CERTIFIED PUBLIC ACCOUNTANT

FOUNDATION LEVEL 2 EXAMINATIONS

F2.2: ECONOMICS AND THE BUSINESS ENVIRONMENT

DATE: THURSDAY, 28 JULY 2022

MARKING GUIDE & MODEL ANSWERS

QUESTION ONE

Marking Guide

	Marks
a)	
i. Definition	2
ii. Calculation of PPF (2 marks figures, 2 marks answer)	4
iii. Explanation (2 marks for explanation + 1 mark each example)	6
b)	
i. Supply law explanation	2
ii. Determinants (1 mark each)	6
Total	**20**

MODEL ANSWERS

(a)(i) Marginal Opportunity Cost refers to extra expenses to a firm or cost incurred in production extra unit of one item or product of choice. The fact that this cost involves all expenses; it affects or weakens opportunity of production to other items or products.

(ii) PPF curve shift

10 Units of machines equivalent to 1000 Units of fruits in costs of production
1 Unit of Machine equivalent to 100 Units of fruits
1 Unit extra production causes an opportunity cost of 100 Units of fruits.

iii) Use of Opportunity Cost includes; Examples in Rwanda depend on explanations.

- It answers the economics science of what goods to produce in case at operation on resources being fully employed and operates on principle of increasing opportunity cost. Example: A farmer in Rwanda chooses to plant Maize in place of sweet potatoes; the opportunity cost is planting a different crop, or an alternate use of the resources (land and farm equipment).
- It provides rigorous definition of scarcity and feasibility given the current state of technical knowledge and resources.
- It also answers the three basic economic problems; What, How and For Whom? A key to effective resource utilization to maximize profits in the long run.

Example: Kigali AB Ltd, investing FRW 100 million in African stock exchange returned FRW 2 million while the same amount invested in UK stock exchange would have returned a larger FRW 10 million, The FRW 8 million difference is the opportunity cost of choosing investing in African stock exchange over UK stock exchange.

(b)(i) The Law of supply states; "Other factors remaining constant, the higher the price the higher the quantity supplied and vice- versa."

(ii) Determinants of Supply. Shift to right and left or increase and decrease. Input prices – these determine cost of production.

- Cost of production: an increase in price of factors of production leads to an increase in cost of production hence lower the quantity suppliers will offer at any price, shifting the supply curve to the left. A reduction in factor prices increases the quantity suppliers will offer at any price, shifting the supply curve to the right.
- Technology levels – this determines the quality and quantity of production.

Level of technology: the more the use of modern technology the higher the supply and vice versa

- Local and global expectations in market trend – demand determines supply.
- Number of sellers in market – size of suppliers determines supply rate:

A change in the number of sellers in an industry changes the quantity available at each price and thus changes supply. An increase in the number of sellers supplying a good or service shifts the supply curve to the right; a reduction in the number of sellers shifts the supply curve to the left.

- Aggregate national income and population distribution – size of population.
- Tastes and preferences – that attract consumers to increase supply.
- Tastes and preferences: Movements in taste changes the quantity of a good demanded at every price: that is, they shift the demand curve for that good which affects supply of that good.
- Expectation of future price changes – may be lower or higher in future:

All supply curves are based in part on seller expectations about future market conditions. Many decisions about production and selling are typically made long before a product is ready for sale. Those decisions necessarily depend on expectations. Changes in seller expectations can have important effects on price and quantity.

- Climatic / seasonal factors – supply required during certain periods

Natural events: e.g: Climatic Conditions: Natural events like weather, pests, floods, etc affects supply of agriculture products. If weather condition is favorable, the supply of agricultural products will increase, the last will decrease when weather condition are unfavorable.

- Government influence – through subsidies, attracting supply of goods & services.

Government influence trough policies affects supply in the one way another:

✓ Taxes: A tax increases the cost of production, It reduces the firm’s profits, hence discouraging production and thus reduction in supply.
✓ Subsidies: A subsidy is an incentive to encourage production. Its help the producer to lower their cost of production, hence encouraging production and thus increase in supply.
✓ Quotas: A quota is a restrictive quantity imposed by the government to discourage the supply of imported goods. This thus leads to reduced supply.

- Advertising and persuasive efforts – attracts consumers and increases supply.

QUESTION TWO

Marking Guide	**Marks**
a) Factor (1 mark each with an example x 4 = 4 marks)	4
b)	
i. Definition (2 marks)	2
ii. Differentiation (4 marks explanation+ 2 mark example x 2 = 8 marks)	8
c)	
i. Calculation (Formula 1 mark + 2 marks for figures + 1 mark for answer =4 marks)	4
ii. Interpretation (1 mark + reason 1 mark = 2marks)	2
Total	**20**

Model Answers

(a) Determinants of economies of scope:

- Flexibility in multiple manufacturing processes using available technology and inputs.
- Diversification through use of available resources and skills for variety production.
- Merging of firms that promote sharing of research and development efforts to manufacture the variety.
- Size of market in an economy that attracts demand for a variety of products to satisfy customer interests.
- Competitive market structures that attract transformation through creation of a variety to dominate market base.
- Advancement in technology that is promoting extensive research and change to suit the current market trend.
- Profitability of firms that attracts expansion using available resources through re-investment or holding profits with variety production.
- Continuous market research efforts that open doors to specific customer interest and a variety of production efforts.
- Examples in Rwanda: Airtel – Tigo Merger, Inyange – multiple products, MTN – multiple, Buralirwa - multiple

(b)(i) Utility refers to the total satisfaction derived from consumption of a good or service.

(ii) Comparison of cardinal and ordinal utility:

- Economists believe that cardinal utility or satisfaction is measurable and customers can express satisfaction quantitatively in numbers. While, ordinal utility studies consumer behavior and attitude towards satisfaction hence more realistic because it's based on qualitative measurement of goods and services towards consumer satisfaction.
- With cardinal utility, the measurable satisfaction derived from consumption of a product is equal to the amount consumers are willing to pay. On the other hand, Ordinal utility satisfaction derived by consumer of good or service cannot be expressed numerically in unit; satisfaction is just ranked in terms of preference in comparison to others.

- Cardinal utility arises from non-rational satisfaction to consumers based on numerical decisions in line with quantity of utils in comparison to price. While, Ordinal utility arises from rational satisfaction to consumers hence a clear illustration of attitude and behaviors of consumers.
- Ordinal is based on the indifference curve approach hence in line with a modern trend consumer view on products for satisfaction. While Cardinal is driven on marginal utility approach where by use of money remains constant irrespective of levels of consumer income. This fully attached to consumption of necessities that hold constant level of requirement.

(c)Therefore, cardinal utility is measured subjectively in line with the required units and a standard pay expected. While Ordinal utility is measured objectively hence becoming a modern trend measure of preference based on deeper consumer interests attached to specific products of choice.

(d) (i) Calculation of price elasticity of demand at current price:

- At FRW 1 demand per day is 100 units.
- % Change in demand = 30/100 x 100 = 30%
- % Change in price = 0.50/1x100 =50%
- Price elasticity of demand at Rwf1 = 30/50 = 0.6

(ii)

- Demand is inelastic.
- Reason: Less than 1.
- Interpretation is change in price attracts a minimal change in quantity demanded.

QUESTION THREE

Marking Guide	**Marks**
a) Cost of Production formula (1 mark + calculation of total cost 2 marks= 3 marks)	3
b) Stating the law (2 marks, + each step explained 2 x 3 marks, =1 x3 mark each example given = 9 marks	9
c) Factors (Each factor 1 mark x 8 pts = 8 marks	8
Total	**20**

Model Answers

(a) Calculation of the total cost:

- Total cost= Variable Cost+ Fixed Cost
- Variable cost = 2 x FRW 150,000 = FRW 300,000
- Total cost= FRW 300,000 + FRW 200,000 = FRW 500,000

(b) The Law of Diminishing Marginal Productivity/ Returns:

It states that; "if equal amounts of one variable input are added, while all other inputs are kept fixed, total product may increase, but after some point the additions to total product will begin to decreases.

The law of diminishing returns, also known as Diminishing Marginal productivity states that an additional amount of a single factor of production will result in a decreasing marginal output of production. The law assumes other factors to be constant. It means that if A produces C, there will be a point when adding more quantities of A will not help in a marginal increase in quantities of Y.

- The Law leads to three stages of production based on the assumption that inputs combination in the short run includes; one factor of production that is fixed and another variable which will effect change in output.

1. Increasing returns: In this stage TP, AP & MP are all increasing although MP later starts to decrease. It's called increasing returns because both AP and MP are increasing. In other words
2. Stage one is the period of most growth in a company's production. In this period, each additional variable input will produce more products. As an example, if one employee produces 10 books by himself, two employees may produce 25 books between the two of them. All three curves are increasing and positive in this stage.

3. Diminishing Returns: In this stage AP & MP are decreasing and TP is increasing. But at this stage MP is still positive and hence the TP will continue to increase. The stage ends where MP reaches zero and TP maximum.
4. In other words:
5. Stage two is the period where marginal returns start to decrease. Each additional variable input will still produce additional units but at a decreasing rate. This is because of the law of diminishing returns: Output steadily decreases on each additional unit of variable input, holding all other inputs fixed. For example, if a previous employee added 15 more books to production, the next employee may only add 9t more books to production. The total product curve is still rising in this stage, while the average and marginal curves both start to drop
6. Negative returns: This marks change in direction of TPP curve, while APP continues to diminish and MPP is in negatives, which distinguishes from other stages. In other words:
7. In stage three, marginal returns start to turn negative. Adding more variable inputs becomes counterproductive; an additional source of labor will lessen overall production. For example, hiring an additional employee to produce books will actually result in fewer books produced overall. This may be due to factors such as labor capacity and efficiency limitations. In this stage, the total product curve starts to trend down, the average product curve continues its descent and the marginal curve becomes negative.

Factors that can sustain profit maximization:

- Effective exploitation of economies of scope. Through use of under-utilized resources to register maximum with variety of goods.
- Engagement of modern trend corporate management competencies. This is to allow employment of few very competent managers that use skills to attract returns at high rate on time.
- Exploit superior internal processes of production. This attracts diversification and large-scale output hence new markets bases.
- Prepare a communication plan: You can never communicate too much during a crisis. Your communication plan should target: (employees, customers, suppliers
- Carefully craft a clear and concise message, schedule regular updates and optimize technology to send your messages. Put someone you trust in charge of doing this.
- Evaluate capacity and resources: Now for the additional things you need to do beyond managing customers and suppliers. e.g: Modify health and safety practices: You will need to change your health and safety practices. Industry leaders, for example, are telling customers how they are packing and handling products in light of COVID-19. You have the same responsibility. This will have a cost impact. Estimate the impact and factor it into your plan.
- Merging of firms to attract high levels of technology, labour and finance without sourcing from outside circles of the business.
- Increase market power and strength to challenge competitors through subsidies to businesses from profitable businesses to build long run linkage.
- Effective response to market declines in times of crisis like currently. This can include investing of spare funds or re-investing profits instead of return to shareholders to re-ignite firms.
- Prepare for the recovery: There is a light at the end of the tunnel. We just don't know how long that tunnel is. Here we have overlaid business activity against active COVID-19 cases. You will see that once the cases have peaked, we will recover. At recovery you will need to stay ahead of the game: firm up orders, purchase materials, recall employees, receive new shipments, operationalize, etc
- Spread business risks to a wide range of markets. This means having more than one market base so as to sustain business in times of trouble.
- Attract new users through group diversifications to enable firms enhance production of new products for new customers.
- Source government intervention in time of extreme crisis aimed at tax holidays, financial rescues, expanding market bases.

QUESTION FOUR

Marking Guide

	Marks
a) Study table.	
i. Calculation of TP, AP, MP (Each figure 1 mark x 6 figures = 6 marks)	6
ii. Explanation of figures (Each 1 mark x 6 figures = 6 marks)	6
iii. Economic reasons (Each knowledge based explanation 1 x3 pts = 3 marks)	3
iv. Monopoly – short run (Each step undertaken 1 mark x 5 points = 5 marks	5
Total	**20**

Model Answers

(a)(i) Calculations: Total Product (TP) = AP x No of Workers 10, 42
Average Product (AP) TP/ No of Workers = 9, 6
Marginal Product (MP) DTP/D No of Workers = 14, -2

No of workers	Total Product (TP)	Average Product (AP)	Marginal Product (MP)
1	3	3	3
2	10	5	7
3	24	8	14
4	36	9	12
5	40	8	4
6	42	7	2
7	42	6	0
8	40	5	-2

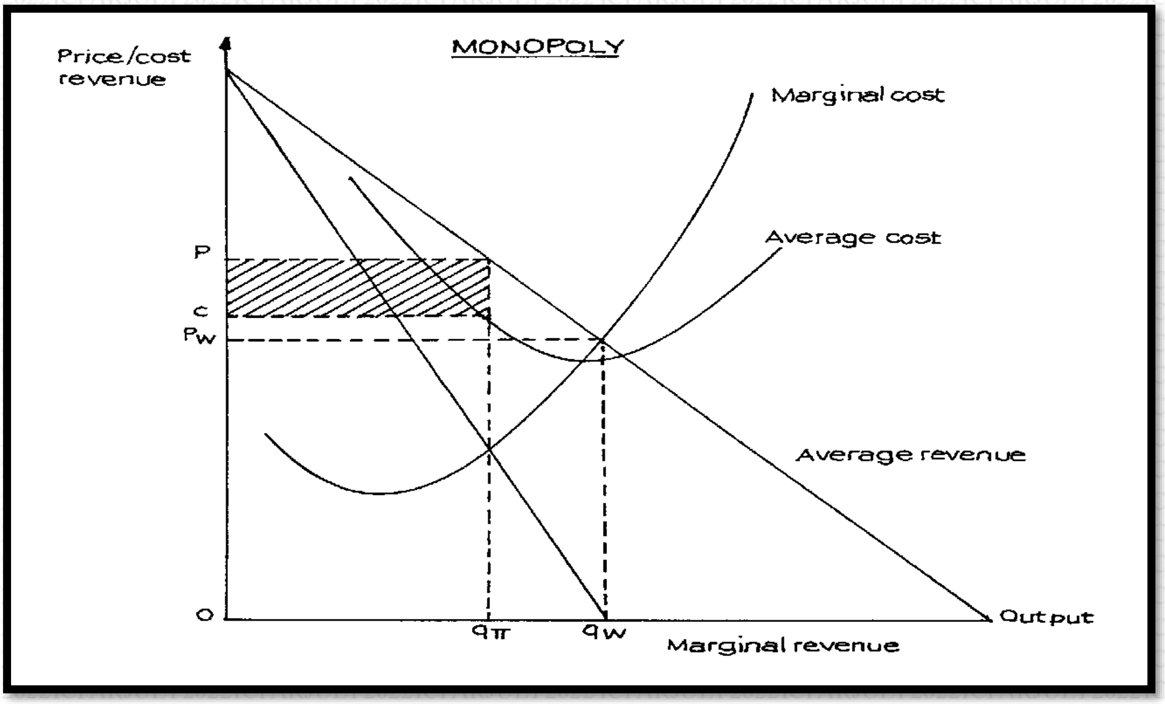
(ii) Relationship between TP, AP and MP

1. Without production no effect is registered in all areas, however with first production levels all level are equal and any further production results into an increase until a certain point.
2. However, after a certain point the MP starts to diminish, because total production is lower than average production although it's a positive until total product is at maximum.
3. Beyond maximum output average product will start to decline and marginal product will move to negatives. At this point firms are operating in losses.

(iii) Economic reasons behind the relation between TP, AP & MP.

- Profit maximization remains the key goal for any firm and production beyond or at a loss must be avoided.
- Total output must end at a point where average output starts to decline.
- Maximum output must not exceed a point where average cost is at maximum and marginal product has started to decline. A point beyond this in a short run is a loss to the firm

(b)How monopoly firms determine output, price and profits from the short run.



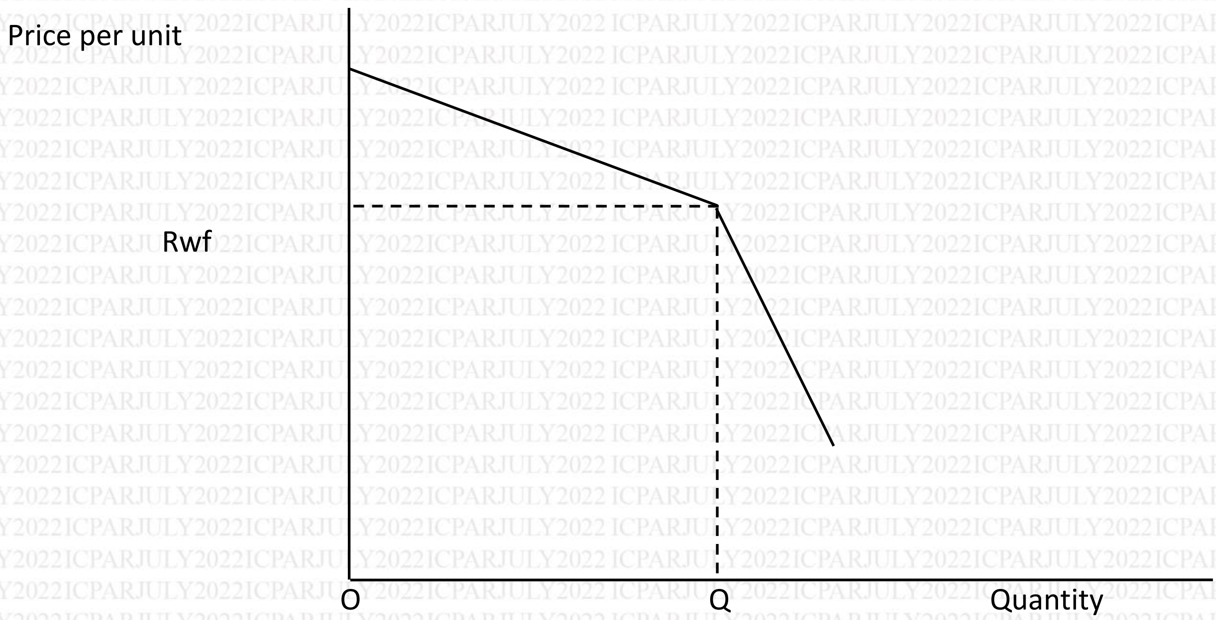
- As single producers or suppliers with many buyers in market they determine or set prices of products that are profitable to them.
- A single product with no substitutes determines output and consumers have no choice but to buy the product.
- Without persuasive advertisement but only informative firms guide consumers on the usefulness of a product hence attracting their interest.
- The fact that entry of other firms is blocked or highly restricted opens door to high profit levels.
- The main aim of producers is profit maximization that is obtained at a point where MC=MR (Marginal cost equals marginal revenue).
- Monopolists use price discrimination by charging different prices to different consumers for same quantity and quality of products.
- Monopolists earn supernormal or excess profits both in the short run and long run because they block entry of new firms to share profits.
- Monopolists can either control prices or levels of output both in short run and long run because consumers can reject the commodity if all imposed to them is extreme.

QUESTION FIVE

Marking Guide	**Marks**
a) Kinked Demand curve	
i. Two assumptions (Each 1 mark x 2 points = 2 marks – No mark for curve)	2
ii. Four characteristics (Each 1 = 4 marks, all examples 1 mark = 5marks)	5
iii. Three reasons of stability (Each 1mark x 3 points = 3 marks)	3
b) Types (Each 2 marks with explanation x 5 = 10 marks)	10
Total	**20**

Model Answers

(i) Assumptions of the Kinked Demand curve:



1. The kinked demand curve explains that over time a common market price tends to be established in Oligopolistic industry because if one firm raises price above the ongoing market price, other will not follow hence will experience a drop in market.
2. On the other hand, if a firm lowers prices, other firms will follow and hence the demand for product will be much less elastic with respect to price, than it will for price rise.

In summary, the kinked demand curve explains that the response to a price increase is less than the response to a price decrease.

(ii) Characteristics of Oligopoly firms:

- Few firms and large in size hence huge capital base.
- They offer close substitute products as firms.
- Firms recognize mutual existence and interdependence.
- Barriers of entry into industry exist based on requirements to start.
- Firms may produce identical or differentiated products.

- Non-Price competitive because they are price takers.
- Super normal profits in short and long run based on market size.
- Examples of Oligopoly firms in Rwanda: MTN, AIRTEL, Scol, Buralirwa Beverages

(iii) **Why price stability of oligopoly firms in the long run:**

- Mutual Interdependence: this refers to a situation where the market share of one firm is significantly affected by the actions of one or more of its rival firms.
- Concentrated industry: has a large percentage of its output produced by a few firms.
- Cartel: The firms in an oligopoly finally agree on a price to charge and on the market share for each firm. Thus, they act very much like a monopoly.

(a)Five types of Unemployment:

1. Structural Unemployment – Long term changes that create loss of jobs. Covid-19 crisis best example.
2. Technological Unemployment – automation replacing manual labour.
3. Cyclical / Demand deficiency Unemployment – during recession and depression in an economy.
4. Frictional Unemployment – difficulty to march labourers with available jobs. It's a transitional short-term unemployment.
5. Seasonal Unemployment – during certain periods jobs fade out.

QUESTION SIX

Marking Guide	**Marks**
a) National Income at factor cost and market price.	
i. Differentiation (Each 1 mark x 2 explanations = 2 marks)	2
ii. Benefits (Each 1 mark x 6 points = 6 marks)	6
b) Balance of payment.	
i. Components (each 2 marks = 6 marks)	6
ii. Rise TOT (Each method 1 mark x 6 points = 6 marks)	6
Total	**20**

Model Answers

(a)(i) **Differentiating national income at factor cost and market price:**

National income at factor cost refers to the aggregate income earned by those factors of production from residents domestically and abroad, less any effects of subsidies or indirect taxes.

National income at market price refers to the total value of all the final goods and services produced by residents domestically and outside the country including all costs involved.

(ii) **Benefits of import substitution:**

- Increases employment opportunities – through establishment of industries to replace imported products.
- Helps in improving the balance of payment and terms of trade – through reducing expenditure on formerly imported products creating earnings from abroad.
- It helps in saving scarce foreign exchange reserves for investment in other ventures.
- Reduces foreign dependency since countries will be able to produce own products.
- Promotes development of local skills through training on new industries.
- Creates ground for exploitation of idle domestic resources to produce all relevant products locally that promotes creativity.
- Accelerates the expansion of the manufacturing sector through linkages of growing industries.
- Facilitates the transfer of technology using the better and modern trend methods in the private investors, attracting foreign direct investment
- Facilitation of growth and development of infrastructure – including roads, banks, schools, with a positive impact to all sectors.

(b)(i) **Components of the Balance of payment:**

1. Current account – this measures the international trade balance, plus effects of net income on investments and direct payments. If people activities in a country provide enough income and savings to fund all purchases, business activities and government infrastructural spending the current account will balance. However, when a nation's current account is in deficit, it means its citizens spend more on imported goods than they keep in savings. A current account deficit can result in a nation borrowing money from another to fund its deficit.

2. Capital Account – these measures financial transactions that don't affect the country's income, production, or savings. It's a smallest component of the balance of payments and its activities rare.

3. Financial Account – this measures changes in domestic ownership of foreign assets and foreign ownership of domestic assets. If foreign ownership increases more than domestic it creates a deficit, because it means the nation sells more assets than it gains. The financial account is in balance when a country's ownership over foreign assets equals the ownership that other nations have over its domestic assets,

4.

(ii) How to improve global terms of trade for Rwanda.

- Processing of primary products for export – the idea is to add value through made in Rwanda systems to make them attractive exports to world market.
- Adoption of import substitution strategy through industrialization to produce imported products locally.
- Diversification of export market – through identification of highly paying markets for Rwandan exports.
- Use the regional cooperation's or integrations of free trade environments to expand market base.
- Encouraging importation from cheaper sources like China to avoid trade deficits of expensive imports.
- Promotion of economic scope methods to create the production of the variety of products that will be traded abroad.
- Offer services that are globally marketable for tourists to attract foreign exchange inflows that will generate surplus trade returns.
- Strengthening of commodity agreements in order to bargain for higher prices, that increases gain from international trade.
- Stabilization of foreign rate so as to keep prices of imports low while rising exports.

QUESTION SEVEN

Marking Guide	**Marks**
a) Inflation	
i. Distinguishing (Each description 1 mark x 2 = 2 marks	2
ii. Effects (Each I marks x 4 points = 4 marks)	4
iii. Steps (Each 1 mark x 4 points = 4 marks)	4
b) Benefits (Each explained 1 mark x 10 points = 10 marks)	10
Total	**20**

Model Answers

(a)(i) Distinguishing between Demand Pull and Cost Push inflation:
Demand Pull inflation refers to an economic situation where aggregate demand exceeds aggregate supply. It has an upward effect on prices that follows a shortage in supply.

Cost-push inflation refers to a situation of substantial increase in the cost of goods and services due to increase in wages and raw materials hence an overall rise in the cost of production.
Or cost push inflation is when the aggregate demand is same and the fall in aggregate supply due to external factors will result in increased price level

(ii) **Effects of high inflation to consumer welfare:**

- It weakens or removes purchasing power in form of how much the currency can buy in a market.
- It weakens a currency value resulting into consumers spending on stocking of items for future use.
- It negatively impacts on the cost of living, due to effects on doing business, interest rates of borrowing, mortgages that directly affects the welfare of community, because companies and individuals will not be able to borrow cheaply to start a business, earn a degree, hire new workers, which affects the welfare of the population.
- It increases the opportunity cost of holding money because of uncertainty which directly discourages investment and growth of welfare.
- Rapid inflation results into shortage of goods as consumers begin hoarding or stocking for fear of price increases overtime.

(iii) Step to control rate of inflation:

- Credit control – control the quality and quantity of credit through raising bank rates, selling securities in open market, raises reserve ratio to control demand pull inflation.
- Demonetization of currency – remove high denominations to avoid abundance of black money in country.
- Issue of new currency – one new note is exchanged for a number of old notes to eradicate hyperinflation.
- Reduction in unnecessary expenditure – government to reduce on non-development expenditure to put a check on private expenditure and money in circulation.
- Increase in savings – as a means of reducing disposable income to public hence reduction in personal expenditure.
- Surplus budgets – use anti-inflationary budget policy through collecting more revenues and spending less to attract surplus budget.
- Public debt – stop repayment of public debts through postponement to future dates when inflation is down, by instead borrowing more to reduce money supply in public.
- Increase in taxes –to cut personal consumption, although not so high to weaken savings for investment.
- Increase production – of essential products in the market.
- Price control – fixing upper limits of prices as maximum by law

(b) Benefits of trade liberalization:

- Leads to efficiency in production – competition rise promotes quality products and with reliable quantity.
- Improves 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.
- Increases government revenue – it attracts more people into production activities and trade which is a source of revenue in tax to government.
- Increases consumer sovereignty – which results from freedom of choice with rising enterprises.
- Encourage foreign direct investment – through attraction of investors to Rwanda because of freedom of performance with improved technology and skills.
- Reduces 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.
- Leads to increase in resource utilization – with greater local and private investment by taking advantage of policy to fully utilize idle resources.
- Encourage innovation and inventions – through engaging into production ventures driven on self-interest and profit motives that attract creativity.
- It increases 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.
- Promotes 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.
- Increased innovation and entrepreneurship- which promotes high risk taking by investors through giant capital investments a key to innovation.
- Reduced risk in business ventures due to wide market situation and freedoms of interaction in entrepreneurship which opens doors to a variety of activities.

END OF MARKING GUIDE AND MODEL ANSWERS