

NAME:.....STREAM.....

SEROMA CHRISTIAN HIGH SCHOOL

HOME ASSESSMENT 2021

S.2 CHEMISTRY

Time: 2 HOURS

INSTRUCTIONS.

Answer **ALL** questions in section **A** and **B**.

Answers to section A must be written in the table below

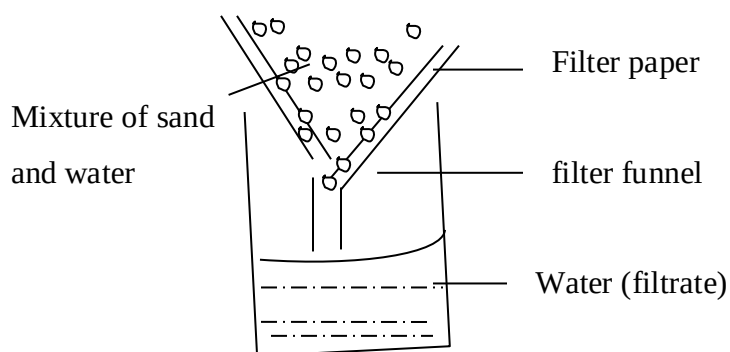
Answers to section B must be written in the spaces provided.

ANSWER SHEET FOR SECTION A

1.	11.	21.
2.	12.	22.
3.	13.	23.
4.	14.	24.
5.	15.	25.
6.	16.	26.
7.	17.	27.
8.	18.	28.
9.	19.	29.
10.	20.	30.

SECTION A

1. The part of a Bunsen burner that is responsible for controlling the amount of air entering the burner is?
A. Collar B. jet C. chimney D. barrel
2. Which one of the following is not matter?
A. Heat B. air C. water D. sound
3. Which one of the following is a chemical change?
A. Melting B. condensing C. evaporation D. ripening
4. Which one of the following is a compound?
A. Air B. water C. sugar solution D. salt solution
5. Which method for separating mixture is shown in table below?



- A. Sublimation B. filtration C. crystallization D. Distillation
6. Which one of the following substances can sublime?
A. Solid carbon dioxide C. sodium chloride
B. Sand D. copper (II) sulphate
 7. Which one of the following properties of oxygen can be used to distinguish it from hydrogen gas?
A. It is colourless C. it is tasteless
B. It is odorless D. it supports burning of substance

8. When a solid compound is left exposed to air and it is later found that it dissolves to form a solution we say it is?
- A. Efflorescent C. hygroscopic
B. Deliquescent D. a drying agent
9. Which one of the following compounds whose chemical formulae are shown is hydrated?
- A. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ C. NaOH
B. CuSO_4 D. CaCl_2
10. Which one of the following is a mixture?
- A. Solvent B. solution C. solute D. none
11. When a piece of potassium metal is dropped in a beaker of cold water, the following is observed;-
- A. No reaction in water
B. Reacts vigorously with cold water.
C. Very slow reaction in cold water.
D. None.
12. In order to prepare oxygen gas in the laboratory, the following chemical substances are used;-
- A. Dilute sulphuric acid and zinc granule.
B. Hydrogen peroxide and manganese IV oxide.
C. Water and manganese (IV) oxide.
D. None
13. Hydrogen gas is used in balloons because;-
- A. It is colourless C. it is less denser than air
B. Its denser than air D. it has no smell
14. The electronic configuration of the atom drawn below is;-

A.2

B .8

C.2:6

D 2:8

15. Which one of the following fundamental particles of an atom is negatively charged?
A. Neutron B. electron C. proton D. protons and neutrons
16. An atom has electronic configuration which is written as 2:7. The valency of the atom is;-
A. 2 B. 7 C. 9 D. 1
17. An atom has got electronic configuration written as 2:8:7. The atom will have the same valency as
A. 2:3 B. 2:7 C. 2:8:1 D. 2:8:6
18. The correct chemical formula for sodium chloride is;-
A. NaCl B. Na₂Cl C. NaCl₂ D. Na₂Cl₂
19. Which one of the following chemical substances is used to test for presence of water?
A. Anhydrous copper (ii) sulphate
B. Hydrated copper (ii) sulphate
C. Copper (ii) oxide
D. Hydrated copper (ii) oxide
20. Which part of a Bunsen flame lacks oxygen?
A. Yellow zone B. un burnt gas C. Green zone D. Blue zone
21. Which one of the following products is formed when a candle burns?
A. Oxygen gas C. carbon dioxide gas
B. Nitrogen gas D. hydrogen gas
22. The correct chemical symbol for potassium metal is;-
A. K B. Po C. pt D. P
23. The percentage composition of carbon dioxide in air is?
A. 0.3% B. 3.3% C. 0.003% D. 0.03%
24. Which one of the following processes increases amount of oxygen gas in the atmosphere.
A. Rusting B. burning C. respiration D. photosynthesis
25. In which one of the following are particles least packed together?
A. Ice B. sand C. steam D. water

26. Which one of the following state of matter will show a marked increase in volume due to increase in pressure on it?
- A. Liquid B. gas C. solid D. none
27. During filtration, part of the mixture which remains on the filter paper is called?
- A. Filtrate B. sublimate C. distillate D. residue
28. Oil and water can be separated by;-
- A. Filtration C. distillation
B. C. sublimation D. using a separating funnel
29. Which one of the following is a radical?
- A. O₂ B. H₂ C. CO₂ D. CO₃
30. Which one of the following substance is an element?
- A. Copper C. copper (II) oxide
B. copper (II) sulphate D. copper (II) carbonate

SECTION B

31. (a) Explain what is meant by the terms

(i) 'mass number'.

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(ii) 'atomic number'

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(b) An atom of an element is represented by the symbol $^{80}_{35}\text{X}$

(i) State the mass number of the atom.

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(ii) What is the atomic number of the atom?

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(iii) How many neutrons are present in the atom?

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32. The electronic structure of an element X is 2:8:6.

(a) Write the formula of the most common ion of X.

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(b) To which group of the Periodic Table does X belong?

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(c) Element X reacts with an element M (atomic number=12)

(i) Write the electronic structure of M.

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(ii) State the type of bond that exists in the compound between M and X.

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33. The number of protons and neutrons of atoms A, B, C and D are shown in table III.

Table III

Atoms	Number of protons	Number of neutrons
A	6	6
B	12	12
C	6	8
D	17	20

(a) Which of these atoms are isotopes?

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Give a reason for your answer.

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(b) Which one of the atoms is of an element in group II of the Periodic Table/ Give a reason for your answer.

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(c) Name the type of bond which is formed when B and D reacts.

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34. The number of electrons' protons and neutrons in atoms A, B, C and D are shown in the table below.

Atom	Electrons	Protons	Neutrons
A	8	8	8
B	16	16	16
C	13	13	14
D	x	3	4

(a) Determine

(i) the value of x

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(ii) the approximate relative atomic mass of C.

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(b) Write the electronic configurations of the following atoms and ions:

(i) A

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(ii) A^{2-}

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(iii) C

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(iv) C^{3+}

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(c) State two atoms that are of elements in the same group of the Periodic Table.

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35. The atomic number of element Q is 13.

(a) Write the electronic configuration of an atom of Q.

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(b) To which group in the Periodic Table does Q belong?

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(d) State whether Q would conduct electricity or not.

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(d) (i) Write the formula of the oxide of Q.

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(ii) State the type of bonding in the oxide of Q.

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END