**ELERAI MCK GIRLS SECONDARY SCHOOL**

**PO BOX 435**

**SULTAN HAMUD**

*Motto” Discipline Hard Work For Excellence”*

**NAME……………………………………………………………………….ADM……………**

1. State two major differences between the properties of solids and those for gases.(2mks)
2. State any two differences between
3. Luminous and non luminous flame.(2mks)
4. Which of the two flames , luminous and non luminous should be used for heating(1mk)
5. Give a reason for your answer in (b) above.(2mks)
6. When the Bunsen burner is on but no experiment is being carried out why is it advisable to set it to the luminous flame?(2mks)
7. Give two advantages of carrying out experiments in apparatus made of glass.(2mks)
8. Classify the following substances into pure substances and mixtures.(2mks)
9. Sea water
10. Copper wire
11. If you are given two samples of water one of which is pure and another which is impure,
12. Give a simple experiment then you would carry out in the laboratory to distinguish them.(2mks
13. What results would you expect.(2mk)
14. Brime is made by mixing water and common salt. Give the names of the following from brime.(3mks)
15. Solute
16. The solvent
17. The solution
18. a)Describe how you would obtain sand from a mixture of sand and common salt.(3mks)

b)State why the method you have explained in above be unsuitable for separating a mixture of sugar and common salt.(2mks)

1. Name the best method you can use to separate the following mixtures in order to obtain the first substance in pure form.(5mks)
2. Common salt and water
3. Water and common salt
4. Coloured dyes in ethanol
5. Ammonium chloride and sodium chloride
6. Ethanol and water

9. The table below shows the melting and boiling points of some pure substances at

Atmospheric pressure. Study it and answer the questions that follow.

|  |  |  |
| --- | --- | --- |
| **SUBSTANCE** | **MELTING POINT** | **BOILING POINT** |
| **OXYGEN** | -219 | -183 |
| **WATER** | 0 | 100 |
| **SODIUM CHLORIDE** | 801 | 1465 |
| **ETHANOL** | -117 | 78 |
| **SULPHUR** | 115 | 444 |
| **COPPER** | 1083 | 2600 |
| **PROPANE** | -188 | -42 |

1. Which of the substances are solid at room temperature of 220 c.(1mk) which of the substance is a liquid at a temperature of -1000c(1mk)
2. A sample of water was found to boil at 1020c atmospheric pressure .what can you say about the water (1mk)
3. In what physical state is copper at 17000c (1mk)
4. Which of the substances are gases at 1500c(1mk)

10. The diagram below shows experiment demonstrate the properties of hydrogen as a reducing agent

a) Before lighting hydrogen gas at jet it is important to drive all the air in the combustion explain (2mks)

b) State what would be observed in the boat containing lead II oxide during the experiment (1mks)

Give a word equation for the reaction that cause the observed change

c) What other observation would you expect in the tube (1mk)

d) Why should excess hydrogen be burned and not allowed to escape into atmosphere (1mk)

e) Why should the supply of hydrogen continue until the apparatus are cool (1mk)

f) Name the product formed at the flame (1mk)

11. The diagram below shows the heating curve of a pure substance. Study it and answer the questions that follow.

1. What physical changes are taking place at points X and Z (2mks)
2. What happens to the temperature between points B and C(2mks)
3. The substance under test is definitely not water. Give reason for this. (2mks)

12. During Olympics urine of five short distance runners were taken and tested for the presence of two illegal steroids by paper chromatogram. From the test appeared as shown below . Study the chromatogram and answer the question that follows.

1. Which of the two steroids is most likely to be more soluble in methanol.(2mks)
2. Give a reason for your answer in A above.(2mks)
3. Which athlete tested positive for an illegal steroid.(2mks)

13. The figure below shows an experiment set –up . Study it and answer the questions that follow

14 What are the products of the reaction between?

1. Calcium carbonate and hydrochloric acid

Give an equation for the reaction.(2mks)

1. What would you expect to observe in the limewater.(2mks)

15. Following an ant’s sting application of sodium hydrogen carbonate to the affected skin relieves the irritation. Explain.(2mks)

16. The diagram below illustrates an experiment for preparing oxygen .

1. Give a word equation for the reaction that takes place in the flask.(2mks)
2. Give a word equation for the reaction that takes place in the flaks.(2mks)
3. Name the chemical labeled x and state its role(2mks)
4. What is the role played by concentrated sulphuric acid.(1mk)
5. Which other chemical compound could play the same role as sulphuric acid.(2mks)
6. Give a simple test that can prove that the gas produced is oxygen.(2mks)

17.An element T burns in air with a blue flame forming white fumes which dissolves in water to form a solution that turns blue litmus paper red. Note T is not the actual symbol of the element

1. Is T a metal or a non metal.(1mk)
2. Give a reason for your answer.(2mks)
3. Suggest the possible identity of T(1mk)

18 Cars in Mombasa rust faster than in Kisumu.

1. Explain(2mks
2. Give the factors that are necessary for rusting .(1mks)
3. Name three methods used to prevent rusting .(3mks)