SARALA BIRLA ACADEMY BANGALORE Half Yearly Examinations 2008–2009

Science 2 (chemistry)(One and a half hours)Thursday: 11/09/2008

Answers to this Paper must be written on the paper provided separately. You will not be allowed to write during the first 15 minutes. This time is 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.

This Paper is divided into two parts, Part I and Part II. Part I (40 marks) contains short answer questions set from the entire syllabus. You are required to answer all questions. Part II (40 marks) consists of Six questions. You are required to answer **FOUR** out of **FIVE** questions from Part II. The intended marks for questions or parts of questions are given in bracket []

Part I (40 Marks) (Attempt all questions)

Question 1

(a) Select the correct term from the terms A to F given below, correlating with each statement 1 to 5. [5]

- (1) Various colour pigments of chlorophyll can be separated using this technique
- (2) Process of changing from solid state to gaseous state.
- (3) A separation technique to separate two solid mixture having different mass
- (4) Process used to separate a mixture of immiscible liquids.
- (5) Process used to separate a mixture of miscible liquids.
 - A. Fractional distillation
 - B. Paper chromatography
 - C. Gravity separation
 - D. Separating funnel
 - E. Sublimation

(b) Select the correct answer from A to E pertaining to the elements 1 to 5. [5]

A. Metal B. Liquid non-metal C. Gaseous non-metal D. Metalloid E. Nobel gas

- 1. Hydrogen
- 2. Argon
- 3. Tungsten
- 4. Bromine
- 5. Antimony

(c)	State, which of the following 1 to 5, pertain to A. Physical change B. Chemical	change. [5]
	 Composition of the molecule of the substance is altered. Change takes place in colour and solubility of the substance. Energy required for the completion of the change is released on reversing the Matter undergoes changes but total mass is unaltered. Change takes place in the form or state only. 	
(d)	 Fill in the blanks with the correct world from the words in brackets: 1. A chemical equation is a short hand form for a (physical / chemical cha 2. Variable valance is exhibited, since electrons are lost from an element from the (valence / outermost) shell. 3 (Iodine / naphthalene) is an example of a solid that sublimes in the a of heat. 4. Solidification is also termed as (fusion / freezing) 5. The kinetic energy of molecules in a solid is (low / high). 	
(e)	 Give reason for the following: 1. Using a magnet, one can't separate a mixture of sugar and common salt. 2. Air is not a compound. 3. Burning of a substance is a chemical change. 4. Solid iodine upon heating directly changes to gaseous state. 5. Conversion of water into ice is not a chemical change. 	[5]
(f)	Balance the following equations:1. $Fe_2O_3 + C \longrightarrow Fe + CO_2$ 2. $Pb_3O_4 + HCl \longrightarrow PbCl_2 + H_2O + Cl_2$ 3. $Mg + N_2 \longrightarrow Mg_3N_2$ 4. $CuO + NH_3 \longrightarrow Cu + H_2O + N_2$ 5. $NaOH + HNO_3 \longrightarrow NaNO_3 + H_2O$	[5]
(g)	 Write the balanced equation for the following word equations: Potassium Nitrate Potassium Nitrite + oxygen Calcium + water Calcium hydroxide + hydrogen Iron + Chlorine Iron (III) Chloride Aluminium + Oxygen Aluminium Oxide Trilead tetra oxide Each tetra oxide Lead monoxide + oxygen 	[5]
(h)	 Write the name of the following compounds: 1. Ca₃(PO₄)₂ 2. H₂SO₄ 3. HNO₃ 4. AlN 	[5]

AlN
 H₂CO₃

PART-II (40 marks) (Answer any FOUR)

 a) Differentiate between physical and chemical change [3] b) Name one salt which is efflorescent in nature [1] Balance the chemical equation: [NH₁ + 0₂ → NO + H₂O] [2] c) In three containers A, B and C three liquids are there which are colourless, odourless and tustless and one of them is water Give one physical and two chemical test to identify the container which is having water. [3] d) Give example of a salt having five molecule of water of crystallisation [1] Question 3. a) Name the reactants for the preparation of CO from an formic acid [2] b) Why is concentrated H₂SO₄ is used in preparation of CO? [2] c) Give a balanced equation for the reaction between Magnesium and steam, [2] d) What do you mean by oxidation, give an example [2] e) Write chemical equation for the reaction when magnesium ribbon is burnt in presence of carbon dioxide gas in a closed container [2] Question 4. [2] c) An element X is trivalent, what will be the formula of its oxide [2] c) An element X is trivalent, what will be the formula of its oxide [2] c) An element X is trivalent, what will be the formula of its oxide [2] c) Name two gases which when passed over heated CuO reduced it to pure copper [2] Question 5. a) Give example of an oxide which is amphoteric in nature [2] b) Give example of an solid acidic and basic drying agent [2] c) What do you observe when copper sulphate is heated. Give an equation also [2] d) Give example of a notide differences between carbon monoxide and hydrogen [4] b) Give equation for the following reactions [4] a) When earbon dioxide is passed through linewater, it turns milky, b. When excess carbon dioxide is passed through linewater [5] a. A crystalline variety of carbon that can mark paper [5] a. A crystalline variety of carbon that can mark paper [5] b. Cuo +	Question 2.			
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