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**CERTIFIED PUBLIC ACCOUNTANT**  
**FOUNDATION LEVEL 2 EXAMINATIONS**  
**F2.2: ECONOMICS AND BUSINESS ENVIRONMENT**  
**DATE: THURSDAY 28, AUGUST 2025**

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**INSTRUCTIONS:**

1. Time Allowed: **3 hours 15 minutes** (15 minutes reading and 3 hours for writing).
2. This examination has **seven questions** and **only five questions** should be attempted.
3. Marks allocated to each question are shown at the end of each question.
4. Show all your workings where applicable.
5. The question paper should not be taken out of the examination room.

## QUESTION ONE

a) In recent years, the agricultural sector has seen significant investment through partnership between the public and private sectors and initiatives like Smart Nkunganire System and private agribusiness firms involved in horticulture export have improved productivity and access to inputs.

### Required:

- i) Using the case above, **briefly discuss the concept of an economic system adopted.** (2Marks)
- ii) **Discuss four advantages and four disadvantages of the system identified in the case study above.** (8Marks)
- iii) **Explain any two examples of how the private sector contributes to agriculture under this system.** (2Marks)

b) In the city of Kigali, a local agribusiness firm called Agri-Vision Ltd supplies tomatoes to supermarkets and hotels. Last Month, Agri-Vision Ltd increased the price of tomatoes from Frw 800 to Frw 1,000 per kg. As a result, the quantity demanded by customers fell from 2,000kg to 1,600kg per week. At the same time, smallholder farmers responded to the price increase by increasing their weekly supply from 2,000kg to 2,500kg.

### Required:

**Calculate the price elasticity of demand using the provided information and give its economic interpretation in terms of consumer behaviour.** (3Marks)

c) Suppose we have the following market supply and demand schedules for bicycles in the table below:

Price in (Frw)	Quantity Demanded	Quantity Supplied
100	70	30
200	60	40
300	50	50
400	40	60
500	30	70
600	20	80

### Required:

- i) **Plot the supply and demand curves for the bicycles, state the equilibrium price and equilibrium quantity of bicycles.** (3Marks)
  - ii) **Define the terms market surplus and market shortage and calculate the amount of surplus or shortage at a price of Frw 100 per bicycle in this market.** (2Marks)
- (Total: 20 Marks)**

## QUESTION TWO

- a) Define the concepts of total utility and marginal utility, and explain their significance in consumer choice theory. (3Marks)
- b) A consumer gains the following total utility from consuming successive cups of coffee during a workday:

Cups of coffee consumed	1	2	3	4	5	6
Total Utility	25	45	60	70	75	75

### Required:

- i) Compute the marginal utility of each additional cup of coffee. (3Marks)
- ii) By analysing the behaviour of marginal utility across units consumed, what economic principle does this pattern illustrate? (2Marks)
- c) Using relevant examples from the Rwandan economy, explain how inflation can hinder money from effectively performing its main functions. (5Marks)
- d) Define an indifference curve and explain its core properties and explain why do these properties reflect rational consumer behaviour? (3Marks)
- e) Suppose a consumer has a monthly budget of Frw 24,000 to spend on two goods: Coffee Frw1,000 per cup and pastries Frw 2,000 each.

### Required:

- i) Draw a well-labelled diagram for the problem: Then consumer's budget line, at least two indifference curves, one tangent to the budget line, and one below it. (2Marks)
- ii) Using your diagram in (i), explain: How changes in income or relative prices would shift the budget line and affect the consumer's choices. (2Marks)
- (Total: 20 Marks)

## QUESTION THREE

Understanding how input factors of production interact helps business optimize production and allocate resources efficiently.

- a) Define the four factors of production and explain the role of each in the output process. (8Marks)
- b) A firm's production function is given in the table below, where capital is fixed at 5 units and labour varies.

Labour (L)	1	2	3	4	5	6	7
Output (Q)	10	25	45	60	70	75	77

### Required:

- i) Calculate the marginal product of labour (MPL) for each additional worker. (1Mark)
- ii) Plot the total product and marginal product curves based on the table above. (2Marks)

iii) Interpret the shapes of both curves and explain how this demonstrates the law of diminishing returns and the impact on production decisions. (2Marks)

c) Discuss the concept of the production possibility Frontier (PPF) and explain what it reveals about the trade-offs, opportunity costs, and efficiency in an economy using Rwandan economy to support your explanation. (2Marks)

d) A firm's total revenue and total cost functions are given by: Total Revenue  $TR(Q) = 60Q$  and Total Cost (TC):  $TC(Q) = 10Q^2 + 20Q + 100$ .

**Required:**

i) Find the output level  $Q$  that maximizes profit. (3Marks)

ii) Calculate the maximum profit earned at that level of output. (1Mark)

iii) Briefly explain the economic meaning of setting the derivative of the profit function equal to zero. (1Mark)

**(Total: 20 Marks)**

#### **QUESTION FOUR**

a) Markets play a central role in the functioning of an economy by facilitating the exchange of goods and services and ensuring efficient resource allocation.

**Required:**

**Discuss the main six functions of Market in an economy, by explaining how each function contributes to economic efficiency and business decision-making.** (6 Marks)

b) Kigali Cycles Ltd is a private firm that assembles and sells bicycles in Rwandan market. The market for bicycles is competitive and unregulated and prices are determined purely by market forces of demand and supply. The company's economists have estimated the following market demand and supply functions for bicycles measured monthly as follows:

Demand Function:  $Q_d = 120 - 4P$  and Supply Function:  $Q_s = -20 + 6P$ ,

Where  $Q_d$  and  $Q_s$  are the monthly quantity of bicycles demanded and supplied, respectively

$P$  is the market price per bicycle in thousands of Rwandan Francs.

**Required:**

i) Calculate the equilibrium price and quantity for bicycles in this unregulated market (3Marks)

ii) Briefly discuss the likely outcome if the government decided to introduce a price ceiling at RWF 10,000. (1Mark)

c) In recent years, the Government of Rwanda has regulated the prices of essential goods such as fuel and staple foods like maize flour. These interventions are typically aimed at protecting low-income consumers from volatile price increases, especially during periods of global economic shocks or poor harvests.

**Required:**

i) Discuss the rationale behind price regulation in markets. (1Mark)

- ii) **Using the broader Rwandan economy explaining at least two types of regulation and how such interventions may impact supply and demand.** (2Marks)

**d)** In remote region of Rwanda, hundreds of smallholder farmers grow and sell Irish potatoes. Each farmer produces a relatively small amount, and no single farmer can influence the market price. Buyers and sellers have access to market price information through platforms. The product is largely identical across producers, and anyone can enter or exit the business with minimal restrictions or costs.

**Required:**

- i) **Based on the scenario, what type of market structure it is?** (1Mark)  
ii) **Clearly discuss any four conditions necessary for perfect competition, and evaluate how well the Irish potato market in Rwanda fits these conditions.** (6Marks)  
**(Total: 20 Marks)**

### **QUESTION FIVE**

**a)** Rwanda Tea Co. Ltd is one of the tea producers in the country. Initially the company only purchased processed tea from local cooperatives and exported it abroad. However, in recent years, it adopted a vertical integration strategy by acquiring tea plantations and setting up its own branded tea retail outlets in Kigali and Musanze.

**Required:**

- i) **Define vertical integration, and differentiate between backward and forward integration.** (2 Marks)  
ii) **Discuss any three benefits and any three challenges of vertical integration in the context of Rwanda Tea Co. Ltd.** (3Marks)  
iii) **From a certified Public Accountant's perspective, analyse how vertical integration might impact the company's cost structure, financial reporting and profitability.** (2Marks)

**b)** Akagera Business Group Ltd is a well-established Rwandan company that started as a distributor of construction materials. Over the past decade, the company has pursued a diversified growth strategy, expanding into other unrelated sectors. The company believes that diversification helps to spread risk, tap into new revenue streams, and stabilize cash flows. However, it has also uncounted challenges related to capital allocation, managerial capacity, and maintaining focus across very different industries.

**Required:**

- i) **Define the diversified growth strategy, and differentiate related and unrelated diversification.** (2Marks)  
ii) **Discuss three strategic benefits and two major risks of adopting a diversified growth strategy, using the case of Akagera Business Group Ltd.** (3Marks)  
iii) **As professional accountant's perspective, explain how diversification may impact the firm's financial performance, reporting structure and resource allocation decisions.** (2Marks)

**c)** Virunga Coaches Ltd. Is a Rwandan transport company offering intercity bus services across Kigali, Musanze, Huye and Rubavu. To maximize revenue, the company applies different prices for same type of seat depending on the customer segment and time of purchase. Tickets

purchased online in advance are often cheaper than those at the terminal. The company justifies this strategy by pointing to cost recovery, improved capacity utilization, and catering to varied income levels. However, some customers have raised fairness and transparency.

**Required:**

- i) **Define price discrimination, and identify the type of discrimination used by Virunga Coaches Ltd.** (2 Marks)
  - ii) **Discuss two benefits and two drawbacks of using price discrimination for both the firm and consumers** (2Marks)
  - iii) **Evaluate how this pricing strategy can impact profitability and customer perception, especially in the Rwandan service industry context** (2Marks)
- (Total: 20 Marks)**

**QUESTION SIX**

a) The ministry of Finance and Economic Planning in Rwanda is analysing the state of the national economy in the absence of external trade. A recent macroeconomic report estimates the following data for the current fiscal year.

The consumption function is given by:  $C=600+0.8Y$ , Planned Investment (I): 1,000 and Net taxes (T): 1,200.

The Government is interested in understanding whether the current fiscal policy supports macroeconomic equilibrium and how changes in fiscal parameters would affect national output.

**Required:**

- i) **Using the income-expenditure approach, calculate the equilibrium level of national income (Y) for this closed economy.** (3Marks)
- ii) **Determine the level of consumption and savings at equilibrium.** (2Marks)
- iii) **Explain how leakages and injections interact to determine equilibrium in a closed economy.** (2Marks)
- iv) **Briefly comment on how fiscal policy could be used to influence equilibrium income.** (1Mark)

b) The National Economic Planning Unit of Rwanda is studying the simplified two-sector economy to understand how national income is generated through household and firm interactions. In this model, there is no government and no foreign trade only households and firms exist. The following information (in billion Rwandan Francs) has been provided for the analysis:

The Consumption function is given as:  $C=500+0.7Y$  and Planned investment (I) by firms is constant at:800

**Required:**

- i) **Calculate the equilibrium level of national income (Y) using the income expenditure approach for two sector model.** (3Marks)
- ii) **Compute the equilibrium the equilibrium level of consumption and savings.** (2Marks)
- iii) **Briefly explain how equilibrium is achieved in a two-sector model.** (1Mark)

c) In an effort to support economic recovery and promote access to finance, the National Bank of Rwanda (BNR) recently reduced the reserve requirement ratio for commercial banks. As a result, one of the commercial banks operating in Rwanda have increased lending activities across sectors, especially to SMEs and agribusinesses. The management claims that the bank is actively creating money through credit, though some junior accountants are confused by this concept. The finance department is now preparing a report for the board explaining how credit creation works and its implications for the national money supply and monetary policy.

**Required:**

- i) **Define the concept of credit creation, and explain how it contributes to the money supply in an economy** (2Marks)
  - ii) **Discuss three factors that influence the extent of creation in Rwanda's banking system.** (3Marks)
  - iii) **Briefly explain one risk or limitation associated with excessive credit creation from a financial stability perspective.** (1Mark)
- (Total: 20 Marks)**

**QUESTION SEVEN**

a) The Ministry of Finance and Economic Planning (MINECOFIN) is preparing its annual national income statistics and has provided the following macroeconomic data for the year 2024 (values in billion Rwandan Francs).

Component	Value (RWF billion)
Household Consumption (C)	6,800
Gross Private Investment (I)	2,400
Government Expenditure (G)	2,100
Exports of Goods and Services (X)	1,500
Imports of Goods and Services (M)	2,000
Income Earned by Rwandan Citizens Abroad	600
Income Paid to Foreign Workers in Rwanda	400
Depreciation (Capital Consumption Allowance)	500
Indirect Taxes (Net of Subsidies)	300

The Government has tasked a CPA team to analyse these figures for decision-making and reporting to international institutions.

**Required:**

- i) **Calculate the Gross Domestic Product (GDP) at market prices using the expenditure approach.** (3Marks)
- ii) **Compute the Gross National Product (GNP) at the market prices from the GDP.** (2Marks)
- iii) **Determine the Net National Product (NNP) at market prices.** (2Marks)
- iv) **Explain the economic significance of the difference between GDP and GNP in the context of Rwanda's open economy.** (2Marks)
- v) **Briefly discuss how indirect taxes and depreciation affect the interpretation of national income figures.** (1Mark)

**b)** In Recent years, Rwanda has maintained a managed floating exchange rate system, where the value of the Rwandan Franc (RWF) is largely determined by market forces but with occasional intervention by the National Bank of Rwanda (BNR) to stabilize volatility.

Amid growing trade and investment flows within the East African Community (EAC), there has been debate on whether Rwanda should shift toward a fixed rate system to promote regional monetary stability, or maintain its current flexible regime to better respond to economic shocks.

As a certified Public Accountant (CPA) candidate advising a public financial institution, you are asked to provide insight on the implications of both systems for Rwanda's economy.

**Required:**

- i) **Define fixed and floating exchange rate systems, and explain the main difference between them.** (2Marks)
- ii) **Discuss Two (2) advantages and One (1) disadvantage of each system, particularly in the context of Rwanda.** (3Marks)
- iii) **Briefly explain any Two (2) impacts on how the choice of exchange rate regime can impact macroeconomic management and external trade in Rwanda.** (1Mark)

**c)** The National Bank of Rwanda (BNR) has released its quarterly Balance of Payments report for 2024. The report highlights the following developments:

- Rwanda experienced a 20% increase in coffee exports due to favourable international prices
- A large international corporation committed Frw100 million in foreign direct investment (FDI) to Rwanda's industrial parks.
- The Government secured Frw 250 million from international lenders to fund infrastructure projects.
- Despite these inflows, the current account balance remains negative, largely due to rising imports and service payments abroad.

Under this background, BNR seeks analysis on how these transactions affect Rwanda's external accounts and what this means for macroeconomic stability.

**Required:**

- i) **Identify and briefly describe the two main components of the balance of Payments.** (2Marks)
  - ii) **With reference to the case, analyse how coffee exports, FDI, and external borrowing are recorded in the BoP, and explain their impact on Rwanda's external financial position.** (2Marks)
- (Total: 20 Marks)**

**End of Question Paper**