



INDIAN SCHOOL DARSAIT
DEPARTMENT OF CHEMISTRY



Subject: Chemistry			Topic : Surface Chemistry			Date of Worksheet: 26. 11..2017		
Resource Person: SREEKALA M			Date of Submission: _____					
Name of the Student: _____			Class & Division: XII			Roll Number: _____		
1	Explain why lyophilic sols are relatively more stable than lyophobic sols?	1						
2	Indicate a chemical reaction involving a homogeneous catalyst?	1						
3	Why is Ferric Chloride preferred over Potassium Chloride in case of a cut leading to bleeding?	1						
4	Give an example of shape selective catalyst.	1						
5	What is meant by 'reversible sols'?	1						
6	What is an emulsion?	1						
7	Which of the following is most effective electrolyte in the coagulation of $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O} / \text{Fe}^{3+}$ sol? KCl, AlCl_3 , MgCl_2 , $\text{K}_4[\text{Fe}(\text{CN})_6]$	1						
8	Why are deltas formed where the rivers meet the sea?	1						
9	Name the type of potential difference produced between the fixed charged layer and diffused layer having opposite charges around the colloidal particle.	1						
10	Explain the following terms: a) Electro-dialysis b) Peptization c) Coagulation of colloids d) Brownian movement e) Electrophoresis f) Ultrafiltration.	1 mark each						
11	Write four distinguishing features operative between chemisorption and physisorption.	2						
12	a) What is meant by the Helmholtz electric double layer b) Define the zeta/electrokinetic potential.	2						
13	Explain the terms activity and selectivity of a catalyst.	2						

14	Define the following terms giving an example for each: i)Emulsion ii) Hydrosol iii) Aerosol	2
15	Explain how the phenomenon of adsorption finds application in the following processes: i)Production of vacuum ii) Heterogeneous catalysis	2
16	Explain Hardy-Schulze rule	2
17	What is the difference between multimolecular and macromolecular colloids? Give one example of each type. How are associated colloids different from the above two types of colloids?	3
18	State what is observed when i)An electrolyte, NaCl is added to hydrated ferric oxide sol. ii)An electric current is passed through a colloidal solution. iii)A beam of light is passed through a colloidal solution.	3
19	Write three features of chemisorption which are not found in physisorption.. Illustrate your answer with suitable examples.	3
20	Give reasons for the following observations: i)Peptizing agent is added to convert precipitate into colloidal solution. ii)Cottrell's smoke precipitator is fitted at the mouth of chimney used in factories. iii)Colloidal gold is used for intramuscular injection.	3
21	a)Heat of adsorption is greater for chemisorptions than physisorption. Why? b)What is colloidion? c)Define Coagulating value..	3
22	a)Give one main difference between lyophilic and lyophobic colloids. b)Explain: i)Sky appears blue in colour. ii)A freshly formed precipitate of ferric hydroxide can be converted to a colloidal sol by shaking it with a small quantity of ferric chloride.	3