

GREENLAWNS SCHOOL, WORLI
FINAL EXAMINATION 2018
CHEMISTRY

Std: VIII
Date: 16/02/2018

Marks: 80
Time: 2 hrs

Answer to this paper must be written on the answer booklet provided to you.
The first 10 minutes are to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers. All questions are compulsory.
Do not waste paper.

I A) Name the following: [5]

- i. A surface phenomenon.
- ii. Industrial method of preparation of hydrogen.
- iii. Elements of group 17.
- iv. A drying agent kept in a desiccator.
- v. Product formed when carbon monoxide reacts with hydrogen.
- vi. A solution that can pass through a filter paper but not through a semi-permeable membrane.
- vii. The gas which acts as a diluting agent in the atmosphere.
- viii. The metal used as a catalyst in hydrogenation of oils.
- ix. Radioactive elements at the bottom of the periodic table.
- x. A mixture of 95% oxygen and 5% carbon dioxide.

B) Explain the following terms: [5]

- | | |
|-------------------------|-------------------------|
| i. Allotropy | iv. Modern Periodic Law |
| ii. Electrolyte | v. Dry ice |
| iii. Saturated solution | |

C) Distinguish between the following pairs on the basis of the points given in the brackets: [5]

- i. Lampblack and wood charcoal (preparation)
- ii. Oxygen and carbon dioxide (medical use)
- iii. Period 2 and period 3 (metalloid present)
- iv. Hydrogen and carbon dioxide (density)
- v. Dissolved solids and dissolved gases in water (importance)

D) Give scientific reasons for the following:

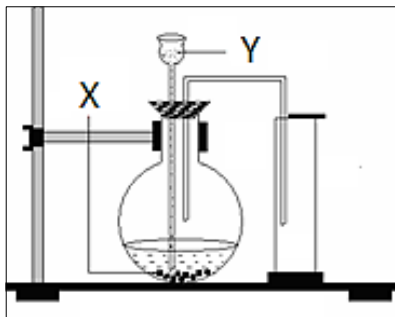
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|--|-----|
| i. It is dangerous to sleep in a closed room with a coal fire burning. | [2] |
| ii. Dilute nitric acid is not used in the preparation of hydrogen gas. | [1] |
| iii. Hard water is unsafe for industrial use. | [1] |
| iv. Oxygen is used for welding and cutting of metals. | [1] |

E) Give two examples of each of the following: [5]

- | | | |
|---------------------|----------------------------|-------------------------|
| i. Halogens | iii. Types of coal | v. Water-borne diseases |
| ii. Reducing agents | iv. Hygroscopic substances | |

- F) Give balanced equations for the following: [5]
- Laboratory preparation of hydrogen.
 - Action of steam on aluminium.
 - Action of carbon dioxide on lime water.
 - Dehydrating property of conc. Sulphuric acid.
 - Reduction of copper (II) oxide by hydrogen.

G) Given below is the laboratory preparation of carbon dioxide. Observe and answer the questions that follow:



- Name the chemicals X and Y. [1]
- Give balanced equation for the reaction [1]
taking place.
- How is the gas purified? [2]
- What is the method of collection of gas? [1]
- Justify the above answer. [2]
- Give three reasons why carbon dioxide finds application in fire extinguishers. [1½]
- Which two chemicals are present in fire extinguishers? [1]
- Name the product formed when carbon dioxide dissolves in water. [½]

II A) Write short notes on: [3]

- Alkali metals
- Inner transition metals

B) State the reasons for use of graphite as: [3]

- A lubricant for heated machine parts
- An electrode in electroplating
- A lining for crucibles

C) Answer the following questions pertaining to the preparation of hydrogen by electrolysis:

- Define electrolysis. [2]
- Why is distilled water not used? [1]
- Through which electrode does current enter the electrolyte? [½]
- At which electrode is hydrogen liberated? [½]

III A) Explain the properties of diamond with valid reasons: [3]

- Conductivity
- Nature
- Density

B) In the industrial method of preparation of hydrogen by the Bosch process:

- Give balanced equations for the two main steps in the production of [2]

- hydrogen.
- ii. The chemicals used to separate carbon dioxide and unreacted carbon monoxide. [1]
- C) What will you observe when wood charcoal is added to ink solution? [2]
Give a reason for your answer.
- D) Give two uses of each of the following gases: [2]
- Ammonia
 - Chlorine
- IV A) Give balanced equations to show how: [3]
- Temporary hardness enters into water.
 - Temporary hardness in water is removed by boiling.
 - Permanent hardness in water is removed by addition of washing soda.
- B) Mention the group and period of the following elements: [3]
- Fluorine
 - Calcium
 - Argon
- C) Complete the following statement: [2]
- _____ is a hollow cage form of carbon having about 30 to 900 atoms in its molecule.
 - The definite number of water molecules present in loose chemical combination is called _____
 - _____ is a chemical reaction involving oxidation of one substance and reduction of the other.
 - Horizontal rows of the periodic table are called _____
- D) State Newland's law of octaves and give a suitable example. [2]
- V A) In the laboratory preparation of hydrogen, state a reason for: [3]
- Addition of traces of copper [II] sulphate to the reaction medium.
 - Collecting the gas by downward displacement of water.
 - Having the end of the thistle funnel below the level of acid in the flask.
- B) Give balanced equations to prove that: [3]
- Hydrogen is a strong reducing agent.
 - Combustion of hydrogen in air forms water.
 - Wood charcoal is a reducing agent.
- C) Give chemical formula of the following hydrated salts: [1½]
- Blue vitriol
 - Green vitriol
 - Gypsum
- D) Identify the elements of: [1½]
- Group 18, Period 1
 - Group 15, Period 3
 - Group 1, Period 4

E) What are transition elements?

[1]
