

GREENLAWNS SCHOOL, WORLI

TERMINAL EXAMINATION: 2017-18

CHEMISTRY

Std: IX

Marks: 80

Date: / /2017

Time: 2 hrs

Answer to this paper must be written on the answer booklet provided to you.

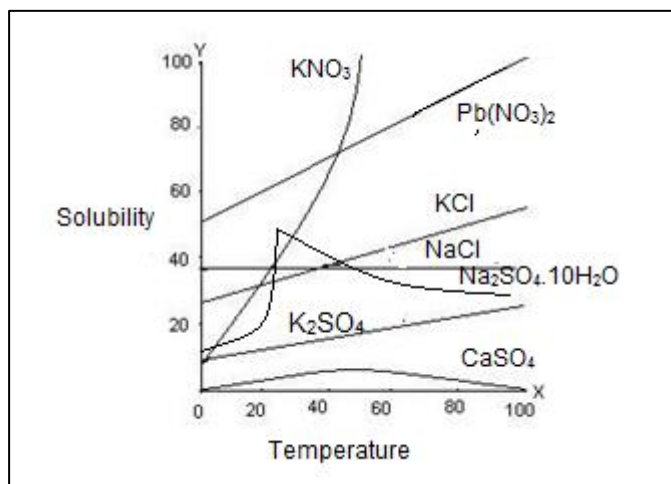
The first 10 minutes are to be spent in reading the Question paper. The time given at the head of this paper is the time allowed for writing the answers. All questions are compulsory.

Do not waste paper. Leave only one line after each answer.

- I A) Name the following: [5]
- The law which studies the relation between temperature of a gas and its volume.
 - A metal which is a poor conductor of electricity.
 - A gaseous oxidizing agent.
 - A heavy metal present in industrial waste water which contaminates fish and leads to poisoning on human consumption.
 - Scientist who suggested figurative symbols for atoms of elements.
- B) Explain the following terms: [5]
- Promoters
 - BOD
 - Compound
 - Efflorescent salts
 - Reduction reaction
- C) Give balanced equations for the following: [5]
- A chemical reaction which takes place by use of catalyst.
 - Red hot coke reacts with water.
 - A reaction which is brought about by an electric current.
 - Nitrogen dioxide reacts with water.
 - Water is added to anhydrous white copper sulphate.
- D) Distinguish between the following: [5]
- Saturated and supersaturated solution
 - Radical and ion
 - Combustion and respiration
 - Primary and secondary pollutants
 - Thermal decomposition and thermal dissociation
- E) Give reasons for the following: [5]
- Table salt becomes moist and sticky during rainy season.
 - Gases exert pressure in all directions.
 - Milk is a mixture and not a pure substance.
 - A piece of zinc dropped into a test tube of dilute sulphuric acid disappears.
 - Water is used as coolant in car radiators.

- F) Explain how would you separate the following mixtures: [6]
- Iron filing + powdered sulphur + sand
 - Hydrogen + oxygen + nitrogen + ammonia
 - Kerosene + water + common salt
- G) Read the following description of mercury and list its physical and chemical properties: [9]
- Mercury is a silvery white shining metal. It is the only metal which is liquid at ordinary temperature. Its specific gravity is 13.59 at 0°C. It is a good conductor of heat and electricity. It is not attacked by water, alkalis and air (at ordinary temperature). It combines with sulphur when rubbed with it in a mortar. It dissolves in conc. nitric acid.
- II A) A sample of Helium gas has a volume of 520 cm³ at 373 K. Calculate the temperature at which the volume will become 260 cm³. Assume that the pressure is constant. [2]
- B) A weather balloon has a volume of 175 litres when filled with hydrogen at a pressure of 1.0 atm. Calculate the volume of the balloon when it rises to a height of 2000 m, where atmospheric pressure is 0.8 atm. Assume the temperature is constant. [2]
- C) A cylinder of 20 litres capacity contains a gas at 100 atmospheric pressure. How many flasks of 200 cm³ capacity can be filled from it at 1 atmosphere pressure, the temperature remaining constant? [2]
- D) A gas is collected at 37°C and 10 atm pressure. It is desired to reduce its volume to $\frac{1}{5}$ th of the original volume at a pressure of 12atm. To what temperature should it be cooled? [4]
- III A) Balance the following word equations: [4]
- Lead (II) sulphide + Hydrogen peroxide → Lead (II) sulphate + Water
 - Zinc + Sodium hydroxide → Sodium zincate + Hydrogen
 - Ammonia + Copper (II) oxide → Copper + Water + Nitrogen
 - Carbon + Nitric acid → Carbon dioxide + Water + Nitrogen dioxide
- B) How do the following cause water pollution: [4]
- Household detergents
 - Sewage
 - Industrial waste
 - Offshore oil drilling
- C) What are the characteristics of mixture? [2]

IV A) The graph given below shows the solubility of some common substances.
Answer the questions based on the graph:



- i. What is a solubility curve? [1]
- ii. For which salt does the solubility increase most rapidly with rise in temperature? [1]
- iii. For which salt is there a decrease in solubility with increase in temperature? [1]
- iv. For which salt does the solubility slightly change with rise in temperature? [1]
- v. For which salt does the solubility curve shows a sharp break at 36°C? [1]
- vi. Give two uses of solubility curve. [2]

B) An element 'X' has a valency of +3. Without identifying the element, give the molecular formula of its: [2]

- i. Carbonate
- ii. Sulphite
- iii. Nitride
- iv. Phosphate

C) Name the suitable solvent for: [1]

- i. Grease
- ii. Paint

V A) State the environmental damage caused by offshore drilling. [3]

B) Give balanced equations to prepare potassium chloride using each of the method given below: [3]

- i. Neutralisation
- ii. Synthesis
- iii. Catalytic decomposition

C) What will you observe when sodium is dropped into cold water? [2]

D) What is 'Eutrophication'? What is its impact on water pollution? [2]
