

U-5	<b>Surface Chemistry</b>
2007	1. Describe the following types of colloids , giving an example for each: a) Multimolecular colloids    b) Macromolecular colloids 2. Explain with example: a) Shape selective catalysis    b) Dialysis
2008	1. Of physisorption and chemisorptions which type of adsorption has a higher enthalpy of adsorption? 2. Explain what is observed (i) when a beam of light is passed through a colloidal sol. (ii) an electrolyte, KCl is added to hydrated ferric oxide sol. (iii) electric current is passed through a colloidal sol? 3. Differentiate between multimolecular and macromolecular colloids. Give one example of each. How are these two types of colloids different from associated colloids? 4. Describe 'electrophoresis' briefly.
2009	1. What is the 'coagulation' process? 2. Explain what is observed (i) when a beam of light is passed through a colloidal sol. (ii) an electrolyte is added to hydrated ferric oxide sol. (iii) an electric current is passed through a colloidal sol?
2010	1. Describe the following : a) Tyndall effect    b) Shape selective catalysis 2. What is meant by coagulation of a colloidal solution? Name any method by which coagulation of lyophobic sols can be carried out. 3. Define the following: a) Peptization    b) Reversible sols
2011	1. What is meant by shape selective catalysis? 2. Classify colloids where the dispersion medium is water. State their characteristics and write an example of each of these classes. 3. What are lyophobic colloids? Give one example for them.
2012	1. Define peptization . 2. Explain the following terms with suitable example: a) Aerosol    b) Emulsion    c) Micelle 3. What is meant by shape selective catalysis? 4. Define peptization.    5. Write the distinct features of chemisorptions which are not found in physisorptions.
2013	(a) Of physisorption or chemisorption, which has a higher enthalpy of adsorption ? (b) Define the following terms given an example of each (i) Associated colloids    (ii) Lyophilic solution    (iii) Adsorption (c) Give characteristics and example: (i) Multimolecular colloid    (ii) Lyophobic sols    (iii) Emulsions
2014	1) What is the Effect of temperature on chemisorption? 2) What are emulsions? What are their different types? Give one example of each type. 3) Why is adsorption always exothermic?
2015	1. What is the type of charge on AgI colloidal sol formed when AgNO <sub>3</sub> solution is added to KI? 2. Differentiate between the following : a) solution and colloid    b) homogeneous catalysis and heterogeneous catalysis c) O/W emulsion and W/O emulsion
2016	1. Write the main reason for the stability of colloidal sols 2. Define : a) Peptization    b) Zeta potential    b) Brownian movement
2017	1. What type of colloid is formed when a liquid is dispersed in a solid ? Give an example. 2. What type of colloid is formed when a solid is dispersed in a liquid ? Give an example. 3. What type of colloid is formed when a gas is dispersed in a liquid ? Give an example. 4. Write one difference : a) Multimolecular and associated colloid b) Coagulation and peptization    c) Homogeneous and heterogeneous catalysis 5. Write the dispersed phase and dispersion medium of milk 6. Write one similarity between physisorption and chemisorptions 7. Write the chemical method by which Fe(OH) <sub>3</sub> sol is prepared from FeCl <sub>3</sub>