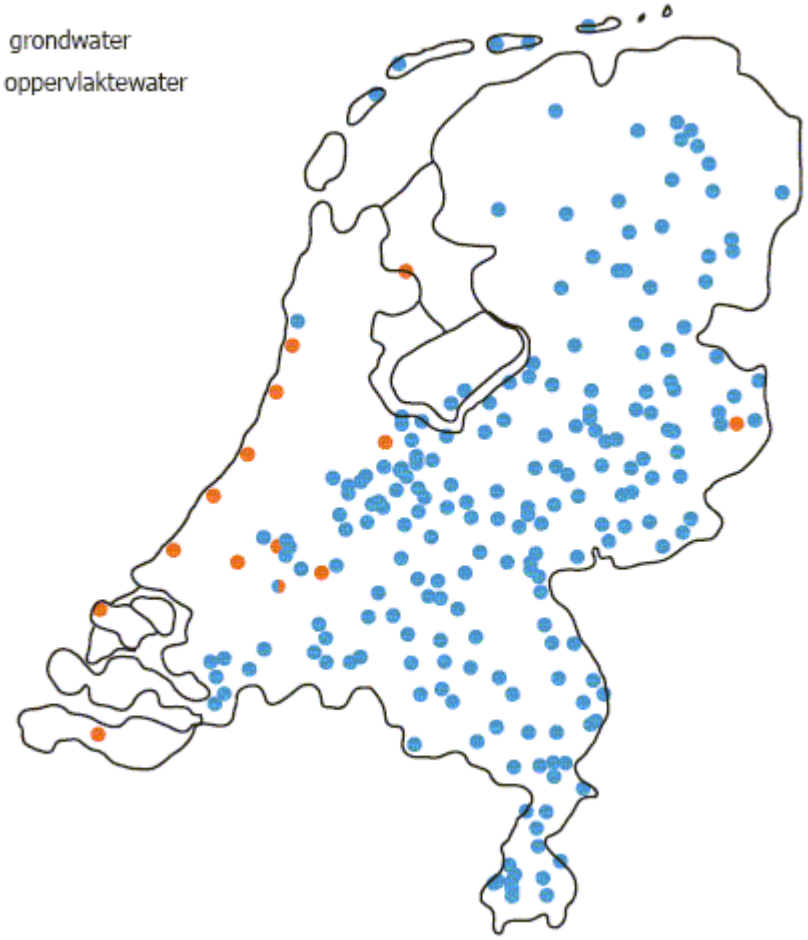
Preview Assessment: Introduction 2006

Name	Introduction 2006
Instructions	Answer the questions using all material you wish. Please take your time and discuss with your colleagues.
Multiple Attempts	This Test allows multiple attempts.
Force Completion	This Test can be saved and resumed later.

Question Completion Status:

Question 1 **10 points** Save

The map indicates the distribution of groundwater and surface water source for drinking water in the Netherlands. Which colour is for surface water? Wich colour is for ground water?



- Ground water
- Surface water

A. Orange
B. Blue

Question 2 **10 points** Save

Aerobic ground water contains iron, manganese and ammonium

- True
- False

Question 3 **10 points** Save

In a ground water filter 10 mg/l of iron is removed. The result is that the oxygen concentration decreases with 1.4 mg/l and the carbondioxide concentration increases with 15 mg/l.

- True
- False

Question 4 **10 points** Save

The treatment of riverbankfiltrate consists preferably of aeration-settling-rapidsand filtration-activated carbon filtration-UVdisinfection

- True
- False

Question 5 **10 points** Save

In a completely mixed reservoir with a retention time of 1 month, the bacteria concentration is reduced with 99% assuming a decay coefficient of 0.3/d.

- True
- False

Question 6 **10 points** Save

In the past, the traditional treatment of surface water consisted of dosing of FeCl3, followed by floc formation-settling and rapid filtration.

- True
- False

Question 7 **10 points** Save

The most important advantage of artificial infiltration is the storage function.

- True
- False

Question 8 **10 points** Save

Trihalomethanes are formed as by-product of disinfection with ozone.

- True
- False

Question 9 **10 points** Save

At the "Brabantse Biesbosch" 3 reservoirs are applied in order to prevent algae blooms.

- True

- False

Question 10 **10 points** Save

Legionnaires disease can be transmitted by drinking contaminated water.

- True
- False

Question 11 **10 points** Save

Ground water is microbiologically reliable.

- True
- False

Question 12 **10 points** Save

Aeration of ground water is necessary for reducing iron.

- True
- False

Question 13 **10 points** Save

River bank ground water is an unreliable source for drinking water, because it is impossible to avoid pollution from reaching the wells.

- True
- False

Question 14 **10 points** Save

The reservoirs applied for the treatment of surface water have 2 functions (storage, autopurification).

- True
- False

Question 15 **10 points** Save

In a surface water treatment plant, activated carbon is necessary for removing pathogenic micro-organisms.

- True
- False

Question 16 **10 points** Save

The Vewin-benchmark is a relatively new means to promote effectiveness and makes the Dutch drinking water sector transparent and provides waterworks with instruments to improve business processes. The benchmark maps the performance of waterworks in efficiency and services. (For answering this question see www.vewin.nl)

- True
- False

Question 17 **10 points** Save

In the Vewin bench mark, customers give waterworks reasonably high marks for service. (see www.vewin.nl).

- True
- False

Question 18 **10 points** Save

Only 5% of the supllied drinking water is used for consumption. Separate water supplies with different qualities are therefore not sustainable.

- True
- False

Question 19 **10 points** Save

The minimum treatment of anaerobic ground water is aeration.

- True
- False

Question 20 **10 points** Save

What is the minimum treatment of ground water?

- [ ] Aeration
- [ ] Filtration
- [ ] Softening
- [ ] Adsorption
- [ ] Micro- and ultrafiltration
- [ ] Reverse osmosis and nanofiltration

Question 21 **10 points** Save

Dissolved organic compounds are removed by:

- Floc formation
- floc removal
- sand filtration
- Granular activated carbon

Question 22 **10 points** Save

The domestic water consumption in the Netherlands is decreasing.

- True

- False

Question 23 **10 points** Save

The drinking water in the Netherlands is of good quality. Why research on the drinking water quality is still needed?
More answers can be right.

- Drinking water quality can always be better.
- In the last years the drinking water quality has been decreased.
- The drinking water standards become more rigorous.
- There are complaints from costumers.
- Drinking water in the Netherlands is expensive. Research is needed to lower the water price.

Question 24 **10 points** Save

The high population density in the Netherlands is one of the reasons why the Dutch water supply system is one of the best of the world.

- True
- False

Question 25 **10 points** Save

The clear water storage must have a capacity of 6 hours to compensate the difference between day and night.

- True
- False

Question 26 **10 points** Save

The drinking water demand is not constant over the day. The differences in water demand are adjusted by:

- Abstraction
- Treatment
- Storage
- Distribution

Question 27 **10 points** Save

1/3 of the produced drinking water in the Netherlands has ground water as a source.

- True
- False

Question 28 **10 points** Save

How much of the drinking water had ground water as a source?

- 1/3
- 1/2
- 2/3
- 3/4

Question 29 **10 points** Save

DOC (dissolved organic carbon) is a measure for the concentration of organic micro pollutants.

- True
- False

Question 30 **10 points** Save

Water with a concentration Na of 63 mg/l, K of 5 mg/l, Ca of 45 mg/l, Mg of 9 mg/l and Fe of 4 mg/l has a hardness of 1.5 mmol/l.

- True
- False

Question 31 **10 points** Save

The oxygen content of rain water at a temperature of 10oC is 9 mg/l

- True
- False

Question 32 **10 points** Save

The pH of water with a temperature of 25oC en a CO2 content of 44 mg/l and a HCO3- content of 61 mg/l is 7.35.

- True
- False

Question 33 **10 points** Save

Soft water is almost always lime corrosive.

- True
- False

Question 34 **10 points** Save

Ground water has in its nature not a calcium carbonate precipitating capacity.

- True
- False

Question 35 **10 points** Save

Light anaerobic groundwater is preferably treated by aeration and dry filtration.

- True
- False

Question 36 **10 points** Save

Aeration and gas transfer is normally the first treatment step during the production of drinking water from ground water or riverbank water.

- True
- False

Question 37 **10 points** Save

Although surface water has been in contact with air for a prolonged period, aeration and gas transfer is the first treatment step during the production of drinking water from surface water.

- True
- False

Save Submit