

XII CHEMISTRY TEST – SURFACE CHEMISTRY

M.M:

TIME: 1.5 HOURS

- Give reasons for the following :
 - Adsorption is an exothermic process.
 - Lyophilic sols are called reversible sols.
 - It is essential to wash a precipitate with water before estimating it quantitatively.
 - Deltas are formed when river water meets sea water.
 - Powdered substance are more effective adsorbents than their crystalline forms.
 - Freshly precipitated $\text{Fe}(\text{OH})_3$ passes into solution when it is shaken with FeCl_3 soln.
- What is an adsorption isotherm? How can be constants K and n of the Freundlich adsorption equation be calculated?
- By giving an example, illustrate the selectivity of as catalyst.
- Enumerate the two conditions which must be satisfied if Tyndall effect is observed.
- What is colloidion solution? What is it used for?
- Suggest suitable methods to prepare colloidal solutions of the following :
 - Ferric hydroxide
 - Arsenic sulphide
 - gold
- What is Zeta potential? How does it develop?
- Why is smoke from factories passed through a Cottrell precipitator before being released into the atmosphere?
- How are multimolecular colloids different from macromolecular colloids?
- How does adsorption help in
 - chromatographic analysis
 - curing diseases
 - making indicators
 - concentration of ores
- How does the rate of enzyme catalysed reaction vary with
 - temperature
 - pH
- Name two industrial processes in which heterogeneous catalysis are employed.
- What causes Brownian movement in a colloidal solution?
- Explain the following terms of
 - Electrophoresis
 - Dialysis
 - CMC
- Name some common adsorbents.
- What are emulsions? How are they classified? How can you distinguish between the two types of emulsions?

