GUIDE TO REGIONAL AND NATIONAL COMPETITIONS

ECONOMICS OLYMPIAD 2025

CONTEXT

The regional competition of the Economics Olympiad takes place in a total of 7 regions across the country, while the national competition is a one-day event.

REGIONAL/NATIONAL COMPETITION TEST CONTENT

The regional round will be in the classic test format. It will include the following question types:

1. **Multiple choice questions (where only one is correct)**
2. **Open questions**
3. **Graph analysis – economic task**
4. **Essay questions**

Mutliple choice questions

This type of question is similar to school district questions, where the student chooses only ONE correct answer from the given answers.

The questions would be of this nature:

1.Which of the following is not a function of money?

a) means of exchange.
b) store of value.
c) unit of account.
d) goods for exchange.

2. What are the determinants of economic growth?

a) human capital
b) natural resources
c) technological development
d) capital
e) all above.

3. Externalities are:

a) the benefit received by the buyer in the market.
b) the cost that accrues to the seller in the market.
c) compensation paid to the firm's external consultants.
d) the uncompensated impact of a person's actions on the well-being of a citizen.
e) none of the above.

4. The inefficiency associated with monopoly is due to:

a) insufficient production of goods.
b) monopoly profit.
c) monopoly losses.
d) overproduction of goods.

5. Adam Smith's concept of the "invisible hand" suggests that a competitive outcome in the market:

a) maximizes total surplus.
b) generates equality among members of society.
c) minimizes total surplus.
d) both maximize total surplus and generate equality among members of society.

OPEN QUESTIONS

Open-ended questions would be of the type that require a definition or explanation of an economic phenomenon. Questions of this type would be:

1. **What the law of demand represents?**

Answer: The law of demand is a fundamental economic principle that describes the relationship between the price of a particular product or service and the quantity that consumers are willing to purchase. If the price of a product increases, demand (the quantity that consumers buy) decreases, and vice versa (if the price decreases, demand increases).

2. **List two types of market structures that are not perfect competition.**

Answer: Another type of market structure is Monopoly. It represents a market structure where only one firm controls the entire supply of a particular product or service, with no close substitute products/services. Some of the characteristics are: there is one seller, high barriers to entry, the monopoly sets the price of the product/service.

Another type is Oligopoly. It is a market structure dominated by a small number of large firms, which are interdependent in pricing and production decisions. Its characteristics are: there are a few dominant players, barriers to entry, can lead to collusion (cartels).

3. **Explain the concept of comparative advantage?**

Answer: Monetary policy is generally more effective in controlling inflation and stabilizing the economy in the short term, while fiscal policy is more powerful in stimulating long-term economic growth and addressing income distribution**.**

4. **A monopolistically competitive industry has many firms, just like in perfect competition. Why then do monopolistically competitive firms face a downward-sloping demand curve, while perfectly competitive firms face a horizontal demand curve?**

Answer: In monopolistic competition, firms sell differentiated products, meaning that each firm has some control over its price. Because of this differentiation, consumers may prefer

one firm's product over another, allowing firms to face a downward sloping demand curve—if they raise prices, they will lose some, but not all, customers.

In perfect competition, firms sell identical (homogeneous) products, which means that no single firm has pricing power. The market sets the price, and each firm can sell any quantity at that price, but it cannot charge more without losing all of its customers. This results in a horizontal (perfectly elastic) demand curve for each firm.

5. **The principle of comparative advantage predicts that two nations will benefit from trading with each other, even if one nation is better - in absolute terms - than the other at producing all goods. Explain why this is so?**

Answer: The principle of comparative advantage states that even if one country has an absolute advantage in producing all goods (i.e., is more efficient in absolute terms), both countries can still benefit from trade if they specialize in the goods they produce relatively more efficiently (i.e., at lower opportunity costs).

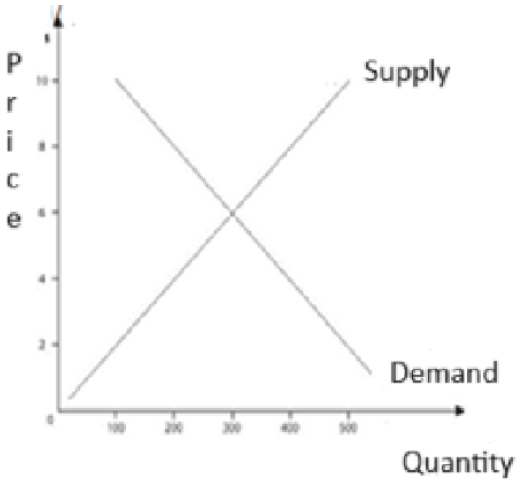
GRAPH ANALYSIS – ECONOMIC ASSIGNMENT

In this section possible questions would be:

i. a graph is given and the student would have to analyze it or through the given task student should have to draw the graph and/or
ii. solving numerical economic assignment

i. A given graph which the students must analyze

1. The graph below shows the equilibrium of demand and supply. Carefully analyze the graph and answer the following questions.



a) What is the equilibrium price and quantity in the market (draw the equilibrium point on the graph)?

b) If the quantity demanded increases by 100 units, how will this affect the price? What will be the new equilibrium? Draw the curve on the graph that highlights the new equilibrium.

c) What happens if the government imposes a $1 tax on suppliers? What will happen to the quantity supplied and the price? Determine the new quantity and price and draw the new equilibrium curve on the same graph?

SOLUTION:

a) The equilibrium price in this case is $6 and the quantity is 300 units.

b) If the quantity demanded increases by 100 units, this will affect the price, which will increase. At a quantity demanded of 400 units, the price would be $8.

c) If the government imposes a $1 tax, the price and quantity supplied will decrease. The new price would be $7 and the quantity supplied would decrease to 350 units.

2. The following table provides information about the production possibilities frontier of the Athletics team.

Baseball bats	Baseball gloves
0	420
100	400
200	360
300	300
400	200
500	0

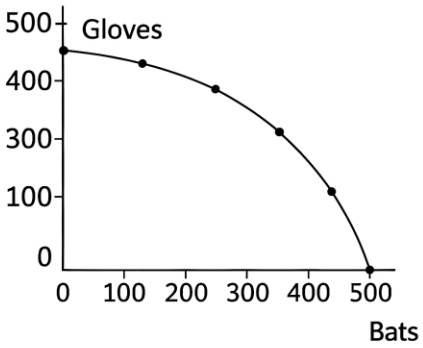
a) Draw and connect the given points to create the production possibilities frontier in the Athletic state**.**

b) If the Athletic State currently produces 100 bats and 400 gloves, what is the opportunity cost of producing an additional 100 bats??

c) Suppose that the Athletics state currently produces 200 bats and 200 gloves. How many additional bats could it produce without giving up gloves? How many additional gloves could it produce without giving up bats?

SOLUTION:

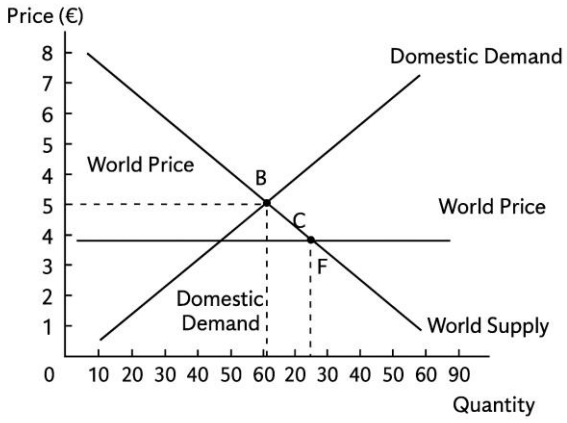
a)



b) If the Athletic state currently produces 100 bats and 400 gloves, the opportunity cost of producing an additional 100 bats is 40 gloves..

c) Without giving up the sticks, they could produce 200 sticks and 160 gloves.

3. Use the graph to answer the following questions:



a) If trade is not allowed, what is the equilibrium price and quantity in this market?

b) If trade is allowed, will this country import or export these goods? Why?

c) If trade is permitted, what is the price at which the good is sold, the domestic quantity supplied and demanded, and the quantity imported or exported?

SOLUTION:

a) If trade is not allowed, the equilibrium price is 4 and the quantity is 40 units.

b) It should export because the world price is above the domestic price, which means that this country has a comparative advantage in producing this good.

c) If trade is allowed, the price of the good sold would be 6, supply 60 units, demand 20 units, and the quantity exported would be 40 units.

ii. SOLVING NUMERICAL ECONOMIC ASSIGNMENT

1. **The information below concerns a jeans factory in a certain store. Complete the table according to the given data. Note the following abbreviations: FC (fixed cost), VC (variable cost), TC (total cost), AFC (average fixed cost), AVC (average variable cost), ATC (average total cost), MC (marginal cost):**

Quantity	FC	VC	TC	AFC	AVC	ATC	MC
0	16	0					
1	16	18					
2	16	31					
3	16	41					
4	16	49					
5	16	59					
6	16	72					
7	16	90					
8	16	114					
9	16	145					
10	16	184					

SOLUTION:

Quantity	FC	VC	TC	AFC	AVC	ATC	MC
0	16	0	16	/	/	/	
1	16	18	34	16	18.00	34.00	18
2	16	31	47	8	15.50	23.50	13
3	16	41	57	5.33	13.67	19.00	10
4	16	49	65	4	12.25	16.25	8
5	16	59	75	3.2	11.80	15.00	10
6	16	72	88	2.67	12.00	14.67	13
7	16	90	106	2.29	12.86	15.14	18
8	16	114	130	2.00	14.25	16.25	24
9	16	145	161	1.78	16.11	17.88	31
10	16	184	200	1.60	18.40	20.00	39

2. Complete the table below assuming that the government taxes 20 percent of the first 30,000 euros of income and 50 percent of all income above 30,000 euros.

Revenues	**Taxes**	**Average tax rate**	**Marginal tax rate**
10.000			
20.000			
30.000			
40.000			
50.000			

b) Compare the taxes for someone earning 10,000 euros with those for someone earning 50,000 euros in part (a) above. Is this a progressive, regressive, or proportional tax system? Explain.

SOLUTION:

Revenues	**Taxes**	**Average tax rate**	**Marginal tax rate**
10.000	2.000	20%	20%
20.000	4.000	20%	20%
30.000	6.000	20%	20%
40.000	11.000	27.5%	20%
50.000	12.000	32%	50%

b) Progressive tax because the average tax rate for a person earning 50,000 euros exceeds the average tax rate for a person earning 10,000 euros. This means that the rich pay a larger share of their income than the poor.

3. Suppose a company has a patent for a unique process for producing smoked salmon. The following table provides information about the demand this firm faces for this unique product.

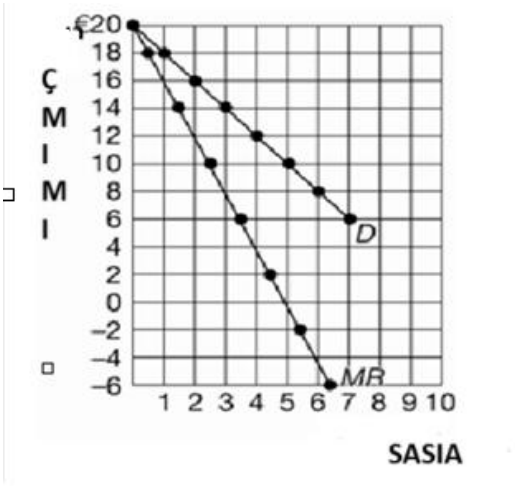
Kilograms of salmon	Price	Total revenue	Marginal revenue
0	20		
1	18		
2	16		
3	14		
4	12		
5	10		
6	8		
7	6		

b) Draw the demand curve and the marginal revenue curve.

SOLUTION:

Kilograms of salmon	Price	Total revenue	Marginal revenue
0	20	/	/
1	18	18	18
2	16	32	14
3	14	42	10
4	12	48	6
5	10	50	2
6	8	48	-2
7	6	42	-6

b)



4. ESSAY

Consider a scenario where a government decides to implement a national carbon tax in order to reduce carbon emissions and combat climate change.

1) Discuss the potential impacts of this policy on the economy, environment, and society as a whole.

2) Analyze how a carbon tax might affect different sectors such as energy, transportation, manufacturing, and agriculture..

SOLUTION:

As climate change intensifies, governments are exploring policies to reduce carbon emissions. One effective approach is a national carbon tax, which imposes a cost on emissions, encouraging businesses and individuals to switch to cleaner energy. Although the tax aims to mitigate environmental damage, it also impacts the economy and society in various ways.

A carbon tax increases costs for carbon-intensive industries, leading to higher prices for goods and services. However, it also encourages investment in renewable energy and energy efficiency, promoting long-term economic sustainability. The government can use the revenue from the tax to subsidize green initiatives, reduce other taxes, or provide financial relief to lower-income households to ensure a just transition.

Environmentally, a carbon tax reduces fossil fuel consumption and reduces emissions, leading to cleaner air and improved public health. Socially, the policy may

disproportionately affect lower-income populations, who spend a larger share of their income on energy. To mitigate this, governments could introduce rebates or direct subsidies for affected households.

Sectoral impacts:

- Energy: Fossil fuel producers will face higher costs, which will accelerate the shift to renewable sources such as solar and wind power.
- Transportation: Fuel prices will rise, increasing the adoption of electric vehicles and the use of public transportation.
- Manufacturing: Carbon-intensive industries (e.g. steel, cement) must innovate or face higher production costs.
- Agriculture: Rising fuel and fertilizer costs could drive more sustainable agricultural practices.