

**Model Question Paper**  
**Chemical Reactions (C) - Part I**

10th Standard

**Science**

Reg.No. : 

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I. Answer all the questions.

II. Use blue pen only.

Time : 00:30:00 Hrs

Total Marks : 25

5 x 1 = 5

**Part-A**

- 1)  $Zn + 2HCl \rightarrow ZnCl_2 + H_2 \uparrow$  The above reaction is an example of \_\_\_\_\_  
(a) Combination reaction (b) Double displacement reaction (c) Displacement reaction (d) Decomposition reaction
- 2) A reddish brown coloured element 'X' on heating in air, becomes a black coloured compound 'Y'. X and Y are \_\_\_\_\_ and \_\_\_\_\_  
(a) Cu, CuO (b) Pb, PbO
- 3) A student tests the  $p^H$  of pure water using a  $p^H$  paper. it shows green colour. if a  $p^H$  paper is used after adding lemon juice to water, what colour will he observe?  
(a) Green (b) Red (c) Yellow
- 4) Chemical volcano is an example of \_\_\_\_\_  
(a) Combination reaction (b) Decomposition reaction
- 5) When aqueous solution of silver nitrate and sodium chloride are mixed, \_\_\_\_\_ precipitate is immediately formed  
(a) White (b) Yellow (c) Red

**Part-B**

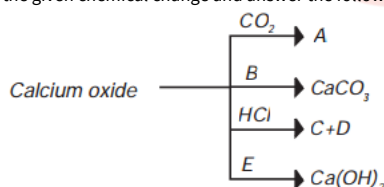
10 x 2 = 20

- 6) What type of chemical reaction takes place when i) limestone is heated? ii) a magnesium ribbon is burnt in air?
- 7) The  $p^H$  values of certain familiar substances are given below:

Substance	$p^H$ value
Blood	7.4
Baking soda	8.2
Vineger	2.5
Household ammonia	12

Analyse the data in the table and answer the following questions: i) Which substances are acidic in nature? ii) Which substances are basic in nature?

- 8) The hydroxide ion concentration of a solution is  $1.0 \times 10^{-8} M$ . What is the  $p^H$  of the solution?
- 9) Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid is added to test tube A, while acetic acid is added to test tube B. The amount and concentration taken for both the acids are same. In which test tube does the reaction occur more vigorously and why?
- 10) Two acids 'A' and 'B' were kept in beakers. Acid 'A' undergoes partial dissociation in water, whereas acid 'B' undergoes complete dissociation in water. i) Of the two acids 'A' and 'B', which is weak acid and which is strong acid? ii) What is a weak acid? iii) What is a strong acid? iv) Give one example each.
- 11) Observe the given chemical change and answer the following:



- i) Identify 'A' and 'B'. ii) Write the commercial name of calcium hydroxide. iii) Identify products 'C' and 'D', when HCl is allowed to react with calcium oxide. iv) Say whether calcium oxide is acidic or basic.
- 12) Take copper nitrate in a test tube and heat it over the flame. i) What is the colour of cupric nitrate? ii) What do you observe? iii) Name the type of reaction that takes place. iv) Write the balanced equation.
- 13) Identify the wrong statements and correct them. i) Sodium benzoate is used in food preservative. ii) Nitric acid is not used as fertilizer in agriculture. iii) Sulphuric acid is called the king of chemicals. iv) The  $p^H$  of acid is greater than 7. v) Acetic acid is used in aerated drinks.
- 14) Redox reactions are reactions during which electron transfer takes place. Here magnesium atom transfers two electrons one each to the two chlorine atoms. i) What are the products of this reaction? ii) Write the balanced equation for the complete reaction. iii) Which element is being oxidized? iv) Which element is being reduced? v) Write the reduction part of the reaction.
- 15) Suggest a reason for each observation given below. i) In fireworks, powdered magnesium is used rather than magnesium ribbon. ii) Zinc and dilute  $H_2SO_4$  react much more quickly when a few drops of copper sulphate solutions are added. iii) The reaction between magnesium carbonate and dilute hydrochloric acid speeds up when some concentrated HCl is added.

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