

**BHARATIYA VIDYA BHAVAN'S V M PUBLIC SCHOOL, VADODARA**

**QUESTION BANK CHAPTER 5 – SURFACE CHEMISTRY**

**Very short answer type questions. One mark each.**

- Q1 : What is the effect of temperature on Chemisorption?  
Q2 : What type of forces are responsible for the occurrence of Physisorption?  
Q3 : Define adsorption  
Q4 : Name two types of adsorption phenomena.  
Q5 : What is meant by desorption?  
Q6 : What is meant by Shape Selective Catalysis?  
Q7 : What are enzymes?  
Q8 : Define emulsion  
Q9 : Define electrophoresis.  
Q10 : What is Tyndall effect?

**Short answer type questions. Two marks each.**

- Q1 : Why is adsorption always exothermic?  
Q2 : Distinguish between Physisorption and Chemisorption.  
Q3 : Distinguish between homogeneous and heterogeneous catalysis.  
Q4 : Distinguish between lyophilic and lyophobic colloids with examples.  
Q5 : How are the following colloidal solution prepared?  
(a) Sulphur in water  
(b) Gold in water  
Q6 : Define the following terms :  
(a) Peptization  
(b) Reversible Sols  
Q7 : Define the following terms giving an example of each :  
(a) Micelles  
(b) Aerosol  
Q8 : What is the difference between a colloidal solution and emulsion? What is the role of emulsifier in forming emulsion?  
Q9 : Distinguish between multi molecular and macro molecular colloid.  
Q10 : What is meant by coagulation of a colloidal solution? Describe briefly any three methods by which coagulation of lyophilic sol can be carried out.

**Short answer type questions. Three marks each.**

- Q1 : (a) What is an adsorption isotherm? Describe Freundlich adsorption isotherm.  
(b) Explain the factors affecting adsorption of gases on solids.

- (c) Distinguish between Micelles and Colloidal particles.
- Q2 : (a) Write the dispersed phase and dispersion medium of smoke and milk.  
(b) What causes Brownian movement in a colloidal solution?  
(c) What do you understand by activity and selectivity of catalyst?
- Q3 : (a) What is the difference between oil in water and water in oil type emulsions.  
Give examples.  
(b) Explain Hardy Schulze rule.
- Q4 : Define the following terms :  
(a) Sorption  
(b) Peptization  
(c) Coagulation
- Q5 : (a) Why does Physisorption decreases with increase of temperature?  
(b) Why is smoke passed through charged plates before allowing it to come out of the chimneys in factories?
- Q6 : Account for the following :  
(a) Ferric hydroxide sol is positively charged.  
(b) A delta is formed at a point where the river enters the sea.  
(c) Hydrophilic sols are relatively more stable than hydrophobic sols
- Q7 : (a) Draw a plot of variation in the quantity of gas adsorbed with the pressure of the gas.  
(b) Name the dispersed phase and dispersion medium in butter.  
(c) Electrolytes can cause coagulation as well as peptization of solution.  
Comment on the statement.
- Q8 : (a) Explain electro dialysis.  
(b) Why are powdered substances more effective adsorbent than their crystalline forms?  
(c) Why gelatin is generally added to ice cream?
- Q9 : (a) Explain what is observed :  
(i) When a beam of light is passed through a colloidal solution?  
(ii) When an electrolyte is added to hydrated ferric oxide sol?  
(iii) When an electric current is passed through colloidal sol?
- Q10 : (a) What are emulsions? What are their different types? Give example of each type  
(b) Give reason-Delta is generally formed when river meets the ocean.