

[CT5520-OCW DRINKING WATER TREATMENT 2 \(2006-2007\) \(4398-2006OCW\)](#) > [TEST MANAGER](#) > TEST CANVAS



Test Canvas

Add, modify, and remove questions. Select a question type from the Add Question drop-down list and click **Go** to add questions. Use Creation Settings to establish which default options, such as feedback and images, are available for question creation.

Add [Creation Settings](#)

Name Drinking water II: Design

Description The test for Drinking water II: Design is meant to check the knowlegde on the theory of "Planning and Design" and "Finances". This knowlegde is necessary to be able to make the design exercise that is part of the evaluation of the course.

The test must be made before the design exercise is handed over by the instructor.

Instructions

[Modify](#)

Question 1

Multiple Answer

10 points

Question

Wich of the following plans has lately diminished in importance?

Answer

Policy plan DIV, Ministry of Environmental plannning



Long-range plan, VEWIN

Provincial policy plan, Province

Provincial management plan, Province

Regional plans, Province

Zoning plan, Municipality

Demand coverage plan, Water company

Long-range investment plan, Water company

Company plan, Water company

Correct Feedback

The long-range plan, edited by VEWIN, has lately diminished in importance. Water supply companies are nowadays mostly provincial and sometimes super-prov companies. Therefore, less co-ordination between different companies is necessary. objective of the long-range plan will be incorporated in the planning processes of pr water companies

Incorrect Feedback

The long-range plan, edited by VEWIN, has lately diminished in importance. Water supply companies are nowadays mostly provincial and sometimes super-prov companies. Therefore, less co-ordination between different companies is necessary. objective of the long-range plan will be incorporated in the planning processes of pr water companies

Question 2

Multiple Answer

10 points

Question

Indicate which elements can be found in the pre-design and not in a sketch design

Answer

Compilation of pre-studies

Description of alternative solutions

Founding of selected alternative

Treatment scheme (block scheme)

✓ Process scheme

Hydraulic line scheme

Terrain lay-out (plan of patches)

✓ Spacial design drawings

✓ Specification of main components

Phasing of realization

Cost estimate

Correct Feedback

In the pre-design all elements are further elaborated on than in the sketch design. In the sketch design normally the process scheme, spacial design drawing and the specification of the main components are not yet fully developed.

Incorrect Feedback

In the pre-design all elements are further elaborated on than in the sketch design. In the sketch design normally the process scheme, spacial design drawing and the specification of the main components are not yet fully developed.



Question 3

Multiple Answer

10 points



Question Indicate the different groups of exploitation costs following NEN 2632

Answer

✓ fixed costs

✓ energy costs

ground costs

construction costs

additional costs

✓ maintenance costs

✓ administration costs

✓ specific company costs

establishment costs

Correct Feedback

The 5 different groups of exploitation costs following NEN 2632 are:

- fixed costs*
- energy costs*
- maintenance costs*
- administration costs*
- specific company costs*

Incorrect Feedback

The 5 different groups of exploitation costs following NEN 2632 are:

- fixed costs*
- energy costs*

- c. *maintenance costs*
- d. *administration costs*
- e. *specific company costs*

Question 4

Multiple Answer

10 points

Question

Indicate the different groups of investment costs following NEN 2631

Answer

fixed costs

energy costs



ground costs



construction costs



additional costs

maintenance costs

administration costs

specific company costs



establishment costs

Correct Feedback The 4 different groups of investment costs following NEN 2631 are:

- a. *ground costs*
- b. *construction costs*
- c. *establishment costs*
- d. *additional costs*

Incorrect Feedback The 4 different groups of investment costs following NEN 2631 are:

- a. *ground costs*
- b. *construction costs*
- c. *establishment costs*
- d. *additional costs*

Question 5

Multiple Choice

10 points

Question

Indicate characteristics of annuity repayment

Answer

Constant repayment and constant interest



Increasing repayment and decreasing interest

Constant repayment and decreasing interest

Increasing repayment and constant interest

Correct Feedback*In annuity repayment the yearly capital costs (sum of interest and repayment) is constant over the repayment period. This implies that in the first years the interest is high and the repayment is small.**In linear repayment, every year the same repayment takes place. The yearly repayment is thus constant over the repayment period. The loan is decreasing linearly over the repayment period and so is the interest.***Incorrect Feedback***In annuity repayment the yearly capital costs (sum of interest and repayment) is constant over the repayment period. This implies that in the first years the interest is high and the repayment is small.**In linear repayment, every year the same repayment takes place. The yearly repayment is thus constant over the repayment period. The loan is decreasing linearly over the repayment period and so is the interest.*



Question 6

Multiple Answer

10 points



Question The net present value is used for comparison of different alternatives of production installation. Which of the following elements are included in the net present value?

Answer



present investment costs



future investment costs



present operational costs



future operational costs



indexation of future costs

Correct Feedback

In the realisation of a production installation, a comparison is made between different alternatives. The alternatives are generated where not all the investments are done at the start (fasing). One of the methods to compare these different alternatives is the net present value of investment costs. The net present value includes: present investment costs, future investment costs, present operational costs and indexation of future costs.

Incorrect Feedback

In the realisation of a production installation, a comparison is made between different alternatives. The alternatives are generated where not all the investments are done at the start (fasing). One of the methods to compare these different alternatives is the net present value of investment costs. The net present value includes: present investment costs, future investment costs, present operational costs and indexation of future costs.



Question 7

Multiple Answer

10 points



Question

What is the purpose of a process flow diagram

Answer

Determination of height of treatment steps

Determination of Lay out of terrain



Indication of direction of flows



Indication of division of flow over units



Determination of functional valves

Determination of dimensions of building



Analysis of operational actions

Correct Feedback

A process flow diagram shows elements through standardised graphical symbols on the flow line. In addition, the process flow diagram can contain additional information, like the quantity of the flow, process steps, functional control devices. The process flow diagram forms the basis for hydraulic and the functional description of operation.

Incorrect Feedback

A process flow diagram shows elements through standardised graphical symbols on the flow line. In addition, the process flow diagram can contain additional information, like the quantity of the flow, process steps, functional control devices. The process flow diagram forms the basis for hydraulic and the functional description of operation.



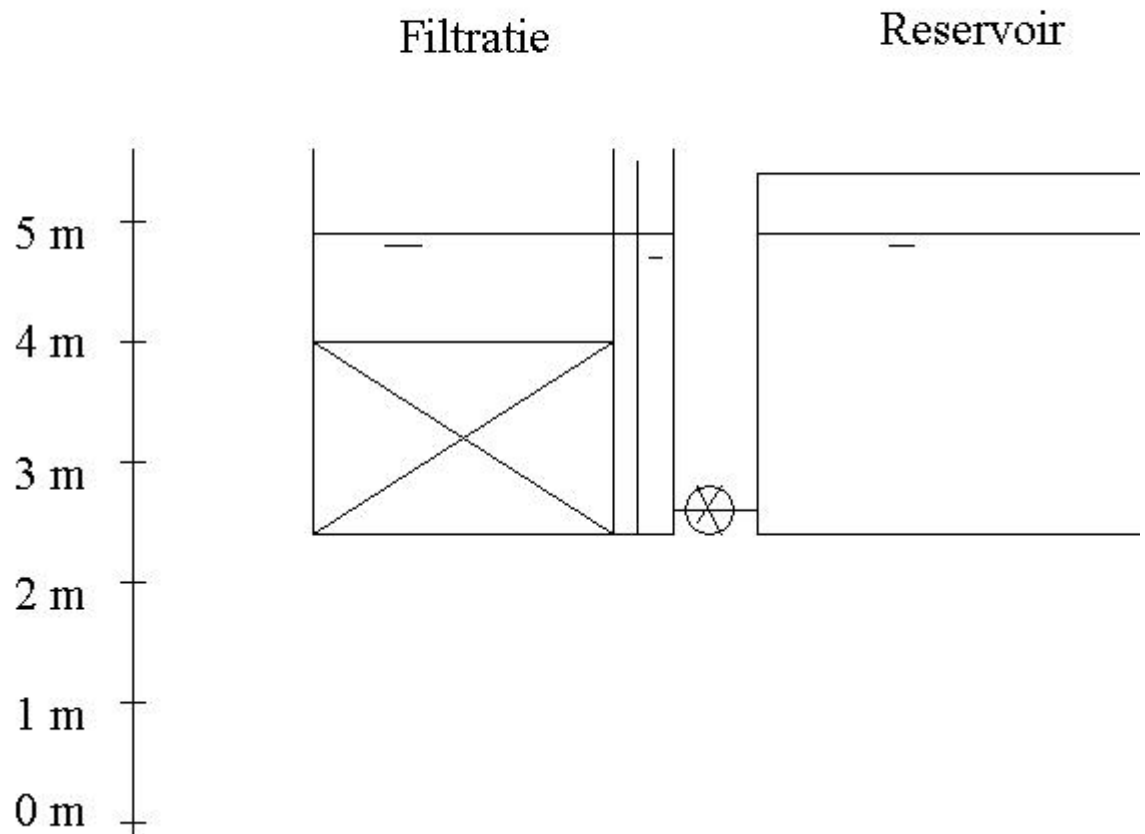
Question 8

Multiple Choice

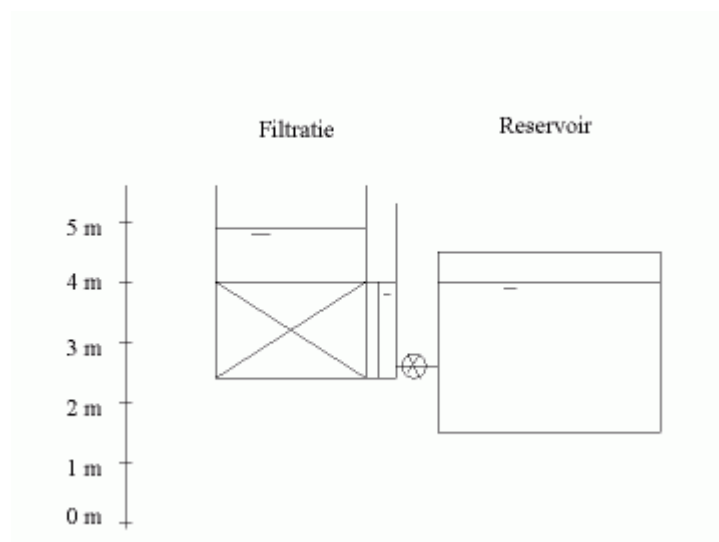
10 points

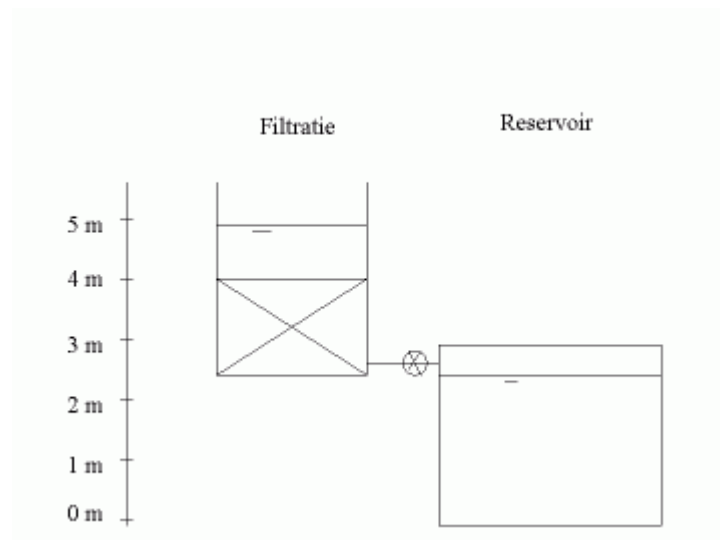
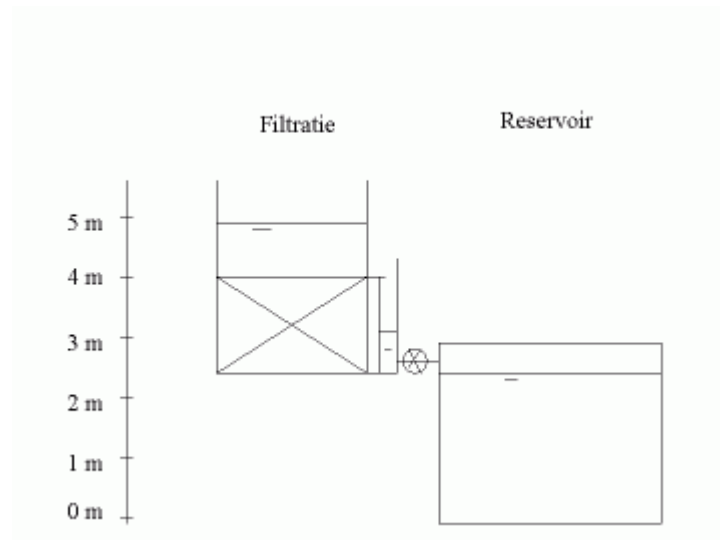


Question Which of the 4 designs can hydraulically be considered as the most optimal solution.



Answer 





- Correct Feedback** During filtration the headloss over the filter will increase and therefore a difference between the s level and the water level downstream of the filter must exist. It should however be avoided that th and/or negative pressures in the filter will occur (answer 4). In addition, energy should not be spil Therefore, the second answer is the best.
- Incorrect Feedback** During filtration the headloss over the filter will increase and therefore a difference between the s level and the water level downstream of the filter must exist. It should however be avoided that th and/or negative pressures in the filter will occur (answer 4). In addition, energy should not be spil Therefore, the second answer is the best.

OK