LABASA SANGAM (SKM) COLLEGE
YEAR 11
CHEMISTRY
WORKSHEET 1

STRAND 1 GENERAL CHEMISTRY

1. Chemistry can be described as the study of
   A. life and living organisms.
   B. the people and events of the past.
   C. the physical features of the earth and the atmosphere.
   D. matter and its interactions with other matter and energy.

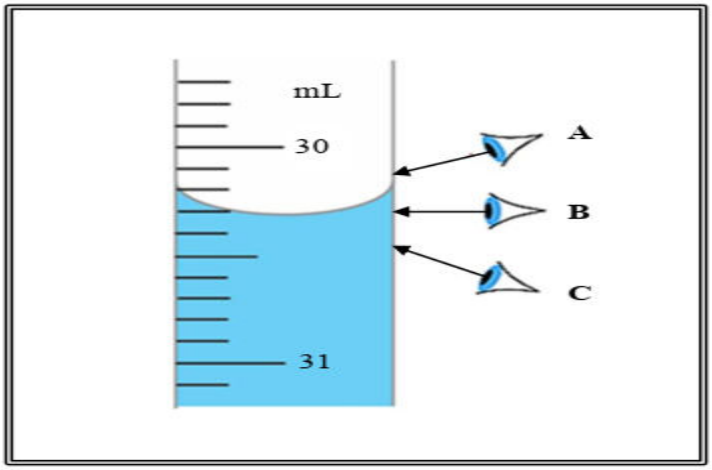
2. The correct number of significant figures in 2.300 is
   A. 1
   B. 2
   C. 3
   D. 4

3. State the importance of the following:
   (a) Students must never play while working in the laboratory.
   (b) Rinsing all glassware well before use.

4. State **one use** of the following apparatus in the laboratory.
   (a) Beaker
   (b) Measuring cylinder

5. **Draw** the diagram of the following apparatus:
   (a) Conical flask
   (b) Tripod Stand

6. Consider the diagram given below and answer the questions that follow.



Adapted from: *https://chem.libretexts.org*

(a) Identify the letter/ letters which represents the **incorrect** way of reading the volume of a liquid in a burette.
(b) Determine the **correct** volume of the liquid.

STRAND 2 INVESTIGATING MATTER

1. The **particle model** of matter
   A. helps us determine the size of an atom.
   B. states that particles in a matter are at a fixed position.
   C. helps us understand what matter is and the way it behaves.
   D. does not take into account the effect of temperature on matter.

2. Which of the following **processes** will change the state of matter from liquid to gas?
   A. Removal of heat energy
   B. Addition of more matter
   C. Removal of some matter
   D. Supplying of heat energy

3. When the volume increases the **density** of a liquid
   A. increases.
   B. decreases.
   C. becomes zero.
   D. remains the same.

4. **Covalent** substances
   A. have high solubility in water.
   B. does not conduct electricity.
   C. have high melting and boiling point.
   D. conduct electricity in solution and molten state.

5. Most solids are **more** soluble in
   A. hot water than in cold water.
   B. cold water than in hot water.
   C. warm water than in hot water.
   D. cold water than in warm water.

6. The **process** which separates the solvent from a solution by evaporation and condensation is
   A. filtration.
   B. distillation.
   C. centrifugation.
   D. chromatography.

7. The element magnesium **(Ca^{40}_{20}),** forms a positive ion.
   (i) **State** if Calcium **loses or gains** electrons.

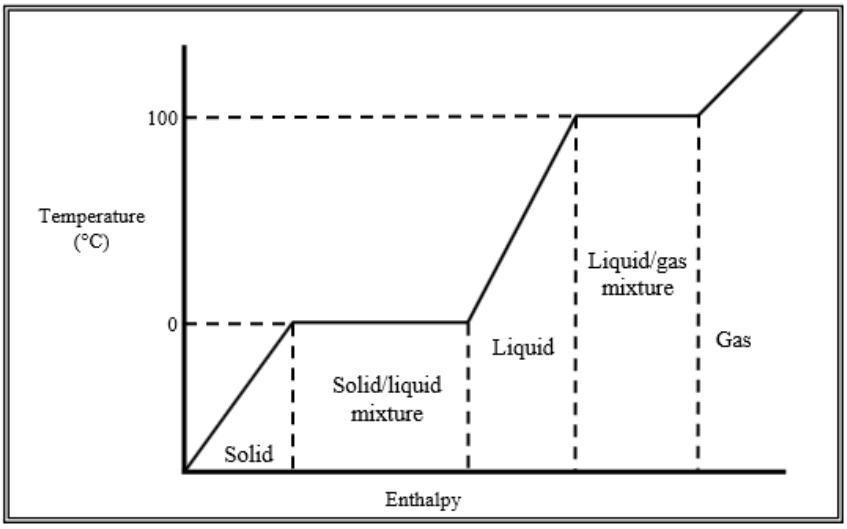
(ii) Write the **electron configuration** of the Calcium ion.
(iii) **Name** the type of **ion** it will form
(iv) **Explain** why atoms form ions.

8. **Differentiate** between elements and compounds. Examples can be used to support your answer.

9. A piece of wood that measures 3.0 cm by 6.0 cm by 4.0 cm have a mass of 90.0 grams is placed in a bucket of water.
   i. **Calculate** the density of the wood.
   ii. If the density of water is 1.0 g cm^{-3}, will the piece of wood **float or sink** in water? **Explain** your reasoning.

10. Sodium combines with chlorine gas to form the white crystalline compound, sodium chloride, which is commonly used as a food additive.
   i. **Describe** the type of bond that exists in sodium chloride.
   ii. **Draw** the electron dot-and-cross diagram for sodium chloride in the Answer Book. Use dots (·) for sodium electron and crosses (x) for chlorine electrons.

11. Study the heating curve of water and answer the questions that follow.



Source: *http://www.schoolphysics.co.uk*

i. **Describe** the process that is occurring at the liquid/gas mixture phase of water.

ii. **Briefly explain** why the process of water changing from its solid to liquid phase cannot be classified as a chemical change?