Müəllimin adı: Əhliman Qasımov

Fənnin adı: Ətraf mühitin iqtisadiyyatı

Qrupun nömrəsi: 1082 və 1062

1. What is the meaning of economic efficiency? Show graphically and explain.
2. How can affect technological developments to the Production Possibility Frontier ? Discuss and show graphically.
3. What is the accumulative and non-accumulative pollutant? Discuss, show graphically and bring examples.
4. Production Possibility Frontier and Community Indifference Curve . Show graphically and explain (assume that axis is“goods” and axis is a “environmental quality”)
5. Assume that the axis is a “goods” and axis is a “environmental quality”. Utilitiy function of society: and Production Possibility Frontier : (). Find the optimal solution of “goods” and “environmental quality”
6. Willingness to Pay (WTP) and demand curve. What is the different between them? Explain each one and show graphically.
7. What happens to aggregate demand and supply curves when the price of the goods to rise (or fall) in the future? Draw graphs and explain each step.
8. Ali’s demand for bottled water is given by the equation . Selcan’s demand function is . Calculate Ali and Selcan’s marginal and total willingness to pay for ***four bottles*** of water, illustrate graphically and explain.
9. Fidan’s demand for chocolate is given by the equation . Narmin’s demand function is . Compute the aggregate demand for chocolate, assuming Narmin and Fidan are the only consumers. Derive the aggregate demand curve if there were twenty people with Narmin’s demand curve and fifteen people like Fidan.
10. If MC curves are

***A:***

***B:***

1. Derive and graph the aggregate supply curve;
2. If a technological change shifts producers marginal cost curve four units, compute cost saving for ***A*** at
3. Let and. Draw graphs and find the net social value at equilibrium point.
4. Negative externality of Production (an external cost). Show graphically and explain.
5. Negative externality of Consumption (an external cost). Show graphically and explain.
6. Positive externality of Production (an external benefit). Show graphically and explain.
7. Positive externality of Consumption (an external benefit). Show graphically and explain.
8. Linear and non-linear marginal abetement cost functions. Show graphically and explain.
9. Let and Find the net social gain and net gain at the intersection point
10. Let and Find the total abatement cost and total damage at the intersection point
11. Let and. Find the aggregate (total) abatement cost function(s) and draw graphs.
12. Why society wants to maximize net social benefit when choosing a target level of pollution. Discuss.
13. Are low interest rates () “good” or “bad” for the environment? Defend your argument.
14. Costs for Project

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| --- | --- | --- | --- | --- | --- |
| Cost (million $ in a year) | | | | | |
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1. If you want to pay today’s costsafter years (the interest rate is %), how many dollars you will pay?
2. If you want to pay second year costs, how many dollars you need today?
3. Costs and Benefits for Project

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Benefit (million $ in a year) | | | | | |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Calculate the total benefit with and without interest rate at and discuss your answer (the interest rate is %)

1. Assume that the following table is given. Calculate the sum of expected number of tanker accidents.

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| --- | --- | --- | --- |
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1. A two-player pollution abatement game

|  |  |  |
| --- | --- | --- |
| strategy for Y  strategy for X | Pollute | Abate |
| Pollute | , | , - |
| Abate | -, | , |

1. Find the Nash equilibrium
2. Why Nash equilibrium is a bad choice? Discuss.
3. World Natural Gas Reserves (describe the general situation).
4. World Natural Gas Production and Consumption (describe the general situation).
5. World Natural Gas Trade and Prices (describe the general situation).
6. Natural Gas: case of Azerbaijan (describe the general situation).
7. World Crude Oil Reserves (describe the general situation).
8. World Crude Oil Production and Consumption (describe the general situation).
9. World Crude Oil Trade and Prices. (describe the general situation).
10. Crude Oil: case of Azerbaijan. (describe the general situation).
11. A construction company is given a contract to build a pipeline from point A to point B which B is opposite side of water. The distance between A and C (land) is km, between C and B (water) is km. What is the cheapest construction cost to build the pipeline if it costs million dollars per kilometer for a pipeline build on land and million dollars for each kilometer in water?
12. Assume that, and marginal cost (MC) is constant at $ per unit. Find the optimal allocation of the quantity.
13. Assume that, and marginal cost (MC) is constant at $ per unit. We need to allocate supply of a depletable resource between two periods. If consumption of the first period is nine units, find the future value of net benefit at period one and two also draw graphs.
14. Assume that, and marginal cost (MC) is constant at $ per unit. We need to allocate supply of a depletable resource between two periods. If consumption of the first period is five units, find the present value of net benefit at period one and two also draw graphs.
15. Weak, strong and environmental sustainability. Explain
16. Assume that,, and . In which period the quantity of supply will be zero? Draw the quantity and the marginal cost graphs.
17. Assume that, the marginal cost of depletable resource is , that the marginal cost of renewable resource is and . Find the chock price and chock quantity. Also draw the quantity and the marginal cost graphs.
18. Assume that,, and . In which period the quantity of supply will be zero? Draw the quantity and the marginal cost graphs.
19. Assume that,, and . If the marginal cost of renewable resource is , find the chock price and chock quantity. Also draw the quantity and the marginal cost graphs.
20. Assume that fishery has property right to use the river. Let chemical company pays $ per ton to the fishery. If and , find:

* Total payment to fishery
* Total gain for fishery and chemical company

1. Assume that fishery has property right to use the river. Let chemical company pays \*\*\*$ per ton to the fishery. If and , find:

* Total payment to fishery
* Net gain for fishery and chemical company

1. Assume that chemical company has property right to use the river. Let fishery pays \*\*\*$ per ton to the fishery. If and , find:

* Total damage for fishery at point \*\*\*
* Total gain for fishery and chemical company

1. Assume that chemical company has property right to use the river. Let fishery pays \*\*\*$ per ton to the fishery. If and , find:

* Net gain and total cost for fishery
* Total gain for chemical company

1. Assume that fishery has property right to use the river. If and . Find the social efficient point and calculate:

* Total damage for fishery at the social efficient point
* Total gain for chemical company and fishery

1. Assume that fishery has property right to use the river. If and . Find the social efficient point and calculate:

* for chemical company at point zero and (the social efficient point)
* Total gain for fishery and chemical company

1. Assume that chemical company has property right to use the river. If and. Find the social efficient point and calculate:

* TAC for chemical company at the social efficient point
* Net gain for fishery and chemical company

1. Assume that chemical company has property right to use the river. If and. Find the social efficient point and calculate:

* Total damage for fishery at point \*\*\*
* Net gain for chemical company and total gain for fishery **<NOXMLTAGINDOC> <DOCPAGE NUM="223"> <ART FILE="NEWWEB~1.EPS" W="72pt" H="52.293pt" XS="100%" YS="100%"/> </DOCPAGE> </NOXMLTAGINDOC>**

1. Assume that chemical company has property right to use the river. Let and. How can maximize fishery its net gain? Find the optimal payment to chemical company for one ton of emission.
2. Assume that fishery has property right to use the river. Let and. How can maximize chemical company its net gain? Find the optimal payment to fishery for one ton of emission.
3. Type of standards. Explain and give an example
4. What kind of standard(s) would you recommend for Azerbaijan? Why? Explain.
5. Let and . Calculate the maximum value of net social gain.
6. Let and If standard is \*\*\* tons, calculate the net social gain
7. Let, and emission standard is \*\*\* tons.Apply uniform standard and find the sum of for both firm.
8. Let, and emission standard is \*\*\* tons.Apply cost-effective individual standard and find the sum of for both firm
9. Why wouldn’t the polluter (firm) simply disregard the tax, continue to pollute the way it has been, and just pass the tax on to consumers in the form of higher prices?
10. Let and. Government applies the tax rate of \*\*\*$ per ton. Calculate net social benefit and total abatement cost.
11. Let and. Government applies the tax rate of \*\*\*$ per ton. Calculate total tax bill.
12. Let and. Government applies the tax rate of \*\*\*$ per ton. Calculate total private cost.
13. Let and . Government applies the tax rate of \*\*\*$ per ton and \*\*\* tons of emissions free of tax. Calculate total tax bill.
14. Let and . Government applies the tax rate of \*\*\*$ per ton and \*\*\* tons of emissions free of tax. Calculate total private cost
15. Let and . Government applies the tax rate of \*\*\*$ per ton and \*\*\* tons of emissions free of tax. Calculate net social benefit and total abatement cost.
16. Let and. If tax per kilogram of emission is 150$, and emission standard is \*\*\* tons, calculate and compare:
17. (Emission Standard)
18. (Emission Tax)
19. Maximum sustainable yield of a fishery. Derive mathematically and explain economic meaning. Also, find the profit at this point. (Hint: assume that TR and )
20. Efficient sustainable yield of a fishery. Derive mathematically and explain economic meaning. Also, find the profit at this point. (Hint: assume that TR and )
21. Open access equilibrium level of a fishery. Derive mathematically and explain economic meaning. Also, find the profit at this point. (Hint: assume that TR and )
22. Assume that the relationship between the growth of a fish population and the population size can be expressed as , where is the growth in kilograms and is the size of the population. If fish’s price is \*\*\*$ for one kilogram and the total cost is , find the maximum sustainable yield and profit at this point
23. Assume that the relationship between the growth of a fish population and the population size can be expressed as , where is the growth in kilograms and is the size of the population. If fish’s price is \*\*\*$ for one kilogram and the total cost is , find the efficient sustainable yield and profit at this point
24. Assume that the relationship between the growth of a fish population and the population size can be expressed as , where is the growth in kilograms and is the size of the population. If fish’s price is \*\*\*$ for one kilogram and the average cost is \*\*\* dollars, find the open access equilibrium level and profit at this point
25. What is the different between an open-access fishery and a common property fishery?
26. Stable and unstable points of fishery. Draw graph and explain the meaning of each point.
27. Let growth function of fish population is given by function of. If fish stocks are \*\*\* tons and catch level of fish stocks are \*\*\* tons (after growth), find the maximum fish stocks after years.