

## i Nytt dokument

Department of Economics

Examination paper for SØK1101 Environmental and Resource Economics

Examination date: 26/05/2021

Examination time (from-to): 9:00 to 13:00

Permitted examination support material: A / All support material is allowed

Academic contact during examination:

Phone: 940 37 271

Technical support during examination: Orakel support services

Phone: 73 59 16 00

If you experience technical problems during the exam, contact Orakel support services as soon as possible before the examination time expires. If you don't get through immediately, hold the line until your call is answered.

### OTHER INFORMATION

**Make your own assumptions:** If a question is unclear/vague, make your own assumptions and specify them in your answer. Only contact academic contact in case of errors or insufficiencies in the question set.

**Cheating/Plagiarism:** The exam is an individual, independent work. Examination aids are permitted, but make sure you follow any instructions regarding citations. During the exam it is not permitted to communicate with others about the exam questions, or distribute drafts for solutions. Such communication is regarded as cheating. All submitted answers will be subject to plagiarism control. [Read more about cheating and plagiarism here.](#)

**Citations:** We do not require referencing / citations.

**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 Inspira. 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. All candidates will also receive an SMS to ensure that nobody misses out on important information. Please keep your phone available during the exam.

### ABOUT SUBMISSION

**File upload:** When working in other programs because parts of/the entire answer should be uploaded as a file attachment – make sure to save your work regularly.

All files must be uploaded before the examination time expires. 30 minutes are added to the examination time to digitalize the sketches/calculations/files. (The additional time is included in the remaining examination time shown in the top left-hand corner.)

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**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.

**Accessing your answer post-submission:** You will find your answer in Archive when the examination time has expired.

## 1 Ny oppgave

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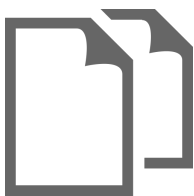
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Maximum marks: 10

**Document 1**  
Attached



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**Question 1**  
Attached



SØK1101 Spring 2021

Answer all 4 questions. Weights given next to each question.

Question 1 (25%) Externalities

- a. Demonstrate and discuss how negative pollution externalities reduce social welfare.
- b. How can assigning property rights potentially solve this problem?

Question 2 (25%) Pollution

- a. Demonstrate and discuss the optimal level of a flow pollutant
- b. Compare taxation approaches to cap and trade approaches to reducing pollution.

Question 3 (25%) Depletable Resources

Consider a depletable resource stock of  $Q=24$  to be allocated across two periods.

The marginal willingness to pay (demand curve) is given by  $P=16-Q$

Where  $P$  is the price and  $Q$  is the amount extracted.

The demand curve is identical in both periods

The marginal cost of extraction is constant and equal to 4

- a. Use a discount rate of 0.10 to determine the extraction amount that maximises the present value across both periods. Illustrate and explain graphically.
- b. What is the market price and marginal user cost in both periods?
- c. Why is the marginal user cost higher than the marginal cost of extraction?

Question 4 (25%) Freeriding / Common Pool Resources

- a. How do free riding problems make agreements on global emission reductions unstable?
- b. What are common pool resources and why do they lead to inefficient rates of harvesting?