



**PAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH AND APPLIED SCIENCES**

**DEPARTMENT OF HEALTH SCIENCES**

<b>QUALIFICATION : BACHELOR OF ENVIRONMENTAL HEALTH SCIENCES</b>	
<b>QUALIFICATION CODE: 08BEHS</b>	<b>LEVEL: 6</b>
<b>COURSE CODE: APN 612S</b>	<b>COURSE NAME: AIR POLLUTION AND NOISE</b>
<b>SESSION: NOVEMBER 2019</b>	<b>PAPER: THEORY</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 100</b>

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	PROFESSOR OMOTAYO AWOFOLU
<b>MODERATOR:</b>	MS BUHLEBENKOSI MPOFU

<b>INSTRUCTIONS</b>
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

**PERMISSIBLE MATERIALS**

1. Scientific calculator

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

## **SECTION A [22 Marks]**

### **QUESTION 1 [22 Marks]**

- 1.1 The manager of a fish factory requests for suggestion on ways to control the noise from the factory, describe the control measures you will provide to the manager? (6)
- 1.2 State the main sources of law in Namibia and give an example in each case. (4)
- 1.3 Giving examples, briefly explain the routes by which pollutants enter the environment. (6)
- 1.4 Explain the following terms:
- i. Inlet manifold (3)
  - ii. Sleep disturbance (3)

## **SECTION B [36 Marks]**

### **QUESTION 2 [36 Marks]**

- 2.1 Enumerate any six (6) impacts of Global Warming on the human and environment. (6)
- 2.2 Clarify the term “regulatory law” and give any two (2) examples of the implementation of such law in Namibia. (8)
- 2.3 Differentiate between the following terms:
- i. Weather and climate. (4)
  - ii. Wet deposition and dry deposition processes of particulate matter measurement. (4)
  - iii. Primary and secondary air pollutants and give an example in each case. (4)
- 2.4 From municipal regulations, authorised broadcasting is permitted under certain circumstances. Identify any five (5) of these circumstances giving an example in each case? (10)

## **SECTION C [42 Marks]**

### **QUESTION 3 [23 Marks]**

- 3.1 Patrons of a local bar have been found to be exposed to Sound Pressure Level (SPL) of 30  $\mu\text{Pa}$ . Determine the SPL in (dB) if the reference hearing threshold is 20 $\mu\text{Pa}$ . (4)
- 3.2 List the characteristics that can be used for measuring odour by sensory technique. (6)
- 3.3 Describe the formation of photochemical smog and state its impact on human health. (5)
- 3.4 Briefly explain the sources, environmental and human health effects of Carbon monoxide (CO) gas in the environment. (8)

**QUESTION 4 [19 Marks]**

- 4.1 Discuss how air pollution can influence climate change. (6)
- 4.2 Explain the effects of acid rain on the ecosystems. (6)
- 4.3 Using illustration, briefly explain how a pollutant gas can be measured using the Bubbler System. (7)
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**TOTAL: 100 MARKS**

**Good luck!**