



**PANIBIA UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

**FACULTY OF HEALTH AND APPLIED SCIENCES**

**DEPARTMENT OF NATURAL AND APPLIED SCIENCES**

<b>QUALIFICATION : BACHELOR OF SCIENCE HONOURS</b>	
<b>QUALIFICATION CODE: 08BOSC</b>	<b>LEVEL: 8</b>
<b>COURSE NAME: ENVIRONMENTAL INDUSTRIAL AND MEDICAL BIOTECHNOLOGY</b>	<b>COURSE CODE: EIM821S</b>
<b>SESSION: NOVEMBER 2019</b>	<b>PAPER: THEORY</b>
<b>DURATION: 3 HOURS</b>	<b>MARKS: 120</b>

<b>FIRST OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	<b>Prof Percy Chimwamurombe</b>
<b>MODERATOR:</b>	<b>Dr Jean-Damascene Uzabakiriho</b>

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

***PERMISSIBLE MATERIALS***

Non-programmable Calculators

**ATTACHMENTS**

None

**THIS QUESTION PAPER CONSISTS OF 2 PAGES (Including this front page)**

**SECTION A:**

**[60]**

1. Bacteria have a role in climate change. Comment of this statement. (10)
2. Describe five the pitfalls to be concerned about in preservation of microbes? (10)
3. Describe the key steps in wastewater purification until it is potable (10)
4. Describe the process of paternity identification using DNA. (10)
5. Motivate for the use of RNA in forensic work (10)
6. Appraise stem research in Namibia. (10)

**Section B: Essays**

**[60]**

1. Write an essay describing the establishment of an industrial enterprise to remediate oil-spilled soils and freshwaters of Namibia. (30)
2. Write a detailed essay on gene therapy and pharmacogenomics in Namibia critically appraising the applications. (30)