of affordability of the cost of living for the population hence this determines level of the standard of living to the citizens.
3) **Comparison of economy in different periods**: national income statistics provides the ground for analyzing the improvement in economic conditions of the country's level of economic activities and this can assist in determining the real expectations for the further economic policies within the country.

ii) Defects encountered when measuring national income in relation to nature of good or service accounted.

Generally, when measuring the national income using output approach all goods which are exchanged with monetary value must be accounted for during the computation of the national income.

Some of defects encountered during measuring national income in relation to goods includes:

1) **Defects of unpaid services**: during measuring national income, some of the services which are not paid. Example e.g. housewives' duties, driver washing own car, Etc.

2) **Defects of large subsistence economic sector:** Many farmers consume part of their own produce with no money changing hands and many households live in their own houses, imputed value must be applied to these factors

3) **Defects of free goods or services offered by the Government:** some government services such healthcare, education, police and defense forces are provided for free yet these services include some elements of cost.

4) **Defects of the externalities**: some of goods are affected by externalities which cannot be quantified in monetary terms yet having effects on the actual goods produced and sold at the market. Example of pollution defects, Etc.

c.

i) Meaning of the inflationary gap.

Inflationary gap refers to the economic situation in which the real country Gross Domestic Product (GDP) is higher that the potential Gross Domestic Product (GDP). Under this situation, the economy possesses a higher aggregate demand than aggregate supply. The real GDP is greater than the potential GDP due to the fact that, when the real GDP increases, the general price level also increases in the long run.

ii) Strategies to close inflationary gap includes the following:

1) **Reduce government spending**: during the period of inflationary gap, the government should decrease the level of government spending in order to decrease the aggregate demand.
2) **Increase taxes:** during the period of inflationary gap, there is higher income among households. In order to control that, the government should increase the level of direct taxes which reduces the level of the disposable income hence leading to decreased consumption and investment.

3) **Reduce money supply**: to curb the inflationary gap, government may set the contractionary monetary policies such open market operations involves offering the government securities to public to decrease money in circulation and hence leads to higher interest rates bad reduced spending.

4) **Increased interest rates:** during the period of inflationary gap, Central bank intervene by raising the interest rates which leads difficult and expensive borrowings hence attract savings and this decreases consumer spending and investments.

5) **Temporary wages and price controls measures:** at the point in time during inflation, government intervenes in price legislation through setting Maximum prices and minimum wages which assist in controlling price level and decreases aggregate demand.

d. Causes of the difference in shareholders and management views on investment in Agaciro Investment Company (AGC) Ltd.

In the ordinary course of business life, the main objective of the company is profit maximization. Alternatively, the company may other corresponding objectives which supplements the profit maximization of the company. To achieve all those objectives, both management and the shareholders play their roles in order to achieve the company's potential.

Agaciro Investment company Ltd is currently operating an investment which will benefits the company shareholders in terms of the increased company growth over the long-term ownership. In addition, the implementation of the project for the construction of the owned shopping mall will be implemented by management who has day to day control of the business operations.

A notable difference in shareholders and management point view on the investment was caused by the following:

1) **Management incentive scheme**: management of Agaciro investment company Ltd are paid the annual bonuses based on the percentage of project completion and this has made

Nyangezi to utilize more of his efforts in order to increase his possibility of obtained high annual management bonus.

2) **Difference in evaluation time horizon**: Shareholders evaluates the return on investment in long run over their invested capital yet the management are evaluated on short term achievements, so they have to prove that they can be able to achieve in short time for upgrading their performance and this made Nyangezi to decrease project to 5 years.

3) **Difference in risk undertaking profile:** Shareholder's prefer to invest in high risk projects with the high returns yet the management opt to undertake the short term project with low risk hence also causes the difference in point of view on investment from the ones of the shareholders.

4) **Difference in goals:** Management goals tend to be the short term yet the shareholder's goals tend to be the long term and this indicate that the shareholders are entitled to the have long term return on investment where the shareholders are willing to emphasizes on long run profitability.

5) Revenue Expectations and Market Assumptions
6) Timeframe for Investment Return
7) Risk Perception and Business Strategy

QUESTION FOUR

Marking guide

Criteria	**Marks**
a. i) Graphical representation of excess demand and excess supply	
Drawing the graph	3
Proper graph presentation	1
Explanations of Excessive demand	1
Explanations of excess supply	1
Maximum marks	6
ii) Causes of excess demand in Rwandan local markets	
Increase in population size	2
Increased government expenditures	2
Any other valid point attracts 2 marks	
Maximum marks	4
b. Practical importance of the consumer surplus in an economy	
Helps in economic comparisons between countries	1
Assist in setting up monopoly prices	1
Assist government is determination of Subsidies	1
Measures the economic welfare	1

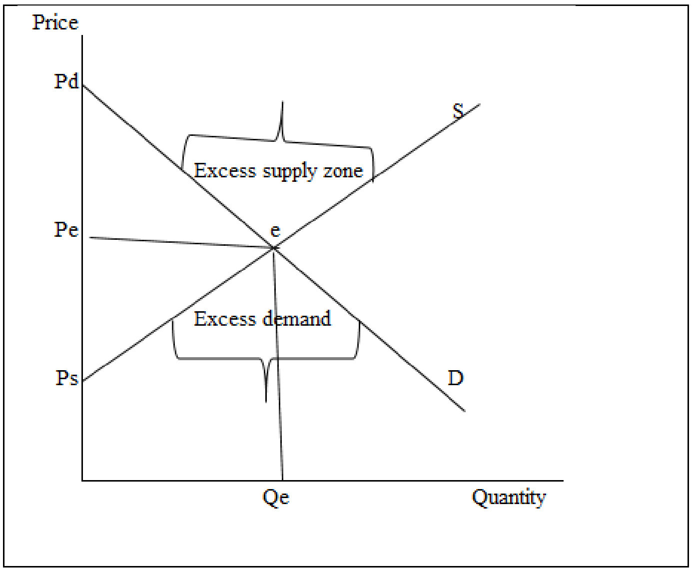
Determination of taxes for the specific products	1
Any other valid point attracts 1 mark	
Maximum marks	5
c. Factors facilitated Best Drink Company Plc to enjoy the economies of scale.	
Increased Labor specialization	1
Large scale marketing and advertising	1
Decrease in cost of production	1
Specialized management techniques	1
Improved transport and distribution means	1
Maximum Marks	5
Total	**20**

Model answers

a.

i) Excess demand and supply graphical presentation

Demand and supply normally determines the economic conditions in the free market economy. The following are graphical representation:



- In free market economy, Demand and supply are effective without the corresponding effects of the government intervention. Due to continuous rise in price levels, the market demand has failed to regulate the prices over the market.

- **Excess demand** comes about in the market when there is continuous shortage of the production at the market due to continuous increase in customer demand. i.e. Quantity demand Exceeds Quantity supplied (Qd > Qs). At this point the market demand exceeds the market supply and this made the continues increase in prices

- **Excess supply** comes when there is continuous decrease in prices of the product due to its extensive availability within the market. i.e. the Quantity supplied exceeds the quantity demanded. At this point, suppliers suffer the greater loss as they sell at the lowest prices

ii) Causes of the excess demand in Rwandan market

1) **Increases in population size**: as now Rwanda has population of over 14 million people and a relatively young demographic profile, the increasing number of consumers drives demand for goods and services across various sectors of the economy.

2) **Increases in Government expenditures:** with increased infrastructures such as roads, energy, and ICT initiatives, etc. They stimulate economic activity and boosts demand for construction materials, technology services, and financial products.

3) **Increase in income**: disposable incomes lead to increased purchasing power, resulting in greater demand for consumer goods, housing, healthcare, education, and other services.

b. Practical Importance of the consumer surplus within an economy

Consumer surplus is the difference between the highest price a consumer is willing to pay for a good or service and the actual price they pay. It represents the extra benefit or value consumers receive because they pay less than what they were willing to.

Consumer surplus is applied within the following specified areas:

1) **Assist in setting monopoly price**: A monopolist keeps the surplus of the consumer accessible from it while setting the price of his goods. If the commodity in question yields a sufficient market surplus, a high price would be set by the monopolist. On the opposite, if the commodity yields no market surplus, a low price would be set by the monopolist.
2) **Determination of taxes for the specific products**: when the products have the continuous producer surplus, it possible that the suppliers will make extra income against the products and this will influence government to set the specific tax for the commodity.
3) **Value-in-Use and Value-in-Exchange distinctions:** The surplus of the consumer describes the discrepancy between value-in-use and value-in-exchange. Items of enormous value-in-use but minimal value-in-exchange (such as water, etc.) offer a greater surplus of pleasure for the user.
4) **Measures Economic Welfare:** Consumer surplus is an indicator of how well consumers benefit from market transactions. Higher consumer surplus means consumers are getting more value from their purchases, contributing to overall economic well-being.
5) **Helps in Pricing Decisions:** Businesses can use consumer surplus to set optimal prices. If consumers have a high surplus, firms may adjust prices to capture more of it as profit through price discrimination strategies.
6) **Guides Government Policy:** Policymakers use consumer surplus to assess the impact of taxes, subsidies, and price controls. For example, high consumer surplus in essential goods like food and healthcare suggests affordability, while a decline may signal the need for intervention.

7) **Encourages Market Efficiency:** Consumer surplus reflects the efficiency of a market. Competitive markets with lower prices tend to maximize consumer surplus, ensuring resources are allocated efficiently to satisfy consumer needs.
8) **Influences Production and Innovation:** High consumer surplus encourages businesses to innovate and produce goods that provide more value at lower costs, leading to better products, technological advancements, and increased consumer satisfaction.

c.

i) Factors facilitated Best drink company plc to enjoy economies of scale

Economies of scale refers to the advantages which are enjoyed by the firm as result of the long run expansion. They are resulting from the long run operation where the company is able to cover its long run average costs.

Factors that have facilitated Best Drink company Plc to enjoy economies of scale:

1) **Increased labor specialization**: Best Drink Company plc holds specialized skilled labor, capable of providing quality and decrease the consumption of time in production as result of mechanization and automation process.

2) **Large scale marketing and advertising:** Best Drink Company Plc has invested in aggressive marketing on Television and newspapers which has increased its market share from 26% to 56%, which indicates a long run expansion for the business.

3) **Decrease in cost of production:** Best Drink Company Plc has signed contracts with the suppliers of the key ingredients, which will facilitate the company to get cheap raw materials hence decrease the cost of production, in return this increases the economies of scale.

Specialized management techniques: Best Drink Company Plc has enlarged the management techniques as the company is growing to large scale to remain operating efficient and effective leadership through the normal course of the business operations

4) **Improved transport and distribution means**: Best Drinks Company Ltd has specialized means of distribution of its products to distributers in each province this has facilitated easy market access within all regions of the whole country.

QUESTION FIVE

Marking guide

Criteria	Marks
a. i) short run profit maximization under perfect competition	
Drawing of the Graph	2
Explanation on indication of equilibrium (MR=MC)	2
Indication of the economic profit area (AR >AC)	2
Maximum marks	6
ii) Disadvantages of the perfect competition	
Limited room for creativity and innovation	1
Loss of firm's reputation	1
Any other valid point attracts 1 mark	
Maximum marks	2
b. i) Credit multiple and total deposit liabilities for Umusaruro Microfinance Plc	
Formula for Credit multiplier	1
Formula for Total Deposit Liabilities	1
Calculation of Credit multiplier	1.5
Calculation of the total deposit liabilities	1.5
Maximum Marks	5
ii) Conflicting aims of Commercial banks	
Profitability	1
Liquidity	1
Security	1
Maximum marks	3
iii) Limitations of credit creation within commercial banks	
High rate of statutory reserve requirements	2
Liquidity problems	2
Any other valid pint attracts 2 marks	
Maximum marks	4
Total	**20**

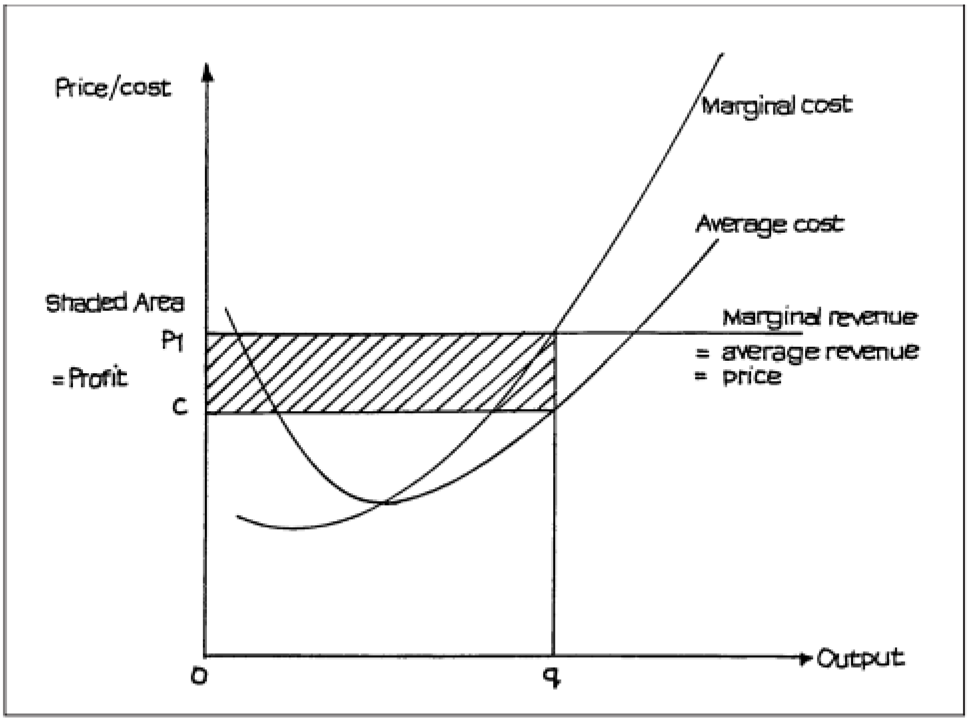
Model answers

a.

i) Short run profit maximization under perfect competition

Perfect competition is the market state of affairs existing in a market totally free from imperfections in the communication and interaction of the economic forces of supply and demand. Under this market, there is the existence of many firms operating in the market for the homogenous product.

The profit is maximized in short run where individual firms operate under full capacity are able to get the abnormal profit.



- The firm is able to achieve the abnormal profit at the point where the Average revenue (P1) exceeds its average costs (C). The shaded area on the graph indicates the area of the abnormal profit to be achieved by the firm.
- In the short run, the firm will be able to achieve its profit maximisation when its Marginal Revenue (MR) equal to its Marginal Costs (MC).
- As individual firms do not have the access to change the price, the Marginal Revenue (MR) equals to the price (P) and Average Revenue (AR) because the revenue changes are not affected with the change in price yet the firms are price takers.

ii) Disadvantages of the perfect competition

Since perfect competition is free entry and exit for individual firms, the series of disadvantages have noted including the following:

1) **Limited room for creativity and innovation**: since there is the perfect sharing information relating to the market between both buyers and sellers, this limits creativity, innovation and growth of new ideas within the business operations.
2) **Loss of reputation for firms:** due to excessive and wasteful competition, some individual firms lose their reputation because of adopting ineffective means of competing with their fellow competitors.

3) **Limited consumer's choice at the market:** since all commodities are homogenous in the whole market, the consumers are not able to get a variety of commodities within the market which limits their satisfaction levels.

4) There is no chance of achieving maximum profit due to that a huge number of suppliers are selling are similar products.

b.

i) Credit multiplier and total deposit Liabilities

Given:

Reserve Asset Ratio = 15%

Increase in total cash deposit = FRW 180,000 million

Calculation of credit multiplier

Formula for Credit Multiplier = 1/Reserve Asset Ratio

Given that the Reserve Asset Ratio is 15%,

Credit Multiplier = 1/0.15 = 6.67

Therefore, the credit multiplier is 6.67.

Calculation of Total Deposit Liabilities:

Total deposit liabilities are calculated by multiplying the increase in total cash deposit by the credit multiplier.

Total Deposit Liabilities = Increase in total cash deposit * Credit Multiplier

Total Deposit Liabilities = FRW180,000 million * 6.67 = FRW1,200,600 million

Therefore, the total deposit liabilities resulting from the deposits made is FRW 1,200,600 million.

ii) Conflicting aims of the commercial banks

Commercial banks are banks which are opened mainly for profit making objectives. They are mainly engaged in lending and deposit business to the public.

Those aims are made up of aspects of bank lending namely as profitability, liquidity and security which are evident in commercial banks asset structure. They also hold property and equipment. These aspects have to be considered when taking deposits or making loans but they can work against each other.

The conflicting aims of commercial banks are explained as follows:

1) **Profitability:** must be achieved to satisfy the banks' shareholders. Liquid assets represent 2% of total assets. Near-liquid assets represent 25% of loans, bills, gilt-edged securities, CD's. The biggest bank profits come from lending at higher rates of interest:

- long-term lending is usually at higher interest rates than short term lending.

- Higher risk lending also commands higher interest rates.

2) **Liquidity:** a bank must hold liquid assets for the following reasons:
- Notes and coin to meet demands for cash withdrawals.
- A bank account to settle debts with other banks
- "Operational deposits" held with the central bank, The National Bank of Rwanda (NBR.)
- "Near-liquid" assets (i.e. quickly changeable into liquid assets) to cover "extra" surges in demand for cash to meet NBR regulations.

3) **Security:** banks must be stable and secure, or no one will deposit money with them. So banks must lend wisely with a strong likelihood that the loans will be repaid in full, on time with interest. Often banks get security against a loan (E.g. mortgage backed, assets or life assurance).

iii) Limitation encountered by commercial banks in credit creation process:

Credit creation is the process of providing loans from the deposits received from the bank customers. Credit creation is made in consideration of the regulatory requirements relating to lending.

Limitations encounter in credit creation include the following:

1) **High rate of statutory reserve requirements:** The statutory reserve requirement to be deposited in the central banks limits the amount of money that banks can lend and this decreases the bank's ability to create credit which in return limits credit creation within the commercial bank.

2) **Liquidity problems:** Banks tend to provide much credit and this affects banks, they tend to suffer from insufficient liquid funds which can lead to financial instability.

3) **High Capital adequacy ratio:** Regulatory authorities impose high capital adequacy ratio on commercial banks to ensure they have enough capital to absorb potential losses and this requirement limits the amount of credit commercial banks can create since excessive lending could erode their capital base and hinder their financial stability.
4) **Creditworthiness of Borrowers:** Commercial banks face limitations in credit creation due to the creditworthiness of borrowers where borrowers are deemed too risky, banks may either deny them credit or offer it at higher interest rates, which can limit the overall volume of credit creation.

QUESTION SIX

Marking guide

Criteria	Marks
a. Calculation of the MPC and MPS for Kalinda.	
Formula for Marginal propensity to Consume (MPC)	0.5
Calculation of Initial disposable income	1
Calculation of change in income	0.5
Calculation of change in consumption	1
Calculation of Marginal Propensity to Consume(MPC)	1
Formula for Marginal Propensity to Save (MPS)	0.5
Calculation change in saving	0.5
Calculation of Marginal Propensity to Save (MPS)	1
Maximum marks	6
b. i) Price Elasticity of Supply in Nyakabuye market	
Formula for Price Elasticity of supply	1
Calculating percentage change in quantity supplied	1
Calculation of Price elasticity of supply	1
Interpretation of the results	1
Maximum marks	4
ii) How price elasticity of supply affect determination of the indirect taxes	
Inelastic supply	2
Elastic supply	2
Maximum marks	4
c. Effect of price change on consumer choice at the market	
Income effect	2
Substitution effect	2
Practical example to each effect	2
Maximum marks	6
Total	**20**

Model answers

a. Calculation of the Marginal Propensity to Consume and Marginal Propensity to Save for Kalinda.

$$\text{Marginal Propensity to Consume (MPC)} = \frac{\text{change in Connsuption}}{\text{Change in income}}$$

Calculation of Disposable income

Total Income = FRW 6,000,000

Total Deductions = FRW 1,345,000

Disposable Income (DI) = Total Income - Total Deductions

DI = FRW 6,000,000 - FRW 1,345,000

DI = FRW 4,655,000

Change in income

Final Monthly Income after Restructuring:

Salary Increase by 20% = FRW6,000,000 + (20% * FRW6,000,000)

New Salary = FRW6,000,000 + FRW1,200,000

New Salary = FRW7,200,000

Change in Income=New Salary-Initial Income

NB: Monthly income which is considered must be disposable income

Change in Income=FRW7,200,000 - (FRW6,000,000- FRW1,345,000)

Change in Income=FRW2,545,000

Change in consumption

Initial Consumption (C1) = DI - Initial Saving

C1 = FRW 4,655,000 - FRW1,450,000

C1 = FRW 3,205,000

Final Consumption (C2) = New income - Increased Saving

C2 = FRW 7,200,000 - FRW 1,730,000

C2 = FRW 5,470,000

Change in Consumption= Final Consumption-Initial Consumption

Change in Consumption=FRW5,470,000-FRW3,205,000

Change in Consumption=FRW 2,265,000

Calculation Marginal Propensity to Consume (MPC)

Marginal Propensity to Consume (MPC): MPC is the proportion of a change in income that is spent on consumption. MPC = Change in Consumption / Change in Income

MPC = Change in Consumption/Change in Income

MPC = FRW2,265,000 / FRW 2,545,000

MPC = 0.89

Change in saving

Saving into Voluntary Account = FRW1,450,000

Increased Voluntary Saving = Initial Saving + Increase in Saving

Voluntary Saving = FRW 1,450,000 + FRW 280,000

Increased Voluntary Saving = FRW 1,730,000

Change in saving = FRW 280,000

Marginal Propensity to Save (MPS)

Marginal Propensity to Save (MPS): MPS is the proportion of a change in income that is saved. MPS = Change in Savings / Change in Income

$$\text{Marginal Propensity to Save (MPC)} = \frac{\text{change in Saving}}{\text{Change in income}}$$

Initial Savings = Savings into Voluntary Account

Initial Savings = FRW 1,450,000

Final Savings = Voluntary Account + Increase in Savings

Final Savings = FRW 1,450,000 + FRW 280,000

Final Savings = FRW1,730,000

MPS=Change in Savings/Change in Income

MPS=FRW 280,000 / FRW 2,545,000

MPS= 0.11

Proof of computation: MPC + MPS = 1

0.89 + 0.11 = 1

b.

i) Calculation of Price Elasticity of Supply:

Price elasticity of supply refers to the degree of the responsiveness at which the changes in quantity supplied resulted from changes in the price.

Price Elasticity of Supply (PES) is calculated using the formula:

$$\text{Price Elasticity of Supply} = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

Given data:

Initial price (P1) = FRW 480 per kilogram

Initial quantity supplied (Q1) = 45,000 kilograms

Final price (P2) = 21% increase from FRW 480

Final quantity supplied (Q2) = 48,780 kilograms

Calculating the percentage change in price: 21%

Calculating the percentage change in quantity supplied:

= Q2−Q1 / Q1 * 100%

Change in Quantity Supplied = 48,780 − 45,000 / 45,000 * 100%

Change in Quantity Supplied = 8.4%

Now, substituting these values into the formula for Price Elasticity of Supply:

PES = (8.4% / 21%)

PES = 0.4

Interpretation of Price Elasticity of Supply

The elasticity of supply indicates that the supply of sweet potatoes in Nyakabuye Market is relatively inelastic (0 <PES < 1). This means that a change in price leads to a proportionately smaller change in quantity supplied.

ii) How Price elasticity of supply assist in determination of indirect taxes for normal goods.

Price elasticity of supply indicates the position of policymakers regarding taxation as follows:

1) when the Price elasticity of supply tends to be inelastic (0 <PES < 1), there is increased tax burden to the consumers as they are paying higher prices with a decreased level of satisfaction. To this extent, the policy makers will decrease the level of taxes to share the burden with the suppliers.

2) when the Price elasticity of supply tends to be elastic (PES>1), there is increased tax burden on the suppliers as they are charging the low prices to the customers. To this extent, the policy makers will need to increase the level of indirect taxes to shift the burden to the final consumers.

c. Major effects of the price changes on the market

When determining the change in consumer satisfaction price is greatly taken into consideration as the key factor with 2 main effects.

1) **Substitution Effect:** The substitution effect occurs when consumers switch between different goods which can perform the similar role to the existing one with response to price changes. When the price of a particular product increases, consumers tend to substitute it with cheaper alternatives that provide similar utility or satisfaction.

For example, if the price of Beans increases at large extent at the market, the consumers opt to purchase peas at a lower price. This symbolizes the change in consumer choice in respect to changes in prices which also influences the consumer to take on alternative choices.

2) **Income Effect:** The income effect refers to the impact of price changes on consumers' real income and purchasing power. When prices of the goods increases, consumers effectively experience a reduction in their purchasing power as they need to allocate more of their income to purchase the same quantity of goods or services.

For example, if the price of necessity goods increases, consumers may find themselves spending a lot on necessity goods. At this extent, they will need to decrease other spending so as to be able to adjust on the that occurred within the market. As a result, consumers may adjust their spending patterns by cutting back on certain goods or services to compensate for the reduced purchasing power caused by higher prices.

QUESTION SEVEN

Marking guide

Criteria	**Marks**
a. Levels of production	
Primary production	2
Secondary production	2
Maximum marks	4
b. Additional objectives of the firm other than profit maximization	
Maximization of the shareholder's value	2
Corporate social responsibility	2
Any other valid point attracts 2 marks	
Maximum marks	4
c. i) Graphical representation of economic rent for Sekamana	
Drawing and indicating values on graph	2
Calculation of the economic rent	1
Explanation of economic rent	2
Maximum marks	5
ii) Quasi rent definition	2
Maximum marks	2

d. i) Calculation of price level using Quantity theory of money	
Formula for Quantity theory of money	1
Detailed calculation of price level	2
Maximum marks	3
ii) Criticisms of Quantity theory of money	
It assumes Constant Velocity of money	1
It considers only nominal factors and neglect Real Factors	1
Any other valid pint attracts 1 mark	
Maximum marks	2
Total	**20**

Model answers

a. Difference between primary and secondary production

1) **Primary level of production**: this is the first level of production for all production process. This level involves the extraction of the primary products/ natural resources into the finished products. It involves less or semi-skilled labour.

Examples: Agriculture, Inland fishing, underground mining, etc.

2) **Secondary level of production**: this is production mainly dominated by manufacturing. This level involves transformation of the raw materials into the finished products.

Example: Manufacturing of juices from harvested fresh fruits, manufacturing of jewellery from mined precious metals, etc.

b. Additional objectives of the firm other than profit maximization

In the traditional environment, the shareholders only aimed at profit maximization objective. Currently depending on trends over the business operations, other relevant objectives have been considered as core to business including:

1) **Maximization of shareholders' wealth:** under the current business environment, the shareholders are interested in seeking for the long term returns on investment nd this has created greater concerns on focus on making the strategic investments over the long term for long term sustainability.

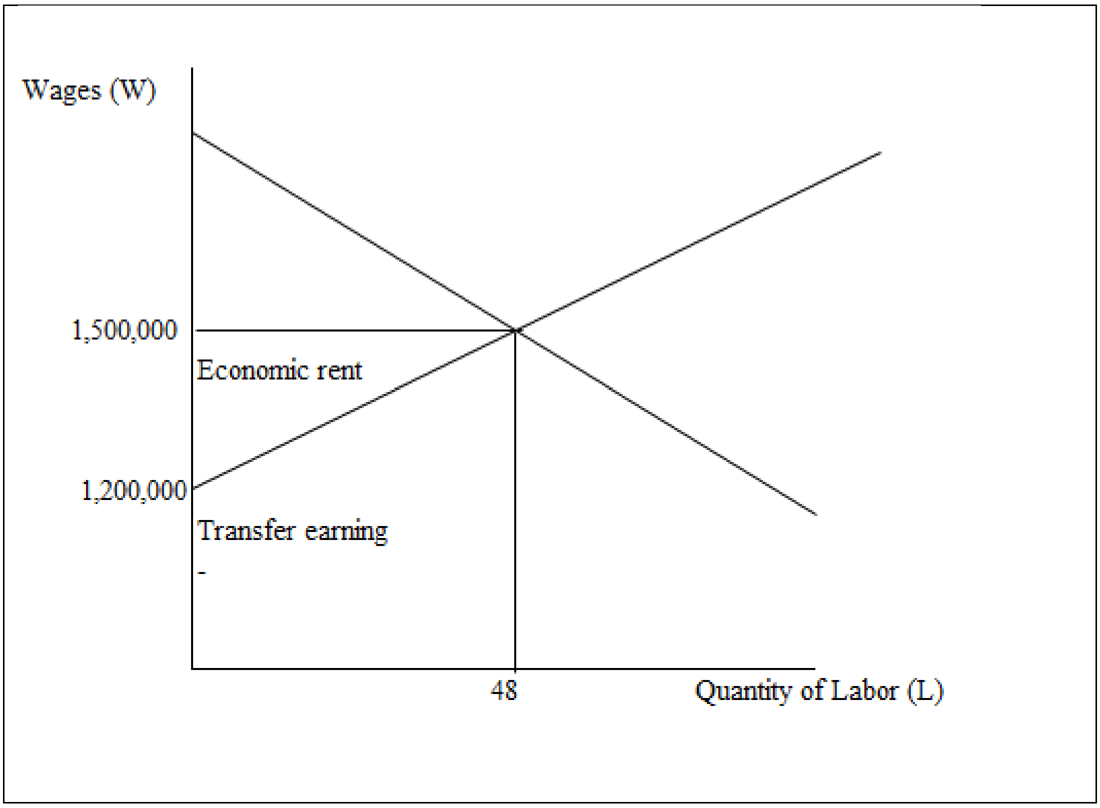
2) **Corporate social responsibility:** According to the current environment, firms are always required to practice the corporate social responsibility by facilitating the development of community welfare other than looking out only on their profit. Notably, in the current environment, firms have also engaged the corporate social responsibility managers.

c.

i) Graphical representation of Sekamana's economic rent

Economic rent is the surplus payment received by a factor of production above the minimum required to keep it in its current use. In our case, Sekamana is currently earning FRW 1,200,000 within a period of 48 hours in his local company but has an offer from an international organization for FRW 1,500,000 per month.

Graphical representation Sekamana's economic rent



Economic Rent = New earnings - Current Earnings

Economic Rent = FRW 1,500,000 - FRW 1,200,000

Economic Rent = FRW 300,000

Sekamana will be able to enjoy economic rent of FRW 300,000 as the demand price (reward) for labour as a factor of production and its supply price.

ii) Quasi rent

The term 'quasi-rent' refers to a form of economic rent for a factor of production whose supply is temporarily highly inelastic or completely fixed. The use of "quasi" indicates that, in the long run, supply is not fixed.

Example: A sport player becomes popular very quickly. The few people who are star performers at the time of the popularity surge, suddenly became well known and in great demand for competitions and appearances. Their earnings rose very quickly but contain a high rent element. These high earnings have the ability to attract sport talented people who had not previously considered a serious career in it. The standard of performances will increase, so as the number of star performers.

d.

i) Calculation of the price level using Quantity theory of money:

To calculate the price level within the economy of Rwanda based on the information provided, we can use the quantity theory of money equation:

MV = PQ

Where:

M is the total amount of money in circulation

V is the velocity of money

P is the price level

Q is the quantity of final goods purchased

In our case,

M =90,000,0000 V = 230 Q = 430,000 Tones P =?

The computation of the price level equals:

$$P = \frac{MV}{Q}$$

$$P = \frac{90{,}000{,}000 * 230}{430{,}000} = 48{,}140$$

Therefore, the price level within the economy of Rwanda is approximately to FRW 48,140.

i) **Criticisms of the Quantity Theory of Money**:

1) **It assumes Constant Velocity of money**: In reality, the velocity of money can fluctuate due to changes in consumer behaviour, technological advancements affecting payment methods, or shifts in economic policies. This assumption limits the accuracy and applicability of the theory in dynamic economic environments.
2) **It considers only nominal factors and neglect Real Factors**: Theory focuses only on monetary factors and neglects real variables such as productivity, technology, and resource availability.
3) **It assumes that total number of quantities of goods purchased is fixed at the full employment level may be inappropriate**. If there is unemployment in the economy, then an expansionary monetary policy may lead to an increase in real output.
4) Theory do not specify how amount of money in circulation is determined as it only considers available balance circulating within the economy.

END OF THE MARKING GUIDE AND MODEL ANSWERS