Front Matter

Department of Economics

Examination paper for SØK1101 Environmental and Resource Economics

Examination date: 14.05.2024

Examination time (from-to): 09:00- 13:00

Permitted examination support material: C
Mathematical manual
Calculator

Academic contact during examination: Colin Green
Phone: 940 37 271

Academic contact present at the exam location: No

OTHER INFORMATION

Get an overview of the question set before you start answering the questions.

Read the questions carefully and make your own assumptions. If a question is unclear/vague, make your own assumptions and specify them in your answer. The academic person is only contacted in case of errors or insufficiencies in the question set. Address an invigilator if you suspect errors or insufficiencies. Write down the question in advance.

Hand drawings The questions can be answered directly in Inspera and/or on handwritten sheets.

At the bottom of the question you will find a seven-digit code. Fill in this code in the top left corner of the sheets you wish to submit. We recommend that you do this during the exam. If you require access to the codes after the examination time ends, click “Show submission”.

Weighting: *All three questions worth equal weights.*

Notifications: If there is a need to send a message to the candidates during the exam (e.g. if there is an error in the question set), this will be done by sending a notification in Inspera. A dialogue box will appear. You can re-read the notification by clicking the bell icon in the top right-hand corner of the screen.

Withdrawing from the exam: If you become ill or wish to submit a blank test/withdraw from the exam for another reason, go to the menu in the top right-hand corner and click “Submit blank”. This cannot be undone, even if the test is still open.

Access to your answers: After the exam, you can find your answers in the archive in Inspera. Be aware that it may take a working day until any hand-written material is available in the archive.

1 Question 1 Externalities

a. Demonstrate how negative externalities, such as pollution, leads to reductions in economic surplus.

b. Illustrate and discuss how assigning property rights can, in principle, solve problems related to negative production externalities.

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Words: 0

Maks poeng: 10

2 Question 2 Depletable Resources

There is a depletable resource stock of 30 to be allocated across two periods
A demand curve is P=25-0.5Q that is identical across periods
The marginal cost of extraction is 5
Use a discount rate of 0.08

a. Illustrate the optimal allocation of Q across the two periods.

b. Solve for quantities, prices, and marginal user costs in both periods.

c. Imagine that we knew with certainty that there will be a cheaper, renewable, substitute available in the 2nd period.

Discuss what this would do to usage in period 1 (Q1) and why.

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3 Question 3 Pollution and Policy

a. Demonstrate the optimal level of pollution. Why is this level not usually zero?

b. Demonstrate the most cost-effective way to reduce pollution across 2 firms with different marginal costs of pollution abatement.

c. Compare and discuss taxation and cap and trade (permits) based methods to achieve this reduction.

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Format

Words: 0

Maks poeng: 10