

**Uganda Martyrs University**  
**FACULTY OF EDUCATION**  
**BACHELOR OF EDUCATION (PRIMARY) YEAR ONE**  
**SEMESTER TWO EXAMINATIONS, 2022/23**  
**PHYSICAL SCIENCE EDUCATION**

**PAPER ONE: : THE ATMOSPHERE AND COMBUSTION**

**DATE: Sat 20/05/2023**

**Time: 9:30 am-12:30 pm**

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**Instructions:**

- Do not write anything on this question paper.
  - Attempt only 4(four) questions choosing two from each section.
  - Begin each selected question on a new page in the answer booklet.
  - Follow instructions on this question paper and answer booklet carefully.
  - Each question carries a total of 25 marks
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**SECTION A: THE ATMOSPHERE: Attempt any two questions**

1. (a) What is meant by the term atmosphere? (3 marks)  
(b) Explain why the lower layers of the atmosphere have higher atmospheric pressure than the upper layers. (4 marks)  
(c) Explain why urban areas are more polluted as compared to the rural areas. (8 marks)  
(d) Explain at least five ways by which you can participate in reducing pollution levels around your school. (10 marks)
2. (a) Describe the different gas layers that make up the atmosphere. (10 marks)  
(b)(i) Explain why the atmosphere over urban areas is more contaminated as compared to that of upcountry places. (4 marks)  
(ii) Explain why despite efforts to reduce pollution, the pollution levels are generally still high. (8 marks)  
(c) Explain why when a gas is compressed it becomes hotter. (3 marks)
3. (a) With the aid of an illustration, explain what is meant by green house effect and global warming. (9 marks)  
(b) Give two examples of gases that cause green house effect. (4 marks)  
(c) What are some of the dangers of global warming? (4 marks)

(d) Describe measures that can be taken to control global warming in your home village. (8 marks)

**SECTION B (COMBUSTION): Attempt any two questions**

4. (a) A farmer kept one clean dry iron hoe in a dry place inside her store, while another was left in the compound with mud. The hoe that was left in the store had no change, while the one that was left in the compound was found brownish after a few days. Explain what happened. (5 marks)

(b) Explain the methods that can be used to prevent the kind of iron destruction that occurred to the hoe in (a) above. (10 marks)

(c) Show using chemical equation(s) how the process in 6 (a) above occurred. (4 marks)

(d) Identify three other practical uses of the gas responsible for the process in 6 (a) above in everyday life. (6 marks)

5. (a) With two examples in each case, explain what is meant by complete and incomplete combustion. (6 marks)

(b) Other than hydrogen peroxide and potassium chlorate (V), state three substances which can be used to produce oxygen gas. (3 marks)

(c) Outline a procedure that you would follow to prepare oxygen gas using potassium chlorate (V). (5 marks)

(d) State the practical uses of oxygen in everyday life. (6 marks)

(e) Why is galvanization preferred to tin-plating as a method of preventing iron from rusting? (5 marks)

6. (a) With relevant equations, explain the difference between complete combustion and incomplete combustion. (6 marks).

(b) Describe how you would investigate the conditions necessary for rusting in a laboratory. (12 marks)

(c) Using appropriate equations, show how non-metals react with oxygen (5 marks)

(d) Describe the role of Manganese (IV) oxide in the reaction for oxygen preparation (2 marks).

**END**