

TIME: 1½ HOURS

NAME _____ ADM. NO. _____ CLASS _____

INSTRUCTIONS:

1. Write your name, admission number and class in the spaces hereabove.
2. All questions to be answered in the spaces provided below each question.

(30 MARKS)

Q 1. Complete the following table by filling in the blank spaces.

Element	Protons (Z)	Neutrons	Electrons	Mass number (A)	Electronic Configuration
A	4	—	—	7	_____
B	_____	_____	15	31	_____
C	_____	18	_____	35	_____
D	11	12	—	—	_____
E	—	—	—	24	2. 8. 2.

(7 2MS)

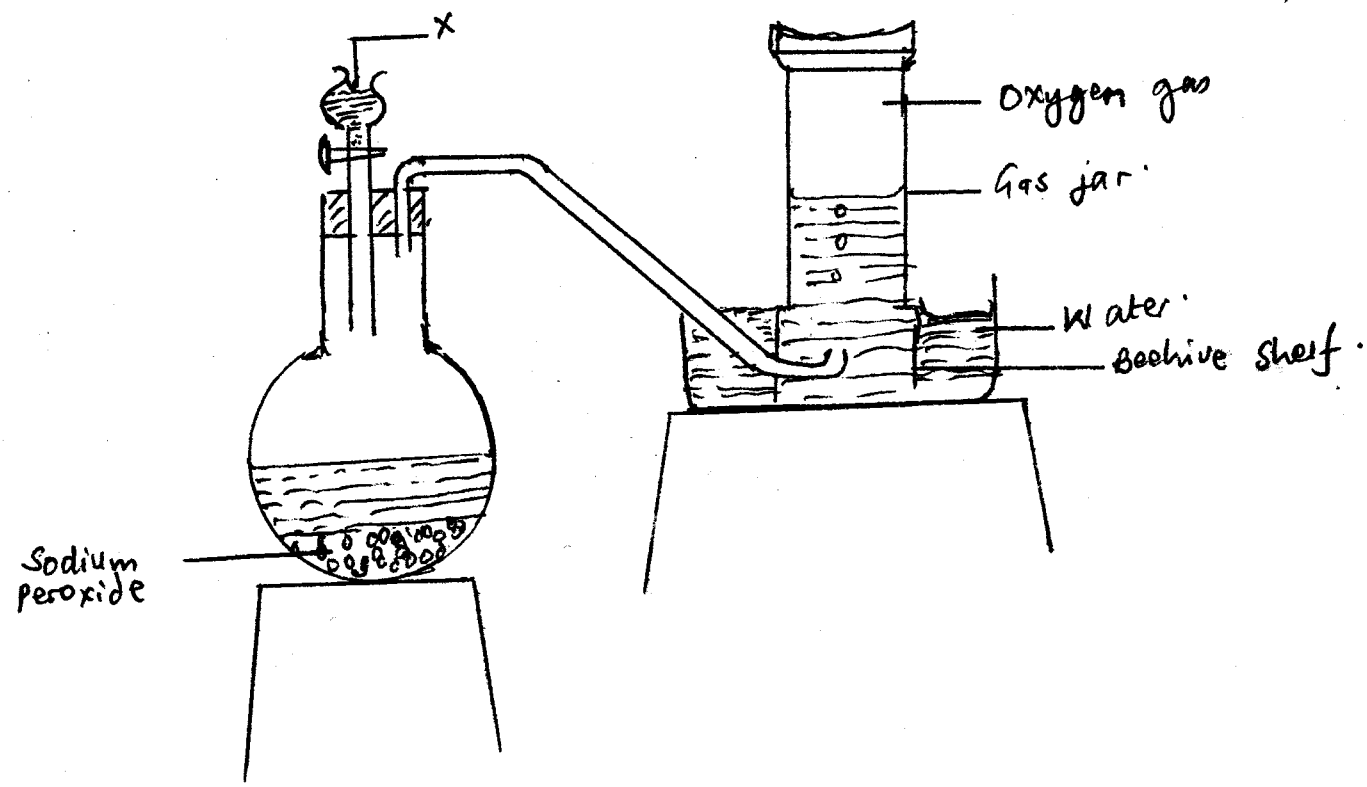
Q 2. Chlorine consists of two isotopes ^{37}Cl and ^{35}Cl . If the relative atomic mass of chlorine is 35.5, determine the percentage relative abundance of each isotope. (3 marks)

Q3. An ion γ^{3-} has 7 neutrons and an electronic configuration of 2.8. Determine the number of protons and atomic mass of γ . (2 marks)

Q4. Classify the following processes as either chemical or physical (3 marks)

Process	Type of change
(a) Heating copper(II) sulphate crystals.	
(b) Obtaining kerosene from crude oil	
(c) Souring of milk.	

Q5. The set-up below can be used to prepare oxygen gas. Study it and answer the questions that follow



(a) Identify X

(1mk)

(b) What property of oxygen makes it possible for it to be collected as shown in the above set-up

(1m)

(c) State two uses of oxygen.

(1mk).

Q6. The electronic structures for elements represented by letters A, B, C and D are:

A: 2, 8, 6

B: 2, 8, 2

C: 2, 8, 1

D: 2, 8, 8.

(a) Select the element which forms:

(i) a double charged cation.

(1mk)

(ii) a double charged anion.

(1mk)

(b) What are isotopes?

(2mks)

(c) Determine the number of neutrons in $^{18}_8\text{O}$.

(1mk).

Q 7. Define the following terms:

(a) Relative atomic mass (R.A.M.)

(2mks)

(b) Atomic number

(2mk)

(c) What is the relationship between number of neutrons, number of protons and atomic mass number.

(2mks)