



Science

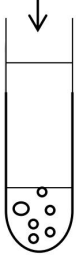
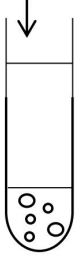


Grade 10





Rate of Reaction

***Answer all the questions by referring lesson "Rate of Reaction" (Grade 10 part ii pages 115 – 123)**

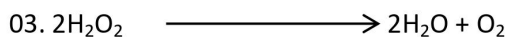
<p>01. dilute HCl</p> 	<p>concentrated HCl</p> 	<p>conc.HCl HCl</p> 	<p>dilute HCl</p> 
<p>CaCO₃ Crystals 1g A</p>	<p>CaCO₃ powder 1g B</p>	<p>CaCO₃ Crystals 1g C</p>	<p>CaCO₃ powder 1g D</p>

Which setup has the highest rate of reaction?

- (1)A (2)B (3)C (4)D

02. Catalyst used in margarine production is

- (1)Iron (2) Copper (3) Nickel (4) Platinum



What is the chemical we can use to increase the rate of reaction in above reaction?

- (1)Manganese dioxide (2) Sulfuric acid
(3)Hydrochloric acid (4) Vanadium pentoxide

04. What is not an effect on rate of chemical reaction?

- (1)Temperature (2) Volume of reactants
(3)Surface area of reactants (4) Concentration of reactants

05. The expression can be used to find the rate of reaction is

(1) $\frac{\text{Amount of reactants Used up}}{\text{Time taken}}$

(2) $\frac{\text{Time taken}}{\text{Amount of reactants used up}}$

- (3) Amount of reactants used up X time (4) Amount of reactants used up – time taken

06. What is the bio catalyst from following?

- (1)Platinum (2) Nickel (3) Pepsin (4) Sodium



Answer the all questions

(1)

Following are some chemical reactions.

- *Piece of zinc reacted with dilute hydrochloric acid.
- *Rusting of iron.
- *Metal sodium reacts with water.
- *Ripening of fruits.

i. Insert above reactions into following table

Rapped reaction	slow reactions
1.	1.
2.	2.

(ii) The rate of reaction with zinc and hydrochloric acid increases with zinc powder or zinc crystals

(iii) Write another way to increase the rate of reaction of above (ii).

(iv) Following are balanced chemical equations for above reactions.



Fill the above blank in the equation

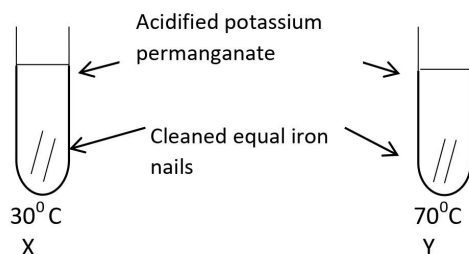
(2) State the following statements are correct or wrong.

- (i) Catalysts increase the rate of chemical reactions without being chemically consumed during the reaction ()
- (ii) When it increases the surface area of reactants it reduces the rate of reaction. ()
- (iii) When the gaseous reactants are involved, the rate of reaction can be increased by increasing pressure. ()
- (iv) When the concentration of reactants increased, rate of reaction increased. ()

03. Following diagram illustrates an activity done of a certain group of students to find the effect of

certain factor on rate of reaction.

Used acidified potassium permanganate concentrations are equal.



- (1) Which factor is tested in above activity.
- (2) What is the colour of the acidified potassium permanganate?
- (3) In which test tube you observe rapid colour change.
- (4) Depend on the observation, what is your conclusion?
- (5) Explain the way you clean the iron nails in the lab.