

TEST PAPER NO. 05

TOPIC : SURFACE CHEMISTRY

M.M. 50

TIME: 3 HRS.

Name of Student _____ Roll No. _____

Q.NO. 1-10 carries 1 mark, 11-20 2 marks, 21-25 carries 3 marks, 26 carries 5 marks.

1. What is demulsification? Give 2 examples of demulsifiers.
2. What is an adsorption isotherm?
3. Why is it essential to wash the precipitate with water before estimating it quantitatively?
4. Why it is necessary to remove CO when ammonia is obtained by Haber's Process?
5. Why is the ester hydrolysis slow in the beginning and becomes faster after sometimes?
6. What is the role of desorption in the process of catalysis?
7. Why are substances like platinum and palladium often used for carrying out electrolysis of aqueous solutions?
8. What are promoter and poison?
9. To which class of colloid the following belongs: a. milk b. alloy
10. Name the catalyst used in the following process:
 - a. Haber process for preparation of Ammonia
 - b. Ostwald process for preparation of Nitric Acid
11. Write difference b/w Physisorption and Chemisorption?
12. What is Hardy Schulze rule? Explain with example.
13. What are the factors which affect absorption?
14. Explain why:
 - a. Physisorption decreases with the increase of temperature
 - b. Powdered substances are more effective adsorbents than their crystalline form.
15. Write 4 applications for adsorption?
16. What is meant by Selectivity and Activity of catalyst?
17. What are shape selective catalyst explain with example?
18. Explain adsorption theory of heterogeneous catalysis?
19. What are emulsions? What are their different types? Give example of each type.
20. Explain the :
 - a. Adsorption is always exothermic
 - b. Colloid is not a substance but a state of substance.
21. Explain the following terms:
 - a. Electrophoresis b. Coagulation c. Tyndall Effect
22. Explain what is observed:
 - a. When a beam of light is passed through a colloidal sol.
 - b. An electrolyte, NaCl is added to hydrated ferric oxide sol

- c. Electric current is passed through a colloidal sol.
23. How are colloids classified on the basis of:
- Physical states of components
 - nature of dispersion medium
 - Interaction b/w dispersed phase and dispersion medium
24. Write short notes on:
- Macromolecular colloid
 - Associated colloid
 - Micelle
25. Give difference b/w
- Adsorption and Absorption
 - Lyophilic and Lyophobic colloid
 - Homogeneous and Heterogeneous catalysis
26. Explain:
- Electrophoresis
 - Peptization
 - Brownian Movement
- What are enzymes? Write in brief the mechanism of enzyme catalysis.