

GREENLAWNS HIGH SCHOOL
FINAL EXAMINATION YEAR 2016-2017

SUBJECT : CHEMISTRY
TIME : 2 HOURS

CLASS : IX
MARKS : 80

Answers to this paper must be written on the paper provided separately.
You will not be allowed to write during the first 10 minutes. This is to be spent in reading the question paper.

Section I is compulsory section. Solve all.

Section II has 5 questions solve any 4.

Question 1

a) Name the following: (10)

- i) Radioactive elements in periodic table.
- ii) Group that chlorine belongs to.
- iii) Largest atom of group I A.
- iv) Substances that lose water on exposure to atmosphere.
- v) An inert gas having only one orbit.
- vi) No. of columns in the modern periodic table.
- vii) A metalloid in period 3.
- viii) Elements of period 2.
- ix) The property of atoms on which Periodic Table is formed.
- x) Acid anhydrides of sulphuric acid.

b) Write the formula for the following compounds. (5)

- i) Ferric sulphate
- ii) Zinc nitride
- iii) Aluminium phosphate
- iv) Copper nitrate
- v) Lead sulphate

c) Balance the following equations. (5)

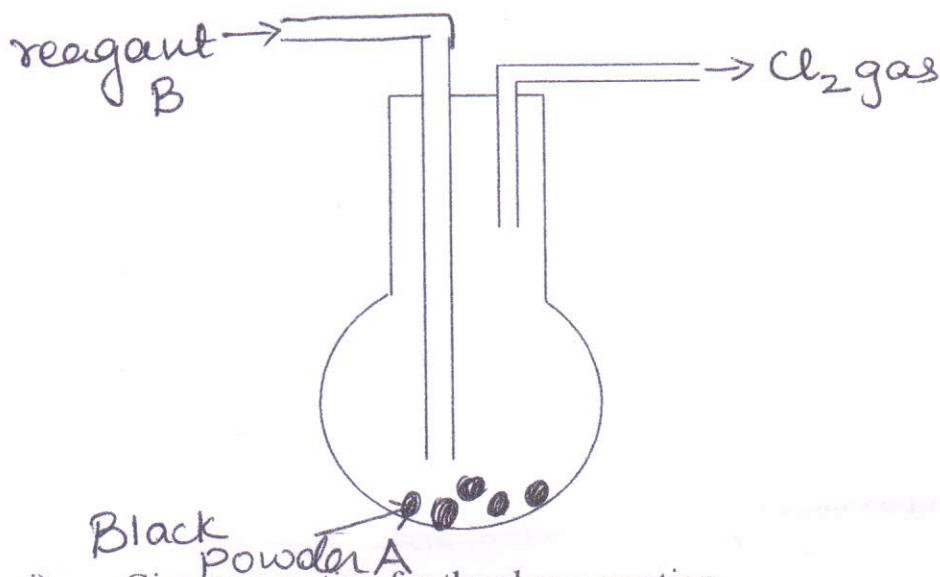
- i) $S + HNO_3 \longrightarrow H_2SO_4 + NO_2 + H_2O$
- ii) $Cu + HNO_3 \longrightarrow Cu(NO_3)_2 + NO + H_2O$
- iii) $C_2H_6 + O_2 \longrightarrow CO_2 + H_2O$
- iv) $AlN + H_2O \longrightarrow Al(OH)_3 + NH_3$
- v) $FeS_2 + O_2 \longrightarrow Fe_2O_3 + SO_2$

d) How would you convert? (5)

- i) Metal \longrightarrow alkali
- ii) Non metallic oxide \longrightarrow acid
- iii) Neutral gas \longrightarrow basic gas
- iv) Metallic oxide \longrightarrow alkali
- v) Basic gas \longrightarrow neutral gas

- e) What would you observe when (5)
- i) Sodium is placed in cold water.
 - ii) Ammonium dichromate is heated.
 - iii) Sodium hydroxide is passed through ferric chloride solution.
 - iv) Red lead is heated with hydrogen chloride.
 - v) Turpentine is dropped in a jar of chlorine.

- f) Below is an experimental set-up showing the preparation of chlorine. (5)



- i) Give an equation for the above reaction.
- ii) How is the gas dried?
- iii) How is the gas collected? Why?
- iv) Give a test for chlorine.

- g) (5)
- i) Draw the atomic structure of calcium oxide.
 - ii) Draw the electron dot diagram of methane.
 - iii) Law of octet.

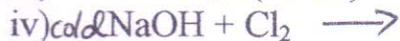
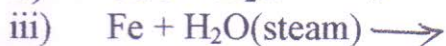
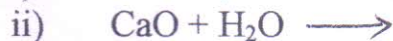
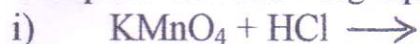
SECTION II

Answer any 4 from the given 5 questions.

Question 2

- a) With respect to the periodic table answer the questions that follow: (5)
- i) Name the elements of period 2.
 - ii) What are bridge elements. Give an example.
 - iii) How many elements are there in period 6.
 - iv) Give difference between group I A and VII A on the basis of Atomicity
valency

b) Complete the following equations. (5)



Question 3

a) The diagram below shows a particular experiment property of chlorine (5)



A test tube containing chlorine is inverted over into a trough containing water.

i) What property of chlorine is shown in the above experiment?

ii) Identify gas X.

iii) How would you test gas X?

iv) What change would you observe in the trough? Why?

b) Give difference between the following. (5)

i) I A / VII A (no. of valence electron)

ii) Electrovalent/covalent compound (type of force)

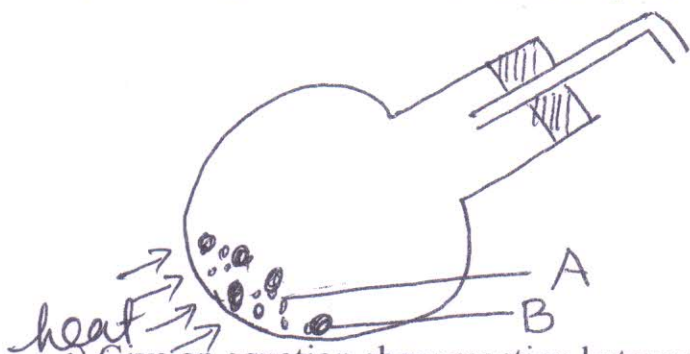
iii) Washing soda/Blue vitriol (property)

iv) I A / II A (type of compound formed with water)

v) H_2S / SO_2 (reaction with chlorine)

Question 4

a) The diagram below shows a set up for the lab preparation of nitrogen (6)



i) Give an equation show reaction between A & B. (1)

ii) How is the gas collected? Why? (2)

iii) Why is the mixture heated only initially? (1)

iv) Nitrogen gas obtained cannot be tested directly as the gas is chemically inert. (2)

With the help of equations, explain in detail how you would test nitrogen.

b) Define the following terms.

(4)

- i) Catenation
- ii) Isotopes
- iii) Reducing agent
- iv) Transition elements

Question 5

- a) Draw an electron dot diagram of magnesium chloride. (2)
- b) A gas occupies 250 ml at 127° C at 380 mm of pressure. Find its volume at STP. (3)
- c) What would you observe if chlorine is bubbled through the following? (3)

A → test tube containing NaCl solution

B → test tube containing NaBr solution

C → test tube containing Na I solution

Give reason for your answer.

- d) State Mendeleev's law and give two merits of the same. (2)

Question 6

Give reasons for the following statement.

(10)

- i) Silk and woollen clothes are not bleached using chlorine.
- ii) Tap water is not used in the preparation of chlorine.
- iii) Nitrogen is used to preserve food stuffs in cans.
- iv) Mendeleev's theory was discarded (2 reasons).
- v) Nitrogen is not obtained by heating NH_4NO_2 directly.
- vi) Liquid nitrogen is used to store eye, blood, cornea in hospitals.
- vii) Metals one strong reducing agent.
- viii) Group I A elements one known as alkali metals.
- ix) Electrovalent compounds have high density
- x) Covalent compounds do not conduct electricity.