



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
Faculty of Health and Applied Sciences**

**DEPARTMENT OF HEALTH SCIENCES**

<b>QUALIFICATION :</b> BACHELOR OF ENVIRONMENTAL HEALTH SCIENCES	
<b>QUALIFICATION CODE:</b> 08 BOHS	<b>LEVEL:</b> 5
<b>COURSE CODE:</b> WAS512S	<b>COURSE NAME:</b> WATER AND SANITATION
<b>SESSION:</b> JANUARY 2020	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER</b>	<b>MRS BUHLEBENKOSI MPOFU</b>
<b>MODERATOR</b>	<b>MS CHARMAINE JANSEN</b>

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>

<b>PERMISSIBLE MATERIALS</b>
NONE

**THIS QUESTION PAPER CONSISTS OF 3 PAGES**  
(Including this front page)

**SECTION A**  
**[20 MARKS]**

**QUESTION 1**

**(10 marks)**

1.0 Define the following terms as used in Water and Sanitation:

- 1.1 Deep Well. [2]
- 1.2 Water table. [2]
- 1.3 Permeable rock. [2]
- 1.4 Vault. [2]
- 1.5 Soil drain. [2]

**QUESTION 2**

**(10 marks)**

2.0 Differentiate the following terms:

- 2.1. Protected and unprotected water source. [2]
- 2.2. Sedimentation and filtration. [2]
- 2.3. Distillation and Membrane Filtration. [2]
- 2.4. Onsite Sanitation and Basic Sanitation. [2]
- 2.5. Desludging and Night Soil. [2]

**SECTION B**  
**[35 MARKS]**

**QUESTION 3**

**(15 marks)**

- 3.1. Identify any **five (5)** advantages of ground water. [5]
- 3.2. Describe any **five (5)** factors you would consider for the development of a new water source for a community. [10]

**QUESTION 4**

**(20 marks)**

- 4.1 Outline any **five (5)** methods of effluent disposal. [10]
- 4.2 Explain any **five (5)** reasons why water is sampled. [10]

**SECTION C**  
**[45 MARKS]**

**QUESTION 5**

**(45 marks)**

- 5.1. With the aid a diagram, explain the septic tank system. [20]
- 5.2. Using examples, discuss any **five (5)** major challenges facing Namibia in the provision of safe drinking water. What can be done to reduce these challenges? [25]

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**TOTAL MARKS = 100**