THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

151/1 **ECONOMICS 1**

(For Both School and Private Candidates)

Time: 3 Hours **ANSWERS** **Year: 2009**

Instructions

1. This paper consists of EIGHT questions.

2. Answer all questions in section A and choose two questions each from section B and C.

1. Discuss the meaning of the concept of opportunity cost. Illustrate the concept with practical examples.

The concept of opportunity cost refers to the value of the next best alternative that must be forgone when a choice is made to allocate scarce resources to a particular use. It represents the cost of the opportunity missed in terms of the benefits that could have been gained from the alternative option. In economics, resources such as time, money, and labor are limited, so making a decision to use them in one way means sacrificing the potential gains from other uses. Opportunity cost is a fundamental principle in decision-making, as it helps individuals, firms, and governments evaluate trade-offs and make efficient choices.

For example, consider a student who has three hours to either study for an exam or work at a part-time job earning $10 per hour. If the student chooses to study, the opportunity cost is the $30 they could have earned by working. This represents the value of the foregone income in favor of potentially better grades.

Another example is a farmer with a limited plot of land deciding whether to grow maize or wheat. If the farmer chooses maize, which yields a profit of $500, over wheat, which would have yielded $600, the opportunity cost of growing maize is the $600 profit from wheat that was sacrificed.

A government deciding to allocate a budget of $1 million to build a hospital instead of a school faces an opportunity cost as well. If the school would have educated 500 students, improving their future earnings, the opportunity cost of the hospital is the social and economic benefits that the school would have provided.

In a business context, a company with $100,000 to invest might choose to upgrade its machinery instead of expanding its marketing efforts. If the marketing expansion would have increased sales by $150,000, while the machinery upgrade increases efficiency worth $120,000, the opportunity cost of upgrading machinery is the $150,000 in potential sales growth.

Finally, on a personal level, if an individual spends an evening watching a movie instead of attending a networking event, the opportunity cost might be the professional connections and job opportunities they could have gained at the event, which could have long-term career benefits.

2. (a) What is a transition period?

A transition period refers to the time frame during which an economy, organization, or system undergoes a shift from one state or structure to another, often involving significant changes in policies, processes, or economic conditions. It is a phase of adjustment where old systems are phased out, and new systems are implemented, typically seen in contexts like economic reforms, technological upgrades, or political changes. For example, a country moving from a centrally planned economy to a market-based economy, as seen in Eastern Europe after the fall of communism, experiences a transition period.

(b) Why is transition period important?

A transition period is important because it allows for gradual adjustment, reducing the shock of sudden changes that could destabilize an economy or system. Without this buffer, rapid shifts might lead to

economic disruptions, such as high unemployment or inflation, as seen in some post-Soviet states during abrupt market reforms.

It provides time for stakeholders, such as businesses and workers, to adapt to new rules, technologies, or market conditions, ensuring smoother implementation. For instance, during a technological transition, firms can train employees on new systems, minimizing productivity losses.

A transition period helps policymakers monitor and address unforeseen challenges, such as resistance to change or market failures, allowing for adjustments to policies. This was evident during the Brexit transition period, where the UK and EU negotiated trade terms to avoid immediate economic fallout.

It facilitates the reallocation of resources, such as labor and capital, to new sectors or industries, which is crucial for long-term growth. For example, in a shift to renewable energy, a transition period allows fossil fuel workers to retrain for green jobs.

Finally, it builds confidence among investors and the public by signaling a structured approach to change, reducing uncertainty. A well-managed transition period, like during currency adoption (e.g., the Euro), ensures public trust and economic stability.

3. (a) Define land as used in Economics.

In economics, land refers to all natural resources that are used in the production of goods and services, encompassing not only the physical surface of the earth but also the resources above and below it. This includes agricultural land, forests, minerals, water bodies, oil reserves, and even the air and sunlight used in production. Land is considered a primary factor of production, distinct from labor and capital, because it is a gift of nature, not created by human effort, and its supply is generally fixed.

(b) Describe the role of natural resources in the development of your country.

Natural resources play a critical role in the development of a country by providing the raw materials needed for economic activities. In a country like Tanzania, for example, fertile land supports agriculture, which employs a significant portion of the population and contributes to GDP through crops like coffee, tea, and cashews, driving rural development.

Mineral resources, such as gold and diamonds, are a major source of foreign exchange earnings in Tanzania, with gold exports funding infrastructure projects and social services, though challenges like illegal mining and environmental degradation can hinder sustainable growth.

Water resources, including rivers and lakes like Lake Victoria, support fishing industries and hydroelectric power generation, providing energy for industrial growth and improving living standards, but overfishing and pollution threaten long-term benefits.

Forests contribute to development by supplying timber for construction and fuelwood for energy, while also supporting tourism through national parks like the Serengeti, which attracts foreign revenue, though deforestation poses a risk to biodiversity and climate stability.

Finally, natural gas reserves, such as those in the Mtwara region, offer potential for energy self-sufficiency and export revenue, fostering industrial growth, but require careful management to ensure equitable distribution of benefits and avoid the resource curse.

4. (a) Define the term market structure.

Market structure refers to the organizational characteristics of a market that determine the nature of competition and pricing within it. It describes how firms interact, the number of buyers and sellers, the type of products sold, and the ease of entry and exit. Market structures range from perfect competition, with many firms and identical products, to monopoly, with a single firm dominating the market, and include intermediate forms like oligopoly and monopolistic competition.

(b) Explain the factors which determine the perfection and imperfection of a market structure.

The number of firms in the market is a key factor; perfect competition requires many small firms, each with a negligible market share, ensuring no single firm can influence prices, while imperfect structures like monopolies have one dominant firm controlling the market.

The nature of the product affects market structure; perfect competition assumes homogeneous products, meaning goods are identical, as in agricultural markets, whereas imperfect markets like monopolistic competition involve differentiated products, such as various clothing brands.

Barriers to entry and exit determine market perfection; perfect competition has no barriers, allowing free entry and exit, as in small-scale farming, while imperfect markets like oligopolies have high barriers, such as capital costs in the airline industry, limiting competition.

The degree of information availability influences market structure; perfect competition assumes all buyers and sellers have perfect information about prices and products, while imperfect markets, like in used car sales, often involve asymmetric information, leading to market inefficiencies.

Finally, the ability to set prices defines market structure; in perfect competition, firms are price takers, accepting market prices, as in stock markets, whereas in imperfect markets like monopolies, firms are price makers, setting prices above marginal cost, as seen with utility companies.

5. With the aid of diagrams explain the effects on total revenue of a firm when the price of the commodity rises in the following cases.

(a) Demand is inelastic

When demand is inelastic, the percentage change in quantity demanded is less than the percentage change in price. If the price rises, quantity demanded decreases, but by a smaller proportion, so total revenue (TR

= Price × Quantity) increases. For example, if the price rises from $10 to $12 (20% increase) and quantity falls from 100 to 90 (10% decrease), TR increases from $1,000 to $1,080. Diagram: The demand curve is steep; a price increase from P1 to P2 leads to a small decrease in quantity from Q1 to Q2, increasing the area of the TR rectangle (P × Q).

(b) Demand is elastic

When demand is elastic, the percentage change in quantity demanded is greater than the percentage change in price. If the price rises, quantity demanded decreases significantly, reducing total revenue. For example, if the price rises from $10 to $12 (20% increase) and quantity falls from 100 to 70 (30% decrease), TR decreases from $1,000 to $840. Diagram: The demand curve is flat; a price increase from P1 to P2 causes a large drop in quantity from Q1 to Q2, reducing the TR rectangle area.

(c) Demand is unitary elastic

When demand is unitary elastic, the percentage change in quantity demanded equals the percentage change in price. If the price rises, total revenue remains unchanged because the increase in price is offset by the proportional decrease in quantity. For example, if the price rises from $10 to $12 (20% increase) and quantity falls from 100 to 83.33 (16.67% decrease), TR remains $1,000. Diagram: The demand curve is a rectangular hyperbola; a price increase from P1 to P2 with a proportional quantity decrease from Q1 to Q2 keeps the TR area constant.

(d) Demand is perfectly inelastic

When demand is perfectly inelastic, quantity demanded does not change with price. If the price rises, total revenue increases directly with the price increase since quantity remains constant. For example, if the price rises from $10 to $15 and quantity stays at 100, TR increases from $1,000 to $1,500. Diagram: The demand curve is vertical; a price increase from P1 to P2 has no effect on quantity (Q1 = Q2), increasing the TR rectangle area proportionally with the price rise.

6. Explain briefly why firms maximize profit at a level of output where MC = MR?

Firms maximize profit at the output level where marginal cost (MC) equals marginal revenue (MR) because this point ensures that the additional cost of producing one more unit equals the additional revenue gained, balancing costs and benefits. If MC is less than MR, producing more increases profit, as the revenue from the extra unit exceeds its cost, encouraging the firm to expand output. If MC is greater than MR, producing more reduces profit, as the cost of the extra unit exceeds its revenue, prompting the firm to reduce output. At MC = MR, the firm achieves the highest possible profit, as any deviation would either increase costs more than revenue or reduce revenue more than costs. This rule applies in both perfect and imperfect competition, though in perfect competition, MR equals price, while in imperfect markets, MR declines due to downward-sloping demand. For example, a firm producing 100 units where MC = MR = $5 maximizes profit, but if it produces 101 units where MC = $6 and MR = $4, profit decreases.

7. Discuss the factors which determine the strengths of a Trade Union.

The size of membership determines a trade union's strength; a larger membership base, such as in a national union representing thousands of workers, provides greater bargaining power and financial resources to support strikes or negotiations.

The level of unity among members enhances a union's strength; if members are cohesive and committed, as seen in unions with strong leadership, they can present a united front, making strikes or collective actions more effective.

Financial resources play a critical role; unions with substantial funds, collected through membership fees, can sustain long strikes, provide legal support, and lobby for policy changes, increasing their influence, as seen in well-funded unions like those in the public sector.

The legal and political environment affects union strength; supportive labor laws and government policies, such as the right to strike, empower unions, while restrictive laws, like those banning strikes in essential services, weaken their bargaining power.

The economic context influences union strength; in a tight labor market with low unemployment, unions have more leverage to demand higher wages, as employers compete for workers, whereas high unemployment weakens their position, as workers fear job loss.

The skill level of members impacts strength; unions representing highly skilled workers, such as doctors or engineers, have greater bargaining power due to the difficulty of replacing specialized labor, compared to unions of unskilled workers.

Finally, the leadership quality of the union matters; effective, strategic leaders who can negotiate skillfully and mobilize members, as seen in successful union campaigns, enhance the union's ability to achieve its goals and influence employers.

8. Compare Keynesian and monetarist views on the alternative methods of controlling inflation.

Keynesians emphasize demand management to control inflation, advocating for fiscal policies like reducing government spending or increasing taxes to curb excess demand, which they see as the primary driver of demand-pull inflation, especially during economic booms.

Monetarists, led by Milton Friedman, focus on controlling the money supply, arguing that inflation is "always and everywhere a monetary phenomenon." They advocate for monetary policies, such as raising interest rates or reducing money supply growth, to tackle inflation directly.

Keynesians support active government intervention, including price and wage controls in the short term, to manage cost-push inflation, as seen in policies during the 1970s, believing that structural adjustments can address supply-side issues alongside demand management.

Monetarists oppose price and wage controls, viewing them as market distortions that lead to inefficiencies, and instead emphasize a rules-based approach, such as a fixed money supply growth rate, to provide stability and predictability in controlling inflation.

Keynesians believe inflation can also be influenced by supply-side shocks, like oil price increases, and recommend targeted subsidies or investments to boost supply, whereas monetarists argue that such shocks are temporary and that long-term inflation control requires consistent monetary discipline.

Monetarists stress the importance of central bank independence to avoid political pressures that lead to excessive money creation, as seen in hyperinflation cases, while Keynesians are more open to coordinated fiscal and monetary policies, even if it means greater government involvement.

Finally, Keynesians view inflation as a trade-off with unemployment, as per the Phillips Curve, suggesting that some inflation may be tolerated to reduce unemployment, whereas monetarists reject this trade-off in the long run, asserting that inflation expectations adjust, making monetary control the only sustainable solution.

9. (a) Fill in the blanks in the following table:

We are given:

$AP = TP \div L$

$MP = TP_n - TP_{n-1}$

Let’s fill the missing values step by step.

L	TP	AP	MP
1	15	15	15
2	45	22.5	30

| 3 | 80 | 26.7 | 35 |

| 4 | 108 | 27 | 28 |

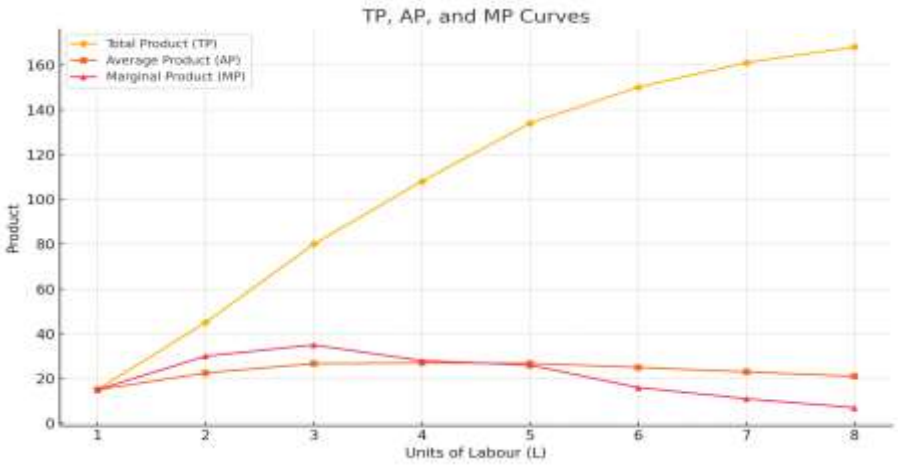
| 5 | 134 | 26.8 | 26 |

| 6 | 150 | 25 | 16 |

| 7 | 161 | 23 | 11 |

| 8 | 168 | 21 | 7 |

(b) Using the table above, draw the graphs of TP, AP, and MP.



(c) State and explain the stage which will be chosen by a rational producer to operate.

A rational producer operates in Stage II of the production function, where the total product increases at a decreasing rate, and marginal product is positive but falling. In this stage:

- Total Product (TP) increases

- Marginal Product (MP) is decreasing but positive

- Average Product (AP) is also decreasing

Stage I is avoided because the average product is still rising, indicating underutilization of resources.

Stage III is avoided because MP becomes negative, meaning additional input reduces total output.

Hence, Stage II ensures maximum and efficient utilization of variable input relative to fixed inputs.

10. What is kinked demand theory? Explain why the marginal revenue of a firm in oligopoly has different slopes.

Kinked demand theory is a model used to explain price rigidity in an oligopolistic market, where a few firms dominate and are interdependent in pricing decisions. The theory suggests that each firm faces a kinked demand curve based on its expectations about competitors' reactions to price changes.

The curve is more elastic above the prevailing price and less elastic below it, resulting in a kink at the current market price. This creates a discontinuous marginal revenue curve and explains why firms are reluctant to change prices.

Explanation of the shape and its implications:

If a firm increases its price:

Other firms are unlikely to follow because they want to capture its customers. This leads to a large drop in quantity demanded for the price-increasing firm. Hence, demand is highly elastic above the kink, and marginal revenue falls sharply.

If a firm decreases its price:

Competitors will also reduce their prices to maintain their market share. This leads to only a small gain in sales for the firm that started the price cut. Hence, demand is inelastic below the kink, and marginal revenue drops less steeply.

Due to this asymmetry:

The marginal revenue (MR) curve corresponding to the kinked demand curve has a vertical discontinuity (gap). Small changes in cost may not affect the firm's output or price, as MR can fluctuate within the gap without affecting equilibrium. This is why prices tend to be rigid in oligopolistic markets—firms fear price wars or loss of market share.