Surface Chemistry

Que 1: Why gas masks are used by miners in coal mines while working? ***Marks :(2)***

Ans: Gas mask is used to adsorb poisonous gases since charcoal is a good adsorbent.

Que 2: Why is adsorption always exothermic? ***Marks :(2)***

Ans: During adsorption surface energy is released as heat

Que 3: Differentiate between adsorption and absorption? ***Marks :(2)***

Ans: Adsorption is a surface phenomenon whereas absorption is a bulk phenomena

Que 4: What is the effect of temperature on adsorption of a gas on solid ***Marks :(2)***

Ans: Adsorption decreases with increase in temperature. because adsorption is an exothermic process

Que 5: Liquid in liquid type colloids are known as ..... ***Marks :(1)***

Ans: Emulsions

Que 6: The movement of colloidal particle under an applied electrical field is called..... ***Marks :(1)***

Ans: Electrophoresis

Que 7: Milk is an.....

(Gel, Aerosol, Emulsion, Solid sol) ***Marks :(1)***

Ans: Emulsion

Que 8: What are the characteistics of enzyme catalysis? ***Marks :(4)***

Ans: Highly specific

High efficiency

Optimum temperature

Optimum pH

Que 9: Explain Hardy Schulze rule? ***Marks :(2)***

Ans: Coagulating power of an ion increases with its valency

Que 10: Differentiate homogeneous and heterogeneous catalysis. ***Marks :(3)***

Ans: If reactants and catalyst are in the same phase it is known as homogeneous catalysis.

If reactants and catalyst are in different phase it is known as heterogeneous catalysis. give examples

Que 11: What are protective colloids? ***Marks :(2)***

Ans: Lyophobic colloids can be prevented from coagulation by adding lyophilic colloids and these lyophilic colloids are called protective colloids.

Que 12: Describe the cleaning action of soap and detergents? ***Marks :(2)***

Ans: Micelle formation---explanation

Que 13: Write an example for macromolecular colloid? ***Marks :(1)***

Ans: Starch

Que 14: Write any two differences between physisorption and chemisorption ***Marks :(2)***

Ans:

physisorption	chemisorption
1. Not specific	1. Highly specific
2.reversible	2. Irreversible

Que 15: What is meant by associated colloid. Give an example ***Marks :(2)***

Ans: Colloid which behaves as normal strong electrolyte at lower concentration but exhibits colloidal properties at higher concentration...eg. soap

Que 16: Define Brownian movement ***Marks :(2)***

Ans: The Zig -Zag movement of colloidal particles is known as Brownian movement.

Que 17: Name two adsorbents used for controlling humidity. ***Marks :(1)***

Ans: 1. Silica gel

2. Alumina

Que 18: What is zetapotential ? ***Marks :(2)***

Ans: The potential difference between a fixed layer of one of kind of charges and diffused layer of opposite charges around a colloidal particle

Que 19: The colour of finest gold sol is ..... ***Marks :(1)***

Ans: Red

Que 20: Briefly explain the reason for the stability of colloids ***Marks :(2)***

Ans: presence of similar charge on all particles prevents their aggregation and settling also due to Brownian movement

Que 21: Name two adsorption indicators? ***Marks :(1)***

Ans: Fluorescein and eosin

Que 22: What are the conditions of tyndall effect? ***Marks :(1)***

Ans: 1) The size of the particle should not be much smaller than the wave length of light used

2) There should be a greater difference in the refractive indices of the dispersed phase and dispersion medium

Que 23: Match the following ***Marks :(2)***

A	**B**
sol	**cream**
emulsion	**jam**
gel	**froth**
foam	**paint**

Ans: Match the following

A	B
sol	paint
emulsion	cream
gel	jam
foam	froth