

CHEMISTRY REVISION FOR S2

1. What is the method used to separate the following mixture:
 - i. Soil and water
 - ii. Blood cell and the plasma
 - iii. Different color of the ink
 - iv. Water and cooking oil
 - v. Water and sodium chloride

2. The table below shows the number of sub- atomic particles in atoms P, Q, R, S and T

Atom	p	e	n	A
P	1	-	2	-
Q	-	6	-	12
R	15	-	-	31
S	-	12	12	-
T	-	-	18	37

Copy and complete the table.

3. State how metallic character varies;
 - a) Across the period of the periodic table
 - b) Down the group of the periodic table
4. Write the chemical formulae of the compounds whose names are given below:
 - i) Aluminium nitrate
 - ii) Sodium oxide
 - iii) Lithium sulphate
 - iv) Magnesium carbonate
 - v) Calcium hydrogen phosphate
5.
 - a) What are the natural sources of water?
 - b) Outline any four properties of pure water.
 - c) How can we test for the presence of water?
 - d) Briefly, explain the following processes involved in water treatment in Kimisagara water treatment plant.
 - i) Screening
 - ii) Chlorination
6. From which acids the following salts are formed? /4marks
 - a) NaCl
 - b) CaSO₄
 - c) MgCO₃
 - d) NaNO₃

7. Given the following salts: KBr, NaNO₃, AgCl, PbSO₄, Cu(NO₃)₂, Zn(NO₃)₂, BaSO₄, KNO₃

Arrange them using the table below

Insoluble salt	Soluble salt

8. A mixture contains 1.203g CaCO₃ and 1.797g NaCl. What is the percentage by mass of each component?
9. a) What is an ion?
- b) Which of the following is an anion? Cl⁻, Al³⁺, Na⁺, Mg²⁺
- c) Why do metal ions carry positive charges?
10. Complete the following table by showing the salt formed from given CATION and ANION. The first is done for you.

	K ⁺	Ca ²⁺	Al ³⁺
NO ₃ ⁻	KNO ₃	-	-
SO ₄ ²⁻	-	-	-
PO ₄ ³⁻	-	-	-

11. Multiple choice questions : choose the correct answer.
- a) The electronic configuration of sodium ion is:
- i) 2,8,1 ii) 2,8,8 iii) 2,8 iv) 2,8,2
- b) Ionic compound are soluble in:
- i) Water ii) petrol iii) kerosene iv) all of these
- c) The following metal exists in liquid state:
- i) Sodium ii) silver iii) Mercury iv) neon
- d) Carbon reacts with oxygen to produce
- i) Carbon dioxide ii) carbon monoxide iii) both(a) and (b) iv) none of these
- e) The drinking water becomes polluted by addition of:
- i) Fertilizers ii) oil iii) sewage iv) none of these
- ii)
12. Arrange the following metals in order of reactivity, starting with the most reactive. Zn, Cu, Mg, Ca, Pb.
13. The figure below shows a part of the periodic table. The letter is not a correct symbol of the element.

J							
			G		E		
A						R	D
	X						

NB: Use the letters given to answer the following questions

- a) Which of the elements are metals?
- b) Write the formula of the compounds formed between:
- i) X and R
 - ii) J and G
- c) Which of the compound (aqueous solution) formed between A and R, or between G and J would conduct electricity. Explain your answer.
- d) State which formula of the following: R_2 , E_2 , D_2 , A_2 is written correctly.
- e) State the type of bond that exists in the chloride of X and write the formula of the ion formed by X.
14. Graphite and diamond are allotrope of carbon. They are made of atom of carbon only.
- a) why diamond cannot conduct electric current?
 - b) Explain how bonding in graphite makes it conduct electricity
 - c) State a use of graphite that depends on its electrical conductivity.
 - d) State two properties and two uses of diamond.
15. a) What are metalloids?
- b) Give an example of two elements that are metalloids.
16. Magnesium reacts with dilute hydrochloric acid
- a) State two characteristics of chemical reaction.
 - a) Write a balanced equation for the reaction between magnesium and hydrochloric acid.
 - b) Name the two products of that reaction.
17. Which is the most reactive metal in the given table? Explain why.
- Li
Na
K
Rb
18. Complete the following reactions and balance.
- a) $Li + H_2SO_4 \longrightarrow$
 - b) $Ag + H_2O \longrightarrow$
 - c) $Mg + HCl \longrightarrow$
 - d) $Zn + Cl_2 \longrightarrow$
 - e) $Au + O_2 \longrightarrow$

PLEASE STAY HOME TO PREVENT THE SPREAD OF CORONA VIRUS