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: 2008**

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. Explain why Economics is regarded as a science.

Economics is regarded as a science because it applies systematic methods of analysis to study human behavior in relation to the use of scarce resources. Like other sciences, economics uses observation, formulation of hypotheses, testing through data, and deriving laws or principles. It deals with cause-and-effect relationships, for example between price and demand or income and consumption. Though it deals with human behavior, which can be unpredictable, economics still formulates general laws that guide economic decisions, making it a social science.

2. (a) What is collectivism?

Collectivism is an ideology or system that emphasizes the collective ownership and management of resources and means of production. In a collectivist society, the welfare of the group or community is prioritized over individual interests. It seeks to eliminate inequality through shared control of economic resources, often practiced in socialist or communist systems.

(b) Discuss the place of socialism as an economic system in today's world.

In today's world, socialism exists in mixed economies where both the government and private sector play roles. While pure socialism is rare, many countries implement socialist principles such as free education, public healthcare, and social welfare programs. In nations like China, socialism is blended with market reforms. The relevance of socialism today lies in its role in addressing inequality, ensuring access to basic needs, and controlling strategic sectors. However, it is often criticized for inefficiencies, lack of incentives, and reduced innovation.

3. Identify factors which may influence the supply of labour in the economy.

Wage levels: Higher wages attract more workers, increasing labour supply.

Working conditions: Better conditions encourage more people to offer their labour.

Population size: Larger populations naturally increase the potential labour force.

Education and training: A skilled and educated population is more employable, boosting labour supply.

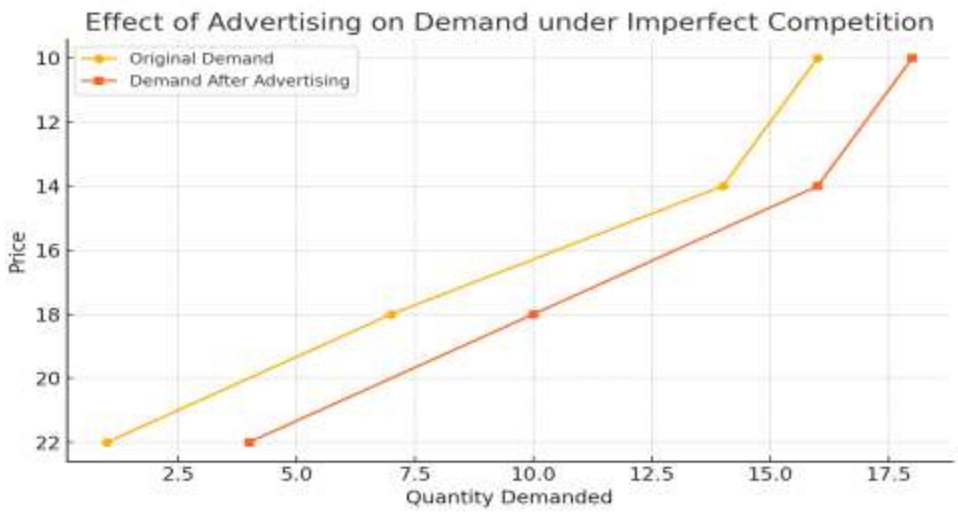
Migration: Inflow of workers from other regions or countries increases available labour.

Social and cultural factors: Attitudes toward work, gender roles, and retirement influence labour participation.

Government policy: Taxation, minimum wage laws, and welfare schemes affect labour incentives.

4. With the help of a diagram, show the advantages of advertising to entrepreneurs producing under conditions of imperfect competition.

Explanation: In imperfect competition, such as monopolistic competition or oligopoly, advertising helps firms differentiate their products, increase brand loyalty, inform consumers, and expand market share. Advertising can shift the demand curve rightward, making it more inelastic and increasing sales even at higher prices.



5. Given the table:

Px	Dx	DB	Y
10	16	14	1000
14	14	18	1500
18	7	25	2000
22	1	30	2800

(a) Calculate the following types of elasticity (use only first points in each):

(i) Income elasticity of demand of commodity B

$\Delta DB = 18 - 14 = 4$

Average DB = (14 + 18)/2 = 16

ΔY = 1500 - 1000 = 500

Average Y = (1000 + 1500)/2 = 1250

Income elasticity = (4/16) / (500/1250) = 0.25 / 0.4 = 0.625

(ii) Price elasticity of demand of commodity X

ΔDx = 14 - 16 = -2

Average Dx = (16 + 14)/2 = 15

ΔPx = 14 - 10 = 4

Average Px = (10 + 14)/2 = 12

Price elasticity = (-2/15) / (4/12) = -0.133 / 0.333 = -0.4

(iii) Cross elasticity of demand of commodity X to commodity B

ΔDx = 14 - 16 = -2

Average Dx = 15

ΔDB = 18 - 14 = 4

Average DB = 16

Cross elasticity = (-2/15) / (4/16) = -0.133 / 0.25 = -0.532

(b) Explain the type of demand relationship between commodity X and commodity B.

The cross elasticity is negative (-0.532), meaning as demand for commodity B increases, the demand for commodity X falls. This suggests that commodity X and B are complementary goods. They are consumed together, so an increase in one reduces the need for the other independently.

6. Consider the following costs and revenue functions of a firm:

$TR = 132Q – 8Q^2$

$TC = Q^3 – 14Q^2 + 69Q + 128$

(a) Find the output which will maximize profit.

To maximize profit, set Marginal Revenue (MR) = Marginal Cost (MC)

$TR = 132Q – 8Q^2$

$MR = d(TR)/dQ = 132 – 16Q$

$TC = Q^3 – 14Q^2 + 69Q + 128$

$MC = d(TC)/dQ = 3Q^2 – 28Q + 69$

Set MR = MC

$132 – 16Q = 3Q^2 – 28Q + 69$

Bring all terms to one side:

$3Q^2 – 12Q – 63 = 0$

Divide by 3: $Q^2 – 4Q – 21 = 0$

Solve: $Q = [4 \pm \sqrt{(16 + 84)}]/2 = [4 \pm \sqrt{100}]/2 = [4 \pm 10]/2$

$Q = 7$ or $Q = -3 \rightarrow$ Reject -3

So, output to maximize profit is $Q = 7$

(b) Calculate maximum profit.

$TR = 132Q – 8Q^2 = 132(7) – 8(49) = 924 – 392 = 532$

$TC = Q^3 – 14Q^2 + 69Q + 128 = 343 – 686 + 483 + 128 = 268$

Profit = TR – TC = 532 – 268 = 264

(c) Calculate total fixed cost (TFC), total variable cost (TVC), average fixed cost (AFC), and average variable cost (AVC).

From TC = TVC + TFC

TFC = constant term in TC = 128

At Q = 7:

TC = 268 (from part b)

TVC = TC – TFC = 268 – 128 = 140

AFC = TFC / Q = 128 / 7 = 18.29

AVC = TVC / Q = 140 / 7 = 20

(d) Calculate average revenue (AR) and state at what market structure is the firm operating.

AR = TR / Q = 532 / 7 = 76

Since AR decreases with more Q and MR is not constant, the firm is not a price taker.

The firm is operating in an imperfect competition market (likely monopolistic competition or monopoly) because:

- MR ≠ AR

- TR is non-linear

- Firm has some control over price

7. (a) What is the meaning of bargaining theory of wage?

The bargaining theory of wage states that wages are determined through negotiations between employers and employees (or unions). The final wage reflects the relative bargaining strength of both parties. If the union is strong, wages tend to be higher; if the employer is dominant, wages may be suppressed. The theory emphasizes that wages are not set purely by market forces but also by institutional power and negotiation.

(b) Verify the contention that the strength of trade union is not independent.

The strength of a trade union depends on several factors, making it interdependent:

- Legal support: The extent of legal rights for unions affects their power
- Membership size: Larger membership gives more collective strength
- Economic conditions: In high unemployment, unions have less power
- Public support: Popular unions influence policies more
- Employer resistance: Aggressive employers reduce union effectiveness

Thus, union strength relies on economic, social, and political environments.

8. According to the quantity theory of money, an increase in the quantity of money would bring about a proportionate increase in price. Give a critical analysis of this theory.

Quantity theory of money: MV = PQ

If V (velocity) and Q (output) are constant, then an increase in M (money supply) leads to a proportional increase in P (price level).

Criticism:

- V is not constant; it changes with technology and banking behavior
- Q is not fixed; production can increase with money expansion
- It ignores the role of interest rates and investment behavior
- Not applicable in recession when increased money does not increase spending
- Real-world evidence shows price level depends on multiple variables, not just money supply

Thus, the theory oversimplifies the relationship between money and prices.

9. (a) What is barter trade?

Barter trade is the direct exchange of goods and services without using money as a medium. For example, trading maize for clothes. It was common in traditional economies before money was introduced.

(b) Is barter trade practiced in Tanzania?

Yes, in limited forms. In rural or informal areas of Tanzania, barter may still occur when money is unavailable or during periods of currency shortage. Farmers may exchange goods at local markets. However, it is not the main form of trade in the modern economy.

10. Why is short run price elasticity of supply less than long run price elasticity of supply?

In the short run, some factors of production are fixed, like land or machinery. Firms cannot quickly adjust output levels, so supply is inelastic.

In the long run, all inputs become variable. Firms can expand production, enter or exit markets, adopt new technology, or build new plants. Thus, supply becomes more elastic.

Therefore, time allows for full adjustment, making long-run supply more responsive to price changes than in the short run.