



INDIAN SCHOOL DARSAIT  
DEPARTMENT OF CHEMISTRY



Subject: Chemistry	Topic : Surface Chemistry	Date of Worksheet: .5. 12..2018
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.	CO(g) and H <sub>2</sub> (g) react to give different products in the presence of different catalysts. Which ability of the catalysts. Which ability of the catalyst is shown by these reactions?	
5	Give an example of shape selective catalyst.	1
6	What is meant by 'reversible sols'?	1
7	What is an emulsion?	1
8	Which of the following is most effective electrolyte in the coagulation of Fe <sub>2</sub> O <sub>3</sub> .H <sub>2</sub> O/Fe <sup>3+</sup> sol? KCl, AlCl <sub>3</sub> , MgCl <sub>2</sub> , K <sub>4</sub> [Fe(CN) <sub>6</sub> ]	1
9	Why are deltas formed where the rivers meet the sea?	1
10	Name the type of potential difference produced between the fixed charged layer and diffused layer having opposite charges around the colloidal particle.	1
11	Explain the following terms: a) Electro-dialysis b) Peptization c) Coagulation of colloids d) Brownian movement e) Electrophoresis f) Ultrafiltration.	1 mark each
12	Write four distinguishing features operative between chemisorption and physisorption.	2
13	a) What is meant by the Helmholtz electric double layer ? b) Define the zeta/electrokinetic potential.	2

14	Explain the terms activity and selectivity of a catalyst.	2
15	Define the following terms giving an example for each: i) Emulsion ii) Hydrosol iii) Aerosol	2
16	Explain how the phenomenon of adsorption finds application in the following processes: i) Production of vacuum ii) Heterogeneous catalysis	2
17	Explain Hardy-Schulze rule	2
18	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
19	What happens when a) a freshly prepared precipitate of $\text{Fe}(\text{OH})_3$ is shaken with a small amount of $\text{FeCl}_3$ solution. b) Persistent dialysis of a colloidal solution is carried out. c) An emulsion is centrifuged.	
20	State what is observed when i) An electrolyte, $\text{NaCl}$ 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
21	Write three features of chemisorption which are not found in physisorption.. Illustrate your answer with suitable examples.	3
22	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
23	a) Heat of adsorption is greater for chemisorptions than physisorption. Why? b) What is colloidion? c) Define Coagulating value..	3
24	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