END OF TERM EXAMINATION 2023

S. 1 Chemistry 545/1

2½ hours

Name…… signature……

INSTRUCTIONS.

- **Attempt all questions**
- **Answer to questions must be written in the spaces provided.**

SECTION A
Attempt all questions from this section.

1. Chemistry is a laboratory science. Why? (2 marks)

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2. Chemistry is a sub discipline of science, which deals with the study of matter and the substances that constitutes it. It also deals with the properties of these substances and the reactions undergone by them to form new substances.

Chemistry is around us and involved in everything we need, do and interact with in our everyday lives. Below are some of examples of chemistry in our lives.

(a)Use the chemical reactions shown in the diagrams below and fill in the spaces below. (08 marks)

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• Green plants use a chemical reaction called **.....** to convert carbon dioxide and water into food (glucose). It avails food to plants and animals.

• **.....** involves the breakdown of food substances into smaller soluble particles that can be absorbed into the body.

•**.....** is a process by which yeast and bacteria break down sugars.

•**.....**use the chemistry of storage of chemical energy and converting it to electrical energy.

•The process by which fuels react with oxygen from air producing heat and light energy is called**.....** it is employed in heating of substances.

•**.....** is a substance formed when iron reacts with oxygen and water. It weakens iron articles; and makes iron cutlery tools such as kitchen knives blunt.

•Regular**.....** of hands with water and soap involves chemistry of soap removing germs from our hands.

•**.....**is used in making products such as breads, cakes; pan cakes, cookies, doughnuts and all other product made from flour. The process helps in raising the dough of flour and also preserves such foods.

(b) State two ***applications*** of,
(i) Fermentation. (02 marks)
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(ii) Batteries. (02 marks)
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(c) State two examples of ***combustion*** in our daily life. (02 marks)
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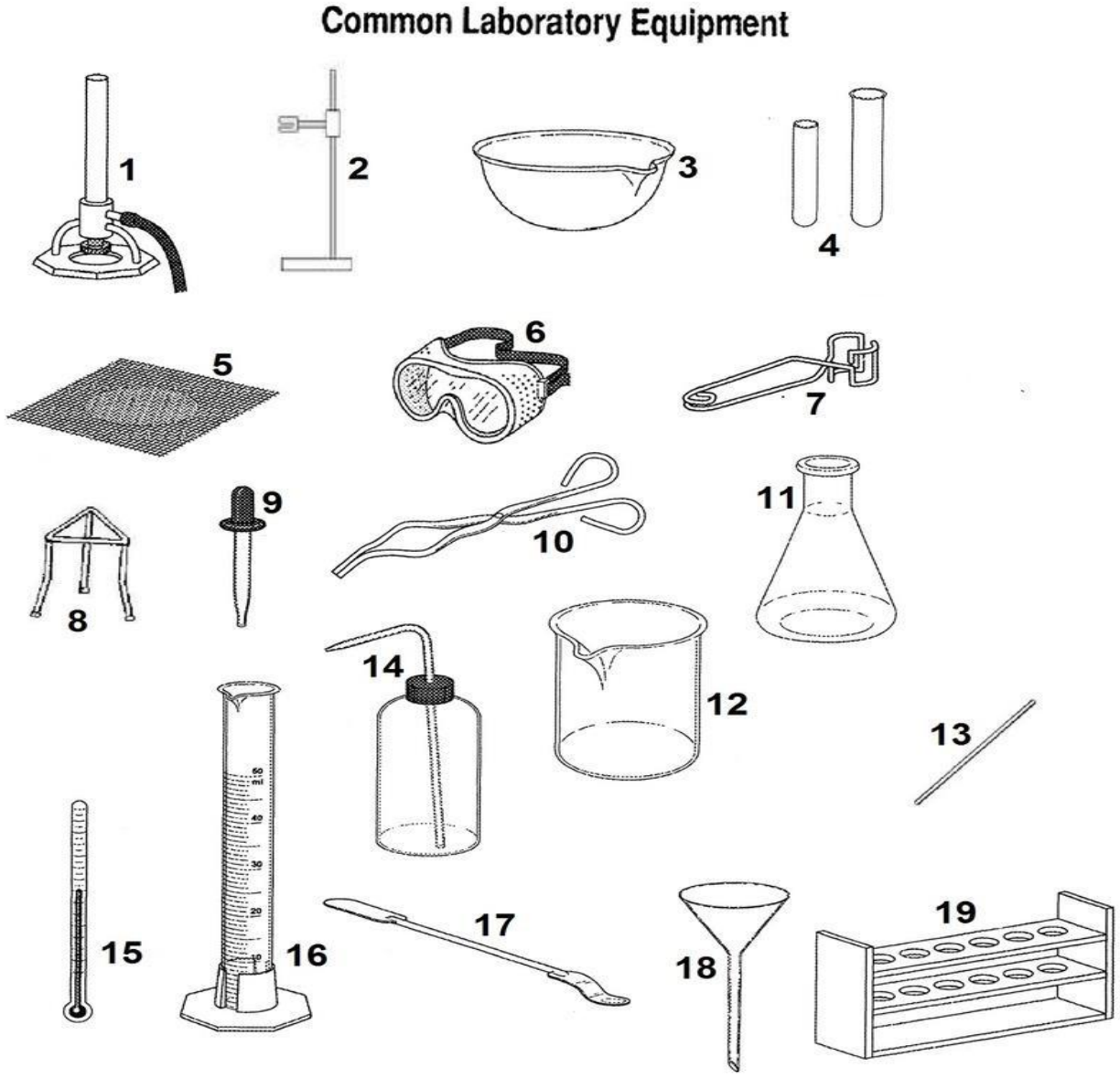
3. A laboratory is special place where science experiments are called from. In carrying out experiments; materials called ***apparatus*** are used. Some apparatus are glass ware; others are made of plastics, others are made of metals while others are wooden. A chart of different apparatus in the laboratory is provided below. Study it and answer the questions that follow.



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(a)Name the apparatus shown by numbers **below** (10 marks)

i) 1.....

ii) **2**.....

iii) 3.....

iv) **4**.....

v) 5.....

vi) **18** .....

vii) 7.....

viii) **8**.....

ix) **12.**.....

x) 16. .....

4. (a) Define Chemistry? (01 mark)

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(b) Give **three reasons** why it is important to study Chemistry? (03 marks)

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5. State any **five** laboratory rules. (5 marks)

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6. Explain why:

(a) A student should not carry out an experiment without approval from the teacher concerned? (1 mark)

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(b) It is dangerous for students to fight or play while in the Chemistry Laboratory. (1 mark)

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(c) It is not allowed for students to mix up any chemicals to see what happens without the approval from the concern teacher? (1 mark)

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(d) A student should not taste/eat anything he or she finds in the Chemistry Laboratory without permission from the concerned teacher? (02 marks)

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7. Define the following terms.

(a) Hypothesis. (2 marks)

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(b) Scientific Law (Principle). (2 marks)

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(c) Scientific Theory. (2 marks)

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8. (a) what is a flame? (1 mark)

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b) Name two types of Bunsen flames you know. (2 marks)

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(c) Give four differences between the flames you have named in (b) above. (4 marks)

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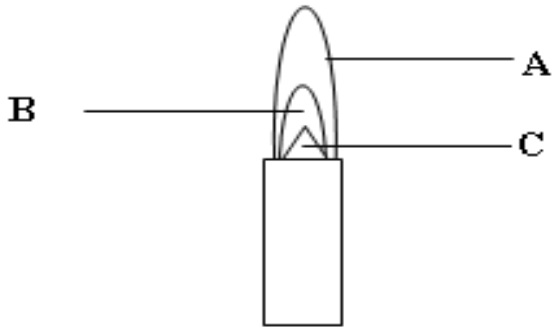
9. The following diagram in figure 1 is of a Bunsen flame use it to answer the questions that follow.



(a) Name the zones A, B and C. (3 marks)

A. ……

B. ……

C. ……

(b) Identify the Bunsen flame shown. (1 mark)

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(c) State the condition under which such a flame is produced. (1 mark)

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(d) Give any **two** advantages of using the flame you have named in (c) above for heating chemicals in the Chemistry laboratory. (02 marks)

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10. Read the passage below and answer the questions that follow

Buyinza an s.1 student was required to prepare a salt solution in the laboratory. He wrapped his sweater around his waist, picked up his books and ran to the laboratory.

On entering, he knocked a table with glass ware spilling a colourless liquid while the glass fell on the floor and brock.

Buyinza tried to collect the broken pieces of glass; the pieces cut his fingers while the books were burnt by the liquid.

In pain he rushed to wash his fingers using water and in the process the sweater around his waist pulled down a beaker of hot water from another table that poured on his leg. Buyinza was rushed to the clinic and never carried out his experiment.

a. From the passage above, what errors were committed by Buyinza? (05 marks)

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b. How could Buyinza have avoided the accident? (5 marks)

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c. Using the above story, what rules should be enforced to ensure safety in the laboratory? (05 marks)

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11. (a) define the following terms

i. Matter.

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ii. Chemistry.

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iii. Laboratory.

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(b) Briefly explain the branches of chemistry.

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END.

It's far honorable to fail than to cheat.

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