THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

151/1 **ECONOMICS 1**

ECONOMIC THEORY

(For Both School and Private Candidates)

Time : 1 ½ Hours **ANSWERS** **Tuesday 04 May 2004**

Instructions

1. This paper consists of sections A and B.
2. Answer **five (5)** questions, choosing at least **two (2)** questions from each section.
3. All questions carry equal weight.
4. Communication devices and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. (a) What is capital consumption?

Capital consumption refers to the reduction in the value of physical capital stock over time due to wear and tear, obsolescence, or accidental damage. It is also known as depreciation. It represents the amount of capital that has been used up in the process of production during a given period. For example, machines, buildings, and vehicles lose their productive capacity as they are continuously used, and this loss in value is termed capital consumption.

Capital consumption is an important concept in economics because it must be accounted for when measuring net national income. If it is not deducted, then the national income figure may be overstated since it will not reflect the true productive capacity of the economy. Therefore, in national accounts, gross income is reduced by capital consumption to give net income.

Another important aspect is that capital consumption affects investment decisions. Firms must replace depreciated capital in order to maintain their production levels. If they fail to do so, their productive capacity will decline, leading to lower output in the future.

Capital consumption also reflects the cost of maintaining productive assets. For example, repairs and replacements of machinery are part of the process of addressing capital consumption. This ensures that businesses can remain competitive and continue to operate efficiently.

Finally, capital consumption indicates the sustainability of growth. An economy that has high capital consumption without corresponding investment in new capital is at risk of reducing its long-term growth potential, since productive resources will gradually diminish.

(b) Outline the probable causes of capital consumption.

One major cause of capital consumption is physical wear and tear. Machinery, vehicles, and equipment are continuously used in the production process, and over time they lose efficiency and functionality. This natural deterioration leads to a reduction in the productive value of capital.

Another cause is technological obsolescence. As new technologies are developed, older machines and equipment may become outdated and less productive. Even if they are physically usable, they may no longer be efficient compared to modern alternatives. This leads to capital consumption because the value of old equipment declines.

Accidental damage also contributes to capital consumption. Capital assets may be destroyed or impaired due to accidents, natural disasters such as floods, fires, or earthquakes. This sudden destruction of productive assets reduces the stock of capital available in the economy.

Inadequate maintenance is another factor that accelerates capital consumption. If machinery, vehicles, and infrastructure are not properly maintained, they deteriorate faster than expected. This neglect shortens their useful lifespan and increases replacement costs.

Lastly, economic and social factors can also cause capital consumption. For example, wars or civil conflicts can lead to the destruction of infrastructure, factories, and other physical assets. Similarly, inflation and unfavorable economic policies can reduce the value of capital, making replacement difficult and increasing overall consumption of existing assets.

2. Explain the following: (a) Transfer earnings. (b) Quasi-rent. (c) Time preference theory. (d) Liquidity preference theory.

Transfer earnings are the minimum payment required to keep a factor of production in its present use. It represents the opportunity cost of that factor, meaning what the factor could have earned in its next best alternative employment. For example, if a worker earns 500,000 shillings in their current job but could earn 400,000 shillings elsewhere, then 400,000 shillings is their transfer earnings. Anything above this is considered economic rent.

Quasi-rent is the excess income earned by a factor of production that is fixed in supply in the short run but variable in the long run. It arises when the supply of the factor cannot easily be increased in response to demand. For instance, specialized machinery may earn high returns in the short run because supply cannot be adjusted quickly, but in the long run as more machines are produced, these extra returns disappear.

Time preference theory is an explanation of interest rates based on the idea that people value present consumption more than future consumption. According to this theory, individuals prefer to spend money today rather than wait to use it in the future. The rate of interest is therefore seen as the reward for deferring consumption, and it reflects the strength of people's preference for present over future consumption.

Liquidity preference theory, introduced by John Maynard Keynes, argues that interest rates are determined by the demand and supply of money. People prefer to hold money for transactions, precautionary, and speculative motives. The higher the demand for money relative to its supply, the higher the interest rate. Thus, interest acts as the reward for parting with liquidity.

3. Outline the salient features of a mixed economy. Can Tanzania be sighted as an example of a mixed economy?

One feature of a mixed economy is the coexistence of both private and public sectors. In such an economy, individuals are allowed to own businesses and property, while the government also controls and operates key industries like transport, energy, and healthcare.

Another feature is government regulation of economic activities. The government imposes laws, regulations, and policies to control issues like monopolies, environmental protection, and labor rights while still allowing private enterprise to operate.

A mixed economy also balances the objectives of efficiency and equity. While private businesses focus on profit-making and efficiency, the government intervenes to ensure fairness, redistribution of wealth, and provision of public goods and services that the private sector may neglect.

Freedom of choice is also a key feature. Consumers have the right to choose what to buy, and producers decide what to produce. However, the government may impose restrictions on harmful goods or strategic industries to protect the national interest.

Yes, Tanzania can be considered an example of a mixed economy. It has both private enterprises and state-owned enterprises operating side by side. The government plays a strong role in sectors like mining, agriculture, and energy, while private businesses flourish in trade, services, and manufacturing. Policies such as the Tanzania Development Vision 2025 reflect the effort to combine market forces with government planning.

4. (a) State the law of demand and outline its basic assumptions. (b) Derive the demand function expressing this law.

The law of demand states that, ceteris paribus, the quantity of a commodity demanded increases when its price falls, and decreases when its price rises. This shows an inverse relationship between price and quantity demanded.

One assumption is that consumer tastes and preferences remain constant. If preferences change, demand may shift independently of price. Another assumption is that the incomes of consumers remain constant. If incomes rise or fall, demand for goods may change regardless of price. A further assumption is that the prices of related goods such as substitutes and complements remain unchanged. Also, there should be no expectation of future changes in price, because such expectations may cause consumers to alter their current demand.

The demand function can be expressed as $Qd = f(P)$, where Qd is the quantity demanded and P is the price of the commodity. In its simplest linear form, it may be written as $Qd = a – bP$, where a and b are constants, a represents the intercept (demand when price is zero), and b shows the slope or responsiveness of demand to changes in price.

5. Goods A and B are substitutes. Discuss the effects of improvement in technology which lead to increased supply of one of the two goods.

When technology improves for the production of one good, say Good A, the cost of production falls and firms are able to produce more at lower prices. This increases the supply of Good A in the market. As a result, the price of Good A will decrease due to the surplus created.

Since Goods A and B are substitutes, a fall in the price of Good A will reduce the demand for Good B. Consumers will prefer the cheaper substitute, causing the demand curve for Good B to shift leftward. This leads to a fall in both the price and quantity demanded of Good B.

At the same time, producers of Good B may suffer losses if they cannot compete with the lower prices of Good A. Some may cut production or leave the industry altogether, leading to a contraction of supply in Good B’s market.

On the other hand, consumers benefit from improved technology because they can now obtain Good A at a cheaper price. This increases their welfare, as they can either save money or reallocate spending to other goods and services.

In the long run, firms producing Good B may also adopt new technologies to reduce their costs and compete with Good A. This may lead to overall efficiency gains in the industry, benefiting the economy as a whole.

6. (a) Differentiate between monopoly and monopsony. (b) Outline the advantages and disadvantages of monopoly.

A monopoly is a market situation where there is only one seller of a particular good or service, meaning the firm controls the entire supply and can influence price. Consumers have no alternative sources for that product. In contrast, a monopsony is a market situation where there is only one buyer of a good or service, giving the buyer power to influence prices paid to sellers, since sellers have no alternative buyers.

One advantage of monopoly is that it may achieve economies of scale. A single producer can produce on a large scale, reducing average costs and potentially lowering prices for consumers. Another advantage is that monopolies can have large resources for innovation. With assured profits, they can invest in research and development to improve products and production methods. A monopoly may also provide stability in supply since only one firm controls the market and coordinates production. Additionally, monopolies can afford to employ specialized management and staff, increasing efficiency.

However, monopolies also have disadvantages. One disadvantage is that they may exploit consumers by charging excessively high prices, since there is no competition. Another disadvantage is that they may restrict output to maximize profits, creating artificial shortages in the market. Monopolies may also become inefficient over time because the lack of competition reduces the incentive to cut costs and improve quality. Lastly, they can engage in anti-consumer practices like limiting choice, leading to lower consumer welfare.

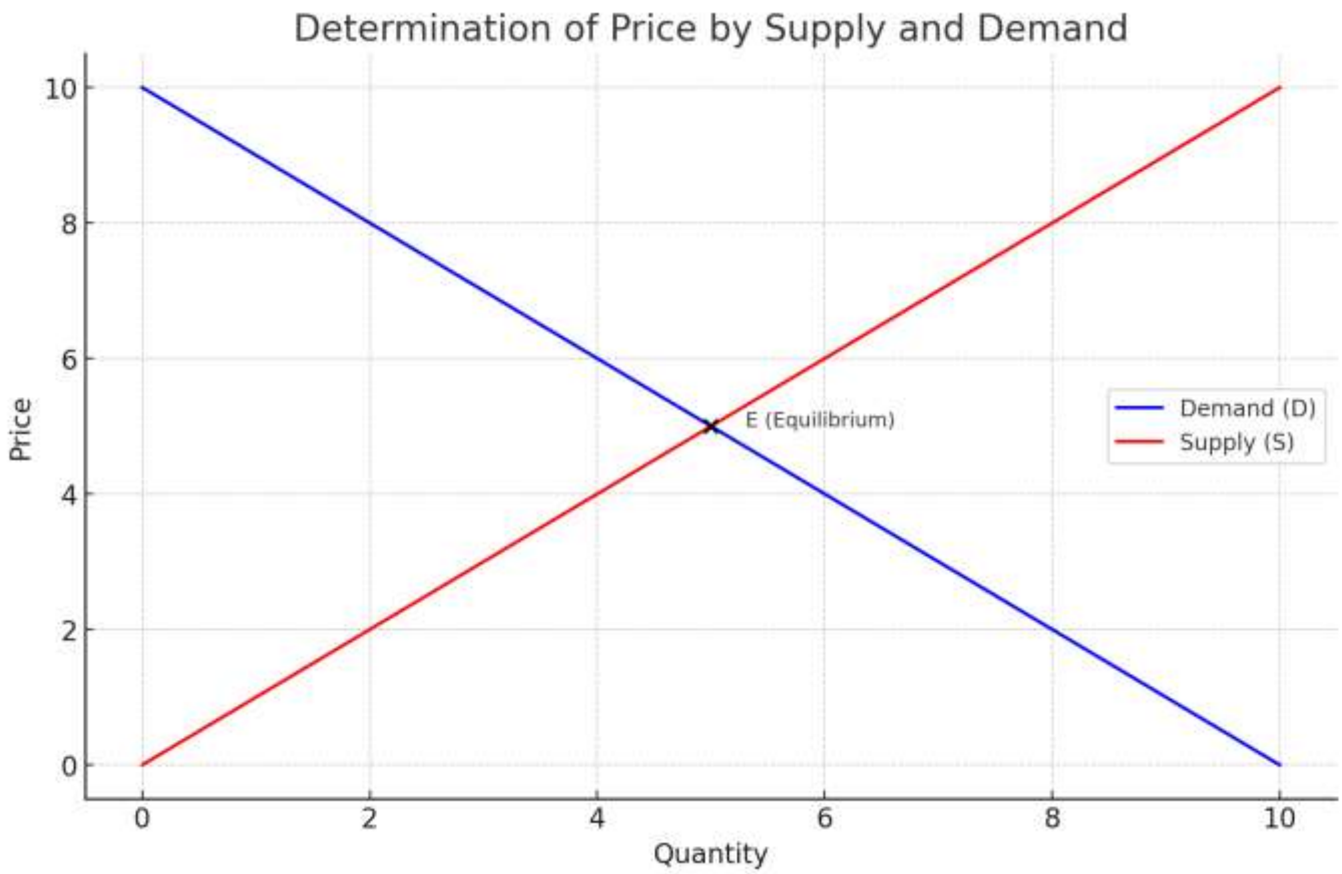
7. With the aid of sketches explain how supply and demand may determine price.

In a competitive market, the interaction between supply and demand determines the equilibrium price and quantity. The demand curve slopes downward from left to right, showing that as price decreases, the quantity demanded increases. The supply curve slopes upward from left to right, showing that as price increases, producers are willing to supply more.

The point where the two curves intersect is known as the equilibrium point. At this point, the quantity demanded equals the quantity supplied, and the market clears. The corresponding price is called the equilibrium price, and the quantity is the equilibrium quantity.

If the price is set above equilibrium, there will be excess supply, since producers will supply more than consumers are willing to buy. This creates downward pressure on the price until equilibrium is restored. If the price is set below equilibrium, there will be excess demand or shortage, as consumers demand more than producers are willing to supply. This creates upward pressure on the price until it reaches equilibrium again.

Thus, the forces of demand and supply interact to ensure that markets naturally move toward equilibrium price and quantity.



8. A firm cannot expand indefinitely. Discuss.

A firm cannot expand indefinitely because it eventually faces diminishing returns. As more units of a variable factor, such as labor, are added to a fixed factor, such as land or machinery, the additional output produced by each extra unit of labor will eventually decline. This limits continuous expansion.

Another reason is the problem of diseconomies of scale. When firms become too large, inefficiencies begin to arise, such as poor coordination, managerial difficulties, and communication breakdowns. These raise the average costs of production, discouraging further expansion.

Market demand also limits indefinite expansion. A firm cannot keep expanding output if there is insufficient demand for its products. Producing beyond the level that consumers want leads to unsold stock and financial losses.

Resource constraints are another barrier. Firms require inputs such as raw materials, skilled labor, and capital. These resources may not be available in unlimited quantities, and their scarcity can limit how much a firm can expand.

Legal, social, and environmental restrictions also play a role. Governments regulate production through policies such as environmental protection, labor laws, and antitrust rules, which may limit the extent to which firms can expand. Social pressure from communities or consumers may also constrain harmful expansions.

9. (a) Define the following: (i) Average product of labour. (ii) Marginal product of labour.

The average product of labour is the total output produced divided by the number of workers employed. It shows the productivity of each unit of labor on average. For example, if 10 workers produce 100 units, the average product is 10 units per worker.

The marginal product of labour is the additional output produced by employing one more unit of labor, keeping other factors constant. For instance, if 5 workers produce 50 units and hiring a 6th worker increases output to 60 units, then the marginal product of the 6th worker is 10 units.

9. (b) The following table is derived from a production firm y.

Labour (L)	Total Product (TP)	Marginal Product (MP)	Average Product (AP)
1	3	**3**	**3**
2	8	**5**	**4**
3	15	**7**	**5**
4	20	**5**	**5**
5	24	**4.**	**4.8**
6	26	**2**	**4.3**
7	26	**0**	**3.7**

8	24	**-2**	**3**
9	23	**-1**	**2.6**
10	20	**-3**	**2**

(i) The marginal product (MP) is calculated by finding the change in total product when an additional unit of labor is employed.
(ii) The average product (AP) is calculated by dividing total product by the number of workers employed.

(iii) Graphically, if plotted, the TP curve first rises at an increasing rate, then at a decreasing rate, and finally declines. The MP curve rises initially, then declines, eventually becoming negative. The AP curve rises, reaches a peak, and then declines.

(iv) The law of economics portrayed by these curves is the Law of Diminishing Returns, which states that adding more of a variable factor to a fixed factor will initially increase output at an increasing rate, then at a decreasing rate, and eventually lead to negative returns.

10. Money by its own qualities serves as a medium of exchange. Discuss.

Money serves as a medium of exchange because it is universally accepted in the purchase and sale of goods and services. Without money, people would have to rely on barter, which is inefficient as it requires a double coincidence of wants. With money, transactions are simplified because everyone is willing to accept it in exchange.

Money acts as a common denominator, which eliminates the problem of valuing one good in terms of another. For example, instead of negotiating how many bags of maize equal one cow, money provides a single standard measure, making transactions easier.

Money is portable and divisible, which enhances its use as a medium of exchange. It can be carried easily and divided into smaller units to match the value of goods or services being exchanged. This flexibility supports both small and large transactions.

Another quality that makes money serve as a medium of exchange is its durability. Unlike perishable goods, money does not spoil quickly and can be used repeatedly over time. This stability encourages trust in its use for transactions.

Finally, money is recognized and backed by governments, which reinforces its acceptance. People trust that money can always be used to purchase goods and services, making it the most effective medium of exchange in modern economies.