Exercise # 1

Q.1 The number of phases present in colloidal solution is :
(1) 2 (2) 4 (3) 3 (4) 1

Q.2 Butter is a colloid formed when :
(1) Fat is dispersed in fat (2) Fat is dispersed in water
(3) Water is dispersed in fat (4) Suspension of casein in water

Q.3 Lyophobic colloids are :- .
(1) Reversible (2) Irreversible (3) Water loving (4) Solvent loving

Q.4 When freshly precipitated $Fe(OH)_3$ is boiled with water in the presence of few drops of dil HCI, a hydrated ferric oxide sol is obtained. This method is termed as :
(1) Dialysis (2) Peptization (3) Ultrafiltration (4) Electrodispersion

Q.5 "Greater the valency, the higher is the coagulating power of ion. This rule was introduced by :
(1) Hardy-Schulze (2) Graham (3) Kossel & Lewis (4) Faraday

Q.6 The capacity of an ion to coagulate a collodial solution depends on :
(1) Its shape (2) The amount of its charge
(3) The sign of the charge (4) Both, the amount and the sign of the charge

Q.7 Gold number is a measure of :
(1) The amount of gold present in the colloidal solution
(2) The amount of gold required to break the colloid
(3) The amount of gold required to protect the colloid
(4) None of the above

Q.8 On addition of one ml. solution of 10% NaCI to 10 ml. gold sol in presence of 0.025 g of starch. the coagulation is just prevented. The gold number of starch is :
(1) 25 (2) 2.5 (3) 0.25 (4) 0.025

Q.9 All collodial solutions show :
(1) Very high osmotic pressure (2) High osmotic pressure
(3) Low osmotic pressure (4) No osmotic pressure

Q.10 Which of the following is associated colloid :
(1) Soaps. (2) Detergent (3) Both (4) KCl

Q.11 The gold number of A, B, C & Dare 0.04, 0.002, 10 & 25 respectively. The protective powers of A, B, C & D are in the order :
(1) A > B > C > D (2) B > A > C > D (3) D > C> B > A (4) C > A > B > D

Q.12 Which of the following has minimum flocculation value :
(1) Pb^{2+} (2) Pb^{4+} (3) Sr^{2+} (4) Na^{+}

Q.13 The charge of AS_2S_3 sol is due to the absorbed :
(1) H^{+} (2) OH^{-} (3) O^{2-} (4) S^{2-}

Q.14 The movement of dispersion medium in an electric field when the dispersed particles are prevented from moving is called -
(1) Cataphoresis (2) Electrophoresis (3) Electro-osmosis (4) Brownian movement

Q.15 To coagulate gelatin sol, which of the following is most effective :
(1) NaCl (2) Na_3PO_4 (3) $AlCl_3$ (4) Alcohol

Q.16 The potential difference between the fixed charged layer and the diffused layer having opposite charge is called
(1) Collodial potential (2) Zeta potential
(3) Electrostatic potential (4) None of these

Q.17 An example of micelle is :
(1) As_2O_3 sol. (2) Ruby glass
(3) Na_2CO_3 solution (4) Sodium stearate concentrated solution

Q.18 Brownian motion shown by colloidal particle is its ---------- property :
(1) Optical (2) Electrical (3) Kinetic (4) Chemical

Q.19 A collodial solution of $Fe(OH)_3$ in water is :
(1) A hydrophilic colloid. (2) A hydrophobic colloid
(3) An emulsion (4) None

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Q.20 A freshly prepared $Fe(OH)_3$ precipitate is peptized by adding $FeCl_3$ solution. The charge on the collodial particle is due to preferential absorption Of :

(1) Cl^- ions (2) Fe^{+++} ions (3) OH^- ions (4) None

Q.21 In both dialysis and osmosis which particle do not pass through SPM :

(1) Water (2) Small molecules (3) Colloids (4) All

Q.22 Greater is the protective power of lyophilic colloid :

(1) Lesser is its gold no. (2) Greater is its gold no.

(3) Either of the above (4) None

Q.23 Hardy-schulze rule states that :

(1) Non-electrolytes have better coagulating action on colloids than electrolytes

(2) Sols are coagulated by effective ions whose charge is opposite to that of sol & the ions of higher charge are much more effective than the ions of lower charge

(3) Charge of the ions has no effect on the coagulation of a sol

(4) Sols are coagulated only by those ions whose charges is similar to that of the sol

Q.24 The correct statement in case of milk :

(1) Milk is an emulsion of fat in water (2) Milk in an emulsion of protein in water

(3) Milk is stabilized by protein (4) Milk is stablized by fat

Q.25 A colloidal system involves :

(1) A state of dissolution (2) A state of dipersion.

(3) A state of suspension (4) None

Q.26 The coagulating power of an effective ion carrying the charge opposite to the sol particles has been illustrated by

(1) Brownian movement (2) Gold no (3) Tyndall effect (4) Schulze hardy rule

Q.27 The magnitude of colligative properties in all colloidal dispersions is ..... than solution :

(1) Higher (2) Lower (3) Both (4) None

Q.28 In electrophoresis :

(1) Sol particles move towards opposite electrodes

(2) Medium moves towards opposite electrodes

(3) Neither (1) nor (2) (4) Both (1) & (2)

Q.29 Gelatine protects :

(1) Gold sol (2) AS_2S_3 sol (3) $Fe(OH)_3$sol (4) All

Q.30 Which metal sol cannot be prepared by Bredig's are method :

(1) K (2) Cu (3) Au (4) Pt

Q.31 Which is the property of hydrophilic sols :

(1) High concentration of dispersed phase can be easily attained

(2) Coagulation is reversible

(3) The charge on particles depends on the pH of the medium and it may be positive, negative or zero

(4) All

Q.32 Detergent action of synthetic detergents is due :

(1) Interfacial area (2) High molecular weight

(3) lonisation (4) Emulsifying properties

Q.33 Which is not shown by sols :

(1) Adsorpfion (2) Tyndall effect (3) Flocculation (4) Paramagnetism

Q.34 Which of the following is an emulsifier?

(1) Soap (2) Water (3) Oil (4) NaCl

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Q.35 Emulsifiers are generally:
(1) Soap (2) Synthetic detergent (3) Lyophilic sols (4) All of the above

Q.36 Which of the following is most effective in causing the coagulation of ferric hydroxide sol :
(1) KCl (2) KNO_3 (3) K_2SO_4 (4) $K_3Fe(CN)_6$

Q.37 On adding $AgNO_3$ solution into KI solution, a negtively charged colloidal sol is obtained when they are in:
(1) 100 mL of 0.1 M $AgNO_3$ + 100 mL of 0.1 M KI
(2) 100 mL of 0,1 M $AgNO_3$ + 50 mL of 0.2 M KI
(3) 100 mL of 0.1 M $AgNO_3$ + 100 mL of 0.1 M KI
(4) 100 mL of 0.1 M $AgNO_3$ + 100 mL of 0.15 M KI

Q.38 Micelles are:
(1) ideal solution (2) associated colloids (3) adsorbed surfaces (4) adsorbent solutes

Q.39 Micelles have:
(1) higher colligative properties compared of common colloidal sols
(2) lower colligative properties
(3) same colligative properties (4) none in true

Q.40 The formation of colloidal in following Rxn is SnO_2 + HCl (Excess) $\rightarrow$:
(1) $[SnCl_4]Cl^-$ (2) $[SnCl_4]O^{-2}$ (3) $[SnCl_4]H^+$ (4) None

Q.41 Which of followig ion has minimum flocculation value:
(1) Cl^- (2) SO_4^{-2} (3) PO_4^{3-} (4) $[Fe(CN)_6]^{4-}$

Q.42 If 1000 mg of lyophilic sol prevent the coagulatio of 1000 mllyophilic sol then protaction number is:
(1) 10 mg (2) 1 mg (3) 25 mg (4) None

Q.43 A negatively charged suspension of clay in water will need or precipitation the minimum amount of:
(1) aluminium chloride (2) potassium sulphate
(3) sodium hydroxide (4) hydrochloric acid

Q.44 Isoelectric point refers to the H^+ ion concentration at which the colloidal particles:
(1) Coagulate (2) Become electrically neutral
(3) Can move to either electrode when subjected to an electric field
(4) Reverse their electrtical charge

Q.45 Which is not a colloidal solution:
(1) Smoke (2) Ink (3) Air (4) Blood

Q.46 Which one is natural colloid:
(1) NaCl (2) Blood (3) RCOONa (4) Sugar

Q.47 Medicines are more effective if they are used in :
(1) Colloidal state (2) Solid state (3) Solution state (4) None

Q.48 Egg albumin is :
(1) Reversible colloid (2) Lyophilic colloid
(3) Protective colloid (4) All

Q.49 Physical adsorption is appreciable at :
(1) Higher temperature (2) Lower temperature
(3) At room temperature (4) 100° C

Q.50 The rate of chemi-sorption :
(1) Decreases with increase of pressure (2) Is independent of pressure
(3) Is maximum at one atmospheric pressure (4) Increases with increse of pressure

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Q.51 Chromatography is a technique based on :
(1) Solubilities of solute
(2) Adsorption of solute
(3) Chemical adsorption followed by dispersion
(4) Differential adsorption of different constituents of a mixture

Q.52 Which of the following is not a characteristic of chemi-sorption :
(1) Adsorption is irreversible (2) AH is of the order of 40 KJ
(3) Adsorption is specific (4) Adsorption increases with increase of surface area

Q.53 Which one of the following is not a correct statement :
(1) Physical adsorption is reversible in nature
(2) Physical adsorption involves vander waals forces
(3) Rate of physical adsorption increases with increase of pressure on the adsorbate
(4) High activation energy is involved

Q.54 The amount of gas adsorbed on charcoal increases with :
(1) Temperature & pressure (2) Temperature & decreases with pressure
(3) Pressure & decreases with temperature (4) None

Q.55 Pd can adsorb 900 times its volume of hydrogen. This is called :
(1) Absorption (2) Adsorption (3) Occlusion (4) 2 & 3 both

Q.56 Which is correct :
(1) Langmuir adsorption is highly specific (2) van der Walls adsorption is reversible
(3) Both 1 & 2 are exothermic (4) All are correct

Q.57 Adsorption is accompanied by :
(1) Decrease in entropy of the system (2) Decrease in enthalpy of the system
(3) $T\Delta S$ for the process is negative (4) All

Q.58 Which charateristic of adsorption is wrong :
(1) Physical adsorption in general decreases with temp.
(2) Physical adsorption in general increases with temp.
(3) Physical Adsorption is a reversible process
(4) Adsorption is limited to the surface only

Q.59 Which is false for catolyst
(1) A catalys can initiate a reaction
(2) It does not alter the position of equilibrium in a reversible reaction
(3) A catalyst remains unchanged in quality and composition at the end of reaction
(4) Catalysts are sometimes very specific in respect of a reaction

Q.60 Which acts as promoter for nickel in the hydrogenation of oils :
(1) Cu (2) Mo (3) Fe (4) Pt

Q.61 Which acts as poison for Pd-charcoal in lindlar catalyst :
(1) $BaSO_4$ (2) Quinoline (3) Both (4) None

Q.62 Enzymes are known to increase the rate of reaction by :
(1) 10^2 time (2) 10^{-2} times (3) 10^5 times (4) 10^{12} times

Q.63 When a catalyst increases the rate of a chemical reaction the rate constant :
(1) Increases (2) Decreases (3) Remains constant (4) Becomes infinite

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Q.64 Air can oxidize sodium sulphate in aq. solution but cannot do so in the case of sodium arsenite. If however, air is passed through a solution containing both sodium sulphite & sodium arsenite then both are oxidized. This is an example of :

(1) Positive catalysis (2) Negative catalysis

(3) Induced catalysis (4) Auto catalysis

Q.65 Zeolites are :-

(1) Water softner (2) Catalyst (3) Both (4) None

Q.66 The activity and selectivity of zeolites as catalyst is based on :

(1) Their pore size (2) Size of their cavities on the surface

(3) Both (4) None

Q.67 Zeolites:

(1) Are microporous aluminosilicates

(2) Have general formula $Mx/n[(AlO_2)(SiO_2)_4]mH_2O$

(3) Have pore sizes between 260 pm to 740 pm

(4) All

Q.68 Zeolites are used as catalyst in:

(1) Petrochemical industries during cracking (2) In the preparation of H_2SO_4

(3) In the hydrolysis of ester (4) All

Q.69 Which is not the correct statement for a catalyst:

(1) It does not alter Ea

(2) It provides an alternate mechanism with a lower energy of activation

(3) Cata!yst may form intermediates with the reactants

(4) Action of enzyme catalyst is always specific

Q.70 In which of the following processes, a catalyst is not used:

(1) Haber's process (2) Deacon's process (3) Solvay process (4) Lead chamber process

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Answer Key - 1

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Ans.	1	3	2	2	1	4	4	1	3	3	2	2	4	3	4	2	4	3	2	2	3	1	2	1	2
Qus.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Ans.	4	2	1	4	1	4	4	4	1	4	4	4	2	2	1	4	1	1	2	3	2	1	4	2	2
Qus.	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70					
Ans.	4	2	4	3	4	4	4	2	1	1	3	4	1	3	3	3	4	1	3	3					

Exercise # 2

Q.1 Substances whose solutions can readily diffuse through animal membrances are called :
(1) Colloids (2) Crystalloids **[CPMT-1984]**
(3) Electrolytes (4) Non-electrolytes

Q.2 The size of the colloidal particles is in between :- **[CPMT -1990]**
(1) 10^{-7} - 10^{9} cm (2) 10^{-9} - 10^{-11} cm (3) 10^{-5} - 10^{-7} cm (4) 10^{-2} - 10^{-3} cm

Q.3 The size of a colloidal particle is :- **[MP, PMT -1990]**
(1) > 0.1μ (2) 1 mμ to 0.1μ (3) < 0.1 mμ (4) More than 3000 mμ

Q.4 If dispersed phase is liquid and the dispersion medium is solid, the colloid is known as :
(1) A sol (2) A gel (3) An emulsion (4) A foam **[CBSE-1990]**

Q.5 An emulsion is a colloidal solution consisting of : **[CPMT - 1984]**
(1) Two solids (2) Two liquids (3) Two gases (4) One solid and one liquid

Q.6 The colloidal solution of gelatin is known as : **[MP PMT 1990]**
(1) Solvent loving (2) Reversible (3) Hydrophilic (4) All the above

Q.7 Peptization is a process of : **[Roorkee - 1992]**
(1) Precipitating the collodial particles
(2) Purifying the colloidal sol
(3) Dispersing the precipitate in to colloidal sol
(4) Movement of colloidal particles towards the opposite charged electrodes

Q.8 Colloids are purified by : **[CPMT-1990]**
(1) Brownian motion (2) Precipitation (3) Dialysis (4) Filtration

Q.9 Which of the following substance give a positively charged sol : **[MP PMT - 1990]**
(1) Gold (2) Arsenious sulphide (3) Starch (4) Ferric hydroxide

Q.10 When excess of electrolyte is added to a colloid it : **[CBSE 1990]**
(1) Coagulates (2) Gets diluted (3) Dissolved (4) Does not change

Q.11 Gold number is a measure of the : **[CBSE 1989]**
(1) Proteclive action by a lyophilic colloid on lyophobic colloid
(2) Proteclive action by a lyophobic colloid on lyophilic colloid
(3) Number of mg of gold in a standard red gold sol
(4) None of the above

Q.12 A liquid is found to scatter a beam of light but leaves no residue when passed through the filter paper. The liquid can be described as :- **[AIIMS-1993]**
(1) A suspension (2) Oil (3) .A. collodial sol (4) True solution

Q.13 A catalyst is a substance which :- **(IIT -1983)**
(1) Increases the equilibrium concentration of the product
(2) Change the equilibrium constant of the reaction
(3) Shortens the time to reach equilibrium
(4) Supplies energy to the reuction

Q.14 A catalyst : **[IIT 87]**
(1) Increases the free energy change in the reaction
(2) Decreases the free energy change in the reaction
(3) Does not increases & decreases the free energy change in the reaction
(4) Can either decreases or increases the free energy change depending on what catalyst we use

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Q.15 A catalytic poison renders the catalyst ineffective because :- **[Roorkee-1991]**

(1) It is preferentially adsorbed on the catalyst

(2) It adsorbs the molecules of the reactants

(3) It combines chemically with the catalyst

(4) It combines with one of the reactant

Q.16 Regarding criteria of catalysis which one of the following statements is not true : **[Roorkee 1991]**

(1) The catalyst is unchanged chemically during the reaction

(2) A small quantity of catalyst is often sufficient to bring about a considerable amount of the reaction

(3) In reversible reaction, the catalyst alters the equilibrium position

(4) The catalyst accelerates the rate of reaction **(CPMT-1990)**

Q.17 Which is lyophobic in nature ;- **[MP PET 2002]**

(1) Gelatin (2) Phosphorus (3) Starch (4) Agar-Agar

Q.18 Gelatin is mostly used in making ice creams in order to ;- **[MP PMT 98]**

(1) Prevent making of colloid (2) Stabilise the colloid and prevent crystalisation

(3) Stabilise the mixture (4) Enrich the aroma

Q.19 Blood may be purified by :- **[MP PMT 2000]**

(1) Dialysis (2) Electro osmosis (3) Coagulation (4) Filteration

Q.20 The slope of the straight line graph between log x/m and log P for the adsorption of a gas on solid is

(1) k (2) log k (3) n (4) l/n **[CBSE PMT 94]**

Q.21 The work of enzymes in living system is - **(CBSE PMT-94)**

(1) Oxygen transfer (2) To provide immunity

(3) To catalyse bio' chemical reactions (4) To provide energy

Q.22 A chemical reaction is catalysed by catalyst X, So X **[CBSE PMT 92]**

(1) Increase the activation energy of reaction

(2) Does not affect equilibrium constant of reaction

(3) Decreases the rate constant of reaction

(4) Decreases enthalpy of reaction

Q.23 When some special substances like protein particles. blood corpuscles etc. are seperated by a permeable membrane, the process is called :- **(Roorkee 95, CBSE PMT-96)**

(1) Dialysis (2) Diffusion (3) Exosmosis (4) Endosmosis

Q.24 At critical micelle concentration (CMC) the surfactant molecules :- **(CBSE PMT-98)**

(1) Decomposes (2) Becomes completely soluble

(3) Associates (4) Dissociates

Q.25 According to hardy schultze law the order of coagulation power of cations will be :- **[CBSE PMT 99]**

(1) $Na^{+} > Ba^{+2} > Al^{+3}$ (3) $Al^{+3} > Ba^{+2} > Na^{+}$

(3) $Ba^{+2} > Al^{+3} > Na^{+}$ (4) $Al^{+3} > Na^{+} > Ba^{+2}$

Q.26 Which one of the following method is commonly used for destruction of colloid: **[CBSE PMT 2000]**

(1) Dialysis (2) Condensation

(3) Filteration by animal membrane (4) By adding electrolyte

Q.27 How enzymes increases the rate of reactions ;- **[CBSE PMT 2000]**

(1) By lowering activation energy

(2) By increasing activation energy

(3) By changing equilibrium constant

(4) By forming enzyme substrate complex

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Q.28 Which is not correct regarding the adsorption of a gas on surface of solid; **[CBSE PMT 2001]**

(1) On increasing temp. adsorption increases continuously

(2) Enthalpy & entropy change is -Ve

(3) Adsorption is more for some specific substance

(4) Reversible

Q.29 Position of non polar and palar part in micelles: **[CBSE 2002]**

(1) Polar at outer surface but non polar at inner surface

(2) Polar at inner surface but non polar at outer surface

(3) Distributed over all the surface

(4) Are present in the surface only

Q.30 Milk is a colloidal **[MP PMT 2002]**

(1) Liquid is dispersed in a liquid (2) Solid is dispersed in a liquid

(3) Gas is dispersed in a liquid (4) Sugar is dispersed in a liquid

Q.31 Adsorbed acetic acid on activeted charcoal is : **[MP PMT 2002]**

(1) Adsorber (2) Absorber (3) Adsorbent (4) Adsorbate

Q.32 Who was Awarded Noble Prize for the study of catalytic reactions :- **[PET (Bihar) 97]**

(1) Ostwald (2) Berzelius (3) Vanthoff (4) Werner

Q.33 Colloidal particles carry charge. This can be shown by : **[PMT 1989]**

(1) Tyndall effect (2) Electrophoresis (3) Brownian movement (4) Dialysis

Q.34 Which forms a colloidal solution in water: **[CPMT 88]**

(1) NaCl (2) Glucose (3) Strach (4) Barium nitrate

Q.35 Gelatin is often used as an ingredient in the manufacture of ice-cream. The reason for this is - **[PMT (MP) 88]**

(1) To prevent the formation of a colloid

(2) To stabilize the colloid and prevent crystal growth

(3) To cause the mixture to solidify

(4) To improve the flavour

Q.36 When dilute aqueous solution of $AgNO_3$ excess is added to KI solution, positively charged sol particles of AgI are formed due to adsorption of ion : **[MP PMT 86]**

(1) KI^+ (2) Ag^+ (3) I^- (4) NO_3^-

Q.37 The process which is catalysed by one of the products is called **[MP PET 199; AIIMS 2000]**

(1) Acid-base catalysis (2) Autocatalysis

(3) Negative catalysis (4) None of the above

Q.38 Which of the following statements about a catalyst is true **[AIIMS 1996]**

(1) It lowers the energy of activation

(2) The catalyst altered during the reaction is regenerated

(3) It does not alter the equilibrium

(4) All the above

Q.39 Colour of colloidal solution is due to **[CPMT 1996]**

(1) Different size of colloidal particles

(2) Due to formation of complex

(3) Due to formation of hydrated crystal

(4) None of the above

Q.40 Which of the following is property of colloid **[CPMT 1996]**

(1) Scattering of light (2) They show attraction

(3) Dialysis (4) Emulsion

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Q.41 The size of particles in suspension, true solution and colloidal solution varies in the order **[BHU 1997]**

(1) Suspension > Colloidal > True solution

(2) Suspension > (Colloidal + True solution)

(3) True solution > Suspension > Colloidal

(4) None of these

Q.42 At the critical micelle concentration, the surfactant molecules **[CBSE 1998]**

(1) Decompose (2) Dissociate

(3) Associate (4) Become completely soluble

Q.43 The adsorption of a gas on a solid surace varies with pressure of the gas in which of the following manner

(1) Fast $\rightarrow$ slow $\rightarrow$ independent of the pressure **[CPMT 1999]**

(2) Slow $\rightarrow$ fast $\rightarrow$ indepdnent of the pressure

(3) Independent of the pressure $\rightarrow$ fast $\rightarrow$ slow

(4) Independent of the pressure $\rightarrow$ slow $\rightarrow$ fast

Q.44 If gold number of A, B, C and D are 0.005, 0.05, 0.5 and 5 respectively, then which of the following will have the greatest protective power **[CPMT 2000]**

(1) A (2) B (3) C (4) D

Q.45 Which of the following colloids are formed when hydrogen sulphide gas is passed through a cold solution of arsenious oxide **[CPMT 2000]**

(1) As_2S_3 (2) As_2O_3 (3) As_2S (4) As_2H_2

Q.46 The movement of colloidal particles towards the oppsitely charged electrodes on passing electricity is known as **[AFMC 2000]**

(1) Cataphoresis (2) Tyndall effect (3) Brownian movement (4) None of these

Q.47 Which of the following is used for the destruction of colloids **[CBSE 2000]**

(1) Dialysis (2) Condensation (3) By ultrafiltration (4) By adding electrlyte

Q.48 Brownian movement is **[MP PET 2000]**

(1) Zig-zag motion of the colloidal particles

(2) Migration of colloidal particles under the influence of electric field

(2) Scattering of light by colloidal particles

(4) None of these

Q.49 Enzymes with two sites are called **[AIIMS 2002]**

(1) Apoenzyme (2) Holoenzyme (3) Allosteric enzyme (4) Conjugate enzyem

Q.50 Wood charcoal is used to decolourise sugar because it **[CPMT 2002]**

(1) Adsorbs coloured material (2) Absorbs decolorised material

(3) Reduces coloured material (4) None of these

Q.51 A catalyst can effect reversible reaction by **[CPMT 2002]**

(1) Changing equilibrium (2) Slowing forward reaction

(3) Attaining equilibrium in both direction (4) None of these

Q.52 Surface tension of lyophilic sols is **[MP PMT 2002]**

(1) Lower than that of H_2O (2) More than that of H_2O

(3) Equal to that of H_2O (4) None of these

Q.53 Alum helps in purfiying water by **[AIEEE 2002]**

(1) Forming Si complex with clay particles

(2) Sulphate part which combines with the dirt and removes it

(3) Aluminium which coagulates the mud particles

(4) Making mud water soluble

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Q.54 The The catalyst used in the manufacture of methanol from water gas is **[MP PET 2002]**

(1) V_2O_5 (2) Ni + Mo (3) ZnO + Cr_2O_3 (4) Pt + W

Q.55 Which one of the following is an incorrect statement for physisorption **[MP PET 2002]**

(1) It is a reversible process (2) It requires less heat of adsorption

(3) It requires activation energy (4) It takes place at low temperature

Q.56 Which one of the following charactersistics is not correct for physical adsorption **[AIEEE 2003]**

(1) Adsorption on solids is reversible

(2) Adsorption increases with increase in temperature

(3) Adsorption is spontaneous

(4) Both enthalpy and entropy of adsorption are negative

Q.57 Surface wtater **[AFMC 2003]**

(1) Salt (2) Salt and organic compound

(3) Organic compounds (4) Suspended impurities

Q.58 Sodium lauryl sulphate is

(1) Cationic sol (2) Anionic sol

(3) Neutral sol (4) None of these

Q.59 Which of the following does not form sol **[MP PET 2003]**

(1) Electrophoresis (2) Peptization (3) Electrical disintegration (4) Solvent exchange

Q.60 Which of the following is not an emulsion **[EAMCET 2003]**

(1) Butter (2) Ice cream (3) Milk (4) Cloud

Q.61 Which of the following reaction is catalysed by enzyme maltase **[CBSE 1994]**

(1) Starch $\rightarrow$ maltose (2) Maltose $\rightarrow$ Glucose

(3) Lactose $\rightarrow$ maltose (4) Maltose $\rightarrow$ glucose + fructose

Q.62 The volume of a colliodal particle, V_C as compared to the volume of a solute particle in a ture solution V_S, could be **[AIEEE 2005]**

(1) $\frac{V_C}{V_S} \approx 10^{23}$ (2) $\frac{V_C}{V_S} \approx 1$ (3) $\frac{V_C}{V_S} \approx 10^{3}$ (4) $\frac{V_C}{V_S} \approx 10^{-3}$

Q.63 Which is true about lyophilic sol ? **[AIEEE 2005]**

(1) It is irreversible (2) It can be congulated in presence of electrolyte

(3) It is self-stabilised (4) Formed by inorganic substance

Q.64 In Langmuir's model of adsorption of a gas on a solid surface **[AIEEE 2006]**

[1] The adsorption at a single site on the surface may involve multiple molecules at the same time

[2] The mass of gas striking a given area of surface is proportional to the pressure of the gas

[3] The mass of gas striking a given area of surface is independent of the pressure of the gas

[4] The rate of dissociation of adsorbed molecules from the surface does not depend on the surface coverd

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Answer Key - 3

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Ans.	2	3	2	2	2	4	3	3	4	1	1	3	3	3	1	3	2	3	2	1	4	3	2	1	3
Qus.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Ans.	2	4	1	1	1	4	2	2	3	2	2	2	4	1	1	1	3	1	1	1	1	4	1	3	1
Qus.	51	52	53	54	55	56	57	58	59	60	61	62	63	64											
Ans.	3	1	3	3	3	2	4	1	1	4	2	3	3	2											