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CHEMISTRY

BOOKS - MODERN PUBLICATION

SURFACE CHEMISTRY

Exercise

1. Negative catalyst is one :

A. which retards the rate of reaction

B. Takes the reaction in forward direction

C. promotes the side reaction

D. None

Answer: A

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2. Which is used in the Haber.s process for the manufacture of NH_3 ?

A. AL_2O_3

B. $Fe + Mo$

C. CuO

D. Pt

Answer: B

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3. Which is not correct for heterogeneous catalysis ?

A. The catalyst decreases the energy of activation

B. the surface of catalyst plays an important role

C. the catalyst actually forms a compound with reaction

D. there is no change in the energy of activation

Answer: D

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4. In homogeneous catalytic reaction, the rate of reaction :

A. Depends upon the concentration of catalyst

B. independent of the concentration of catalyst

C. Depends on the free energy change

D. Depends upon physical state of the catalyst

Answer: A

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5. Hydrolysis of cane sugar is catalyesd by :

A. $H^+ \_ (w). (16)$

B. Mineral acids

C. Enzymes

D. All

Answer: D

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6. Platinum is not used as a catalyst in the :

A. Oxidation of CH_3OH To $HCHO$

B. Oxidation of SO_2 To SO_3

C. Combination of h_2 and I_2 to form HI

D. Synthesis of NH_3 from N_2 and H_2

Answer: D

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7. The decomposition of hydrogen peroxide can be slowed by addition of a small amount of acetamide. The later acts as a:

A. Deteiner

B. stopper

C. promoter

D. inhibiter

Answer: D

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8. One of the reasons for greater reactivity of finely divided platinum catalyst is that it has :

A. particles which are almost atomic in dimensions

B. particle size which can spread easily through whole reactants

C. much larger surface area

D. A physical state only in which it can react quickly

Answer: C

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9. Which is wrong in case of enzyme catalysis ?

A. Enzymes work best at an optimum temperature

B. Enzymes work at an optimum pH

C. Enzymes are highly specific for substrates

D. An enzymes raises activation energy

Answer: D

10. The colouring matter which gets adsorbed on activated charcoal is called :

A. Adsorbent

B. Adsorbate

C. Adsorber

D. None

Answer: B

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11. Air can oxidise sodium sulphite in aqueous solution but cannot do so in the case of sodium arsenite. If however, air is passed through a solution containing both sodium sulphite and sodium arsenite then both are oxidised. This is an example of:

A. positive catalysis

B. Negative catalysis

C. induced catalysis

D. Auto-catalysis

Answer: C

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12. The oxidation of oxalic acid by acidified $KMnO_4$ becomes fast as the reaction progresses due to :

A. Auto catalysis by Mn^{2+}

B. presence of SO_4^{2-}

C. presence of k^+

D. presence of MnO_4^-

Answer: A

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13. Which is universally correct for the catalyst

?

A. Initiates reaction

B. Does not initiate reaction

C. Does not alter the nature of products

D. Is not specific in nature

Answer: B

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14. $AlCl_3$ in Friedel-Crafts reaction acts as:

A. Oxidising agent

B. Reducing agent

C. Acid catalyst

D. None

Answer: C

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15. The catalyst iron, employed in the Haber's process, contains molybdenum, the function of which is:

A. To increase the rate of combination of gases

B. To counterbalance for the presence of impurities in the gases

C. To act as a catalyst promoter and increase activity of catalyst

D. To make up for the adverse temperature and pressure conditions

Answer: C

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16. Chemisoption is:

A. multimolecular in nature

B. Reversible

C. Often highly specific and directional

D. Not very specific

Answer: C

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17. For an exothermic reaction :

A. Energy of reactants is gt Energy of products

B. Energy of reactants islt energy of products

C. Energy of reactants is = energy of products

D. None

Answer: A

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18. Catalytic poisoners act by :

A. Coagulating the catalytic

B. Getting adsorbed on the active centres on the surface of catalyst

C. chemical combination with any one of the reactants

D. None

Answer: B

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19. Protons accelerate the hydrolysis of esters.

This is an example of :

A. A heterogeneous catalysis

B. An acid-base catalysis

C. A promoter

D. A negative catalyst

Answer: B

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20. $KCIO_3$ on heative decomposes into KCI and O_2. If some MnO_2 is added the reaction goes much faster because :

A. Mno_2 decomposes to give oxygen

B. MnO_2 provides heat by reacting

C. Better contact is provided by MnO_2

D. MnO_2 acts as a catalyst

Answer: D

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21. Which is not true in case of catalyst ?

A. The catalyst unchanged chemically at the end of reaction

B. The catalyst accelerates the reaction

C. In a reversible reaction, the catalyst alters the equlibrium position

D. A small amount of catalyst is often sufficient to bring about a large change

in reaction

Answer: C

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22. Which is universally correct for catalyst ?

A. A catalyst remains unchanged chemically at the end of chemical reaction

B. A catalyst takes part in a chemical reaction

C. All kinds of catalysts undergo catalytic poisoning

D. A catalyst physically changes at the end of reaction

Answer: A

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23. Which type of metals form effective catalysts ?

A. Alkali metals

B. Transition metals

C. Alkaline earth metals

D. Radioactive metals

Answer: B

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24. Which acts as negative catalyst:

A. Lead tetraethyl as antiknock compounds

B. Glycerol in decomposition of H_2O_2

C. Ethanol in oxidation of chloroform

D. All

Answer: D

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25. A biological catalyst is essentially a/an:

A. carbohydrate

B. Enzyme

C. Amino acid

D. Nitrogen molecule

Answer: B

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26. Enzymes are :

A. Moulds

B. complex nitrogen compounds

C. micro-organisms

D. Inorganic sulphides

Answer: B

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27. Which acts as a promoter for nickel in the hydrogenation of oils ?

A. Cu

B. Mo

C. Fe

D. Pt

Answer: A

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28. The process which is catalysed by one of the products formed during the reaction is known as:

A. Auto-catalysis

B. Anticatalysis

C. Negative catalysis

D. Acid catalysis

Answer: A

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29. For adsorption of gas on solid surface the plots of log x/m vs log P is linear with a slope equal to :

A. K

B. log K

C. In K

D. 1/n (n being integer)

Answer: D

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30. Which acts as poison for Pd-charcoal in Lindlar's catalyst ?

A. $BaSO_4$

B. Quinoline

C. Both (a) and (b)

D. None

Answer: C

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31. The inhibitors :

A. Retard the rate of a chemical reaction

B. Stop a chemical reaction immediately

C. Are reducing agents

D. Do not allow the reaction to proceed

Answer: A

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32. Which is used as catalyst to retard the oxidation of chloroform ?

A. H_2O

B. C_2H_5OH

C. Glycerol

D. H_2SO_4

Answer: B

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33. Fermentation of starch to give alcohol takes place in presence of:

A. Enzymes work best at an optimum temperature

B. CO_2

C. Air

D. N_2

Answer: A

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34. A substance which alters the rate of a reaction is known as :

A. promoter

B. catalyst

C. Activator

D. initiator

Answer: B

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35. Which acts as inhibitor for knocking in combustion of petrol ?

A. $(C_2H_5)_4pb$

B. $Ni(CO)_4$

C. Both (a) and (b)

D. None

Answer: C

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36. Enzymes are :

A. substance made by chemists to activate washing powder

B. very active vegetable catalysts

C. catalysts found in organisms

D. synthetic catalysts

Answer: C

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37. Who coined the term catalysis and Nobel Prize ?

A. Berzelius

B. kolbe

C. wholer

D. Rutherford

Answer: A

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38. A catalyst:

A. Increases the energy change in the reaction

B. Decreases the energy change in the reaction

C. Does not increase or decrease the energy change in the reaction

D. can either decrease or increase the energy change

Answer: C

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39. Which statement is wrong?

A. Habers's process of NH_3 requires iron as catalyst

B. Friedel-crafts reaction requires anhydrous $ALCL_3$

C. Hydrogenation of oils requires iron as catalyst

D. Oxidtion of SO_2 to SO_3 requires V_2O_5

Answer: C

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40. In a reversible reaction, a catalyst :

A. Increases the rate of the forward reaction only

B. Increases the rate of the forward reaction to a greater extent than that of the backward reaction

C. increases the rate of the forward reaction and decreases that of the

backward reaction to different extent

D. Increases the rate of the forward and backward reaction equally

Answer: D

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41. A catalyst is used in a reaction to :

A. Change the nature of reaction products

B. Increase the reaction yield

C. decrease the need for reactants

D. Decrease the time required for the reaction

Answer: D

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42. Which requires catalyst ?

A. $S + O_2 \rightarrow SO_2$

B. $2SO_2 + O_2 \rightarrow 2SO_3$

C. $C + O_2 \rightarrow CO_2$

D. All

Answer: B

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43. During hydrogenation of oils catalyst commonly used is:

A. pd or $CuCL_2$

B. Finely divided Ni

C. Fe

D. V_2O_5

Answer: B

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44. A catalyst is a substance which :

A. Alters the equilibrium in a reaction

B. Does not participate in the reaction but speeds it up

C. participate in the reaction and provides an easier pathway for the same

D. Is always in the same phase as the reactants

Answer: C

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45. Platinized asbestos used as a catalyst in the manufacture of H_2SO_4 is an example of:

A. Heterogeneous catalyst

B. Auto-catalyst

C. Homo-catalyst

D. Induced catalyst

Answer: A

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46. The efficiency of an enzyme in catalysing a reaction is due to its capacity :

A. To form a enzyme-substrate complex

B. To decrease the bond energies of the substrate molecule

C. To change the shape of the substrate molecule

D. None

Answer: A

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47. In which process, a catalyst is not used :

A. Deacon's process

B. Solvay's process

C. Chamber process

D. Haber's process

Answer: B

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48. The reaction in which catalyst and reactant have one phase are known as:

A. Gaseous reactions

B. Homogeneous catalytic reaction

C. Heterogeneous catalytic reaction

D. None

Answer: B

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49. A substance which alters the rate of a reaction is known as :

A. Initiator

B. Catalyst

C. promoter

D. Auto-catalyst

Answer: C

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50. A catalyst increases the rate of reaction because it :

A. Increases the activation energy

B. Decreases the energy barrier for reaction

C. Decreases the collision diameter

D. Increases the temperature coefficient

Answer: B

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51. When a catalyst increases the rate of a chemical reaction, the rate constant:

A. Increases

B. Decreases

C. Remains constant

D. Becomes infinite

Answer: A

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52. The rate of a certain biochemical reaction catalyesd by an enzyme in human body is 10^4 times faster than when it carried out in the laboratory. The activation energy of this reaction :

A. Is zero

B. Is different in two cases

C. Is the same in both the cases

D. None

Answer: B

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53. Which statement is correct ?

A. A catalyst increases the rate of a reaction by decreasing the rate of backward reaction

B. The reaction is fast if the activation energy of a reaction is low

C. The activation energy of a forward reaction can never be smaller than that

of backward reaction

D. Reaction rate increases with temperature

Answer: B

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54. Which does not influence the rate of a reaction ?

A. Temperature

B. Catalyst

C. Concentration of reactants

D. None

Answer: D

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55. Which statement is wrong?

A. The catalyst does not alter the equilibrium of a reaction

B. Reaction with higher activation energy has higher rate constant

C. In the endothermic reaction, the activation energy of the reaction is higher than that of heat of reaction

D. Half life period of a first order reaction is independent of initial concentration

Answer: B

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56. Which can adsorb large volumes of hydrogen gas ?

A. Colloidal solution of palladium

B. Finely divided Nickel

C. Finely divided platinum

D. Colloidal $Fe(OH)_3$

Answer: A

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57. Enzyme catalyst are:

A. Highly specific in nature

B. Non-specific

C. Solids

D. Always liquid

Answer: A

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58. which one acts as a poison to finely divided Fe in Haber's process for the manufacture of NH_3?

A. CO_2

B. NO

C. CO

D. N_2

Answer: C

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59. The enzyme ptyalin used for digestion of food is present in :

A. Saliva

B. Blood

C. Intestine

D. Adrenal glands

Answer: A

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60. Which statement about enzymes is not correct ?

A. Enzymes are colloidal state

B. Enzymes are catalysts

C. Enzymes can catalys e any reaction

D. Unrease in an enzyme

Answer: C

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61. Which acts poison to platinum (a catlyst) in the manufacture of H_2SO_4 by contact process?

A. Arsenious oxide

B. CO_2

C. CO

D. Sodium sulphate

Answer: A

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62. Modern theory of heterogeneous catalysis is:

A. Intermediate compound formation theory

B. Adsorbtion theory

C. A combination of two theories i.e., intermediate compound formation and adsorbtion theory

D. None

Answer: C

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63. Enzymes are known to increase the rate of reaction by :

A. 10^(2) times

B. 10^(-2) times

C. 10^(5) times

D. 10^(12) times

Answer: D

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64. Which statement is not correct ?

A. Physical adsorbtion is due to van der Waal's forces

B. Physical adsorbtion decreases at high temperature and low pressure

C. Physical adsorbtion is reversible

D. Adsorbtion energy for a chemical adsorbtion is generally lesser than that or physical adsorbtion

Answer: D

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65. In the adsorption of oxalic acid by activated charcoal, the activated charcoal is known as :

A. Adsorbent

B. Adsorbate

C. Adsorber

D. None

Answer: A

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66. The process of froth floatation and chromatography are based on :

A. Emulsification

B. Adsorbtion

C. Adsorbtion

D. Either of them

Answer: D

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67. Platinum is used as a catalyst in :

A. Oxidation of ammonia to form nitric acid

B. Hardening of oils

C. Production of synthetic rubber

D. Synthesis of methanol

Answer: A

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68. A catalyst in the finely divided from is most effective because :

A. Less surface area is available

B. More active centres are formed

C. More energy gets stored in the catalyst

D. None

Answer: B

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69. A catalyst for reversible reaction is a substance that :

A. Supplies energy to the reaction

B. Decreases the time to reach equilibrium

C. Increases the equilibrium concentration of the products

D. Change the equilibrium constant of the reaction

Answer: B

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70. When a catalyst is added to a system the:

A. Equilibrium concentration are increased

B. Equilibrium concentrations are unchanged

C. Rate of forward reaction is increased and that of backward reaction is decreased

D. Value of equilibrium constant is decreased

Answer: B

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71. The colloidal system of liquid dispersed in solid is called _____.

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72. The method of removing of soluble impurities of solutions is called _____

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73. In physisorption, the molecules of adsorbate held to the adsorbent by

Watch Video Solution

74. _____Is used to remove coloured matter from solution of sugar

Watch Video Solution

75. Milk is an exmaple of—,

Watch Video Solution

76. Lyophilic sols are more stable than lyophobic sols because

Watch Video Solution

77. The rate of chemisorption

Watch Video Solution

78. A colloidal system of two immiscible liquids is called _____

Watch Video Solution

79. The adsorbtion power of an adsorbent can be increased by_____

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80. Sols of S_8 and are example of _____colloids

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81. Starch is an example of _____ solution.

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82. Ferric hydroxide solution has ____ charge

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83. Moisture is _____ by silica gel

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84. Ammonia is ____ by water

Watch Video Solution

85. Protective power of a lyophilic sol is expressed in terms of _____

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86. Boot polish is _____ type of colloid ?

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87. An example of emulsion is _____

Watch Video Solution

88. The phenomenon of precipitaion of a colloidal solution by the addition of excess of

an electrolyte is called _____,Which is due to _____

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89. The zig-zag motion of colloidal particles is called _____

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90. The scattering of light on the surface of colloidal particle is _____.

Watch Video Solution

91. The enzymes are physiological catalysts. (True/False)

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92. Chemisorption has a lower enthalpy of adsorbtion than physisorption. (True/ False)

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93. Fog is an emulsion . true or false

Watch Video Solution

94. Rubber is a solidsol

Watch Video Solution

95. Soda-water is an Aerosol

Watch Video Solution

96. Toothpaste is solisol.

Watch Video Solution

97. Milk is an aerosol. True /False.

Watch Video Solution

98. Paint is a liquid form. Is it true or false?

Watch Video Solution

99. The scattering of light on the surface of colloidal particle is _____.

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100. The reverse process of coagulation is called dialysis. (true/false)

Watch Video Solution

101. The process of separation of crystalloids from colloids is called electrophoresis. (true/false)

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102. Starch ,collulose,proteins,enzymes which type of colloid?

Watch Video Solution

103. What term is assigned to the clusters or aggregeted particles formed by the association of colloids in sollution?

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104. What are micelles? Give an example of a micelle system.

Watch Video Solution

105. Tyndall effect is shown by the process of removal of electrolytes and soluble impurities from a colloidal solution. (True or False)

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106. What is the term assigned to the process of converting a freshly prepared precipitate into colloidal form by the addition of a suitable electrolyte ?

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107. Name the method used for the preparation of colloidal sols of metals like copper,silver, and gold .

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108. Which method is used for the preparation of colloidal solution of black ink,paints,varnishes,dyes, and gum?

Watch Video Solution

109. What is the peptising agent used to convert $Fe(OH)_3$ Precipitate to its colloidal form ?

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110. Write the term used to express the zig-zag random motion of colloidal particles observed through ultra micrscope.

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111. What is the term used to express the process of scattering light by colloidal particles resulting the illumination of path of the beam light .

Watch Video Solution

112. Which term is used to express the phenomenon of movements of colloidal particles under the influence of an applied electric field ?

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113. Name the phenomenon of movement molecules of dispersion medium under the influence of applied electric field ,where the movement of colloidal particles is prevented

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114. The phenomenon of precipitaion of a colloidal solution by the addition of excess of

an electrolyte is called _____,Which is due to _____

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115. What is the significant term used to describe quantitatively the protective power of different colloids ?

Watch Video Solution

116. What is the standard red gold sol?

Watch Video Solution

117. How is the coagulation of gold sol indicated ?

Watch Video Solution

118. Name the type of emulsion to which milk belongs .

Watch Video Solution

119. What are micelles? Give an example of a micelle system.

Watch Video Solution

120. physisorption and chemisorption, which type of adsorption has higher enthalpy of adsorption?

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121. What is term assigned to the process of removal of adsorbate (adsorbed substance) from the surface of adsorbent ?

Watch Video Solution

122. what is the term used for the process ,when both adsorption and absorption takes place simultaneously ?

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123. Between physical and chemical adsorption which has high enthalpy of adsorption ?

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124. What is the term used for the graphical relation between the extent of adsorption (x/m) and temperature (T) at constant gas pressure ?

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125. What is the term used for the graphical relation between the extent of adsorption (x/m) and temperature (T) at constant gas pressure ?

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126. What is the effect of rise in temperature on physisorption ?

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127. Give an exaple of homogeneous catalysis.

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128. Give an example of heterogeneous catalysis.

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129. Which catalyst is used for synthesis of NH_3 by haber's process ?

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130. Which one shows very high catalytic activity in the reaction of $H_2(g)$ and $O_2(g)$ to forms $H_2O(l)$?

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131. What is the selective catalyst used in the reaction of $H_2(g)$ and $CO(g)$ to give CH_3OH selectively ?

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132. What are microporus silicates called ?

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133. Which catalyst act as shape-selective catalysts?

Watch Video Solution

134. Which are the actual catalyst exist on the enterior walls of zeolites ?

Watch Video Solution

135. What type of structures causes zeolites to act as good shape-selective catalysis?

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136. Name an important zeolite catalyst used in the petrolium industry .

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137. Which catalyst converts alcohols directly into gasoline (petrol)?

Watch Video Solution

138. Which type of catalysts are occuring in living system to control the rate of all biochemical reactions?

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139. Which enzyme converts maltose into glucose ?

Watch Video Solution

140. The enzyme ___ converts glucose to ethyl alcohol.

Watch Video Solution

141. Which enzyme coverts starch into maltose ?

Watch Video Solution

142. What is the size of a colloidal particle?

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143. Which type of colloidal system includes mist, fog and cloud ?

Watch Video Solution

144. Name the colloidal system which includes butter , cheese, curd, jelly and boot polish ?

Watch Video Solution

145. Name the colloidal system which includes alloys, colloured glass, gem stones, ruby glass.

Watch Video Solution

146. Which type of colloidal system includes smoke, dust, storm, haze ?

Watch Video Solution

147. Give an example of sol.

Watch Video Solution

148. Gum,starch,gelatin are which type of colloids ?

Watch Video Solution

149. $AL(OH)_3$,$Fe(OH)_3$, As_2S_3,Cu,Ag,Au, are which type of colloids ?

Watch Video Solution

150. Give an example of multimolecular colloids.

Watch Video Solution

151. What is especially observed when a beam of light is passed through a colloidal solution?

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152. What are micelles? Give an example of a micelle system.

Watch Video Solution

153. physisorption and chemisorption, which type of adsorption has higher enthalpy of adsorption?

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154. Which type of adsorption is highly specific and irreversible ?

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155. Name any two/four applications of adsorption (four).

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156. Does the adsorption of a gas on the surface of a solid increase or decrease withrise in temperature ?

Watch Video Solution

157. What is the role of desorption in the process of catalysis?

Watch Video Solution

158. What are the characteristics of Lyophobic sols.

Watch Video Solution

159. Define peptisation.

Watch Video Solution

160. What happens when an electrolyte is added to ferric hydroxide sol?

Watch Video Solution

161. Write the dispersed phase and dispersion medium of the following colloidal systems : (i)Smoke (ii)Milk

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162. What are lyophilic and lyophobic colloids ? Which of these sols can be easily coagulated on the addition of small amount of electrolytes ?

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163. Define adsorption with example.

Watch Video Solution

164. What are oil in water and water in oil type of emulsions ? Give one example of cach type.

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165. What is the effect of rise in the temperature on the adsorption of a gas on the surface of a solid ?

Watch Video Solution

166. What phenomena will occur, when sillica gel and anhydrous calcium chloride are placed separately in a vessel containing water vapour?

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167. Name the catalytic promoter or activater used Haber's process for the synthesis of ammonia.

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168. Where the actual catalytic functioning of enzyme starts to occur ?

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169. How does NaCl behave in water and benzene (or alcohol)?

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170. What is the size of the insoluble particles present in suspension ?

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171. How can acetone be prepared from- acetyl chloride

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172. What is gold number?

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173. What does the reciprocal of gold number represent ?

Watch Video Solution

174. Does the adsorption of a gas on the surface of a solid increase or decrease withrise in temperature ?

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175. What is an adsorption isotherm? Describe Freundlich adsorption isotherm.

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176. What is the role of desorption in the process of catalysis?

Watch Video Solution

177. Why does physisorption decrease with increase of temperature ?

Watch Video Solution

178. Why are substances like platinum and palladium often used for carrying out electrolysis of aqueous solutions?

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179. What are lyophilic and lyophobic colloids ? Give one example of each.

 Watch Video Solution

180. define shape selective catalysis with one example.

 Watch Video Solution

181. How does chemical adsorption of a gas on a solid vary with temperature ?

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182. What happens when gum arabic is mixed with gold sol?

Watch Video Solution

183. Why is chemisorption referred to as activated adsorption?

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184. Why are some medicines more effective in the colloidal form?

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185. Gelatin which is a peptide, is added in ice-creams. What can be its role?

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186. On passing H_2S through an aqueous solution of SO_2 a yellow turbidity is formed .why ?

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187. Why activated charcoal is a better absorbent than ordinary charcoal ?

Watch Video Solution

188. When rivers meet the ocean, they generally form delta, give resasons.

Watch Video Solution

189. Why coloid cannot be filtered by ordinary filter paper ?

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190. Name any two applications of adsorption.

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191. Give the dispersion medium and dispersed phase of the following (i)smoke (ii)milk

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192. Explain why colloidal solution is not precipitated in the presence of gelatin.

Watch Video Solution

193. Explain what happens when a colloidal solution of gold is brought under the influence of electric current.

Watch Video Solution

194. Define lyophilic sol with one example .

Watch Video Solution

195. What are characteristics of Emulsions.

Watch Video Solution

196. What is the difference between multimolecular and macromolecular colloids?

Give one example of each. How are associated colloids different from these two types of colloids?

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197. Differentiation between denaturation and coagulation

Watch Video Solution

198. Define associated colloids with example.

Watch Video Solution

199. Define Hardy -Schulze rule.

Watch Video Solution

200. What happens when an emulsion is subjected to centrifugation

Watch Video Solution

201. Define macromolecular sol with example.

Watch Video Solution

202. Distinguish between absorption and adsorption.

Watch Video Solution

203. Give six points of difference between physical adsorption and chemical adsorption.

Watch Video Solution

204. What is an adsorption isotherm? Describe Freundlich adsorption isotherm.

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205. Account for the fact that the charge of the colloidal particles is due to the selective adsorption of ions.

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206. What is the difference between multimolecular and macromolecular colloids? Give one example of each. How are associated colloids different from these two types of colloids?

Watch Video Solution

207. (c) What are micelles ? How do they differ from normal colloidal solutions ?

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208. What are lyophilic and lyophobic colloids ? Which of these sols can be easily coagulated on the addition of small amount of electrolytes ?

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209. (b) How will you identify , whether the given emulsion is oil in water type or water in oil type emulsion ?

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210. What is meant by coagulation of a colloidal solution ?Describe briefly any three methods by which coagulation of iyophobic sols can be carried out.

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211. Name the two groups into which phenomenon of catalysis can be divided. Give

an example of each group with the chemical equation involved.

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212. What do you meant by activity and selectivity of the catalyst?

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213. Give two examples of enzyme catalysis reaction.

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214. How are colloids classified on the basis of the forces of attraction between the two phases in the colloidal systems ? Give the important points of distinction between them.

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215. (b) What is the difference between oil/water (O/W) type and water/oil (W/O) type

emulsion? Give an example of each type .

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216. What is the difference between multimolecular and macromolecular colloids? Give one example of each. How are associated colloids different from these two types of colloids?

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217. Define the following terms with an example in case:

Macromolecular sol

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218. Explain the following in connection with colloids:

(i) Hardy schulze rule (ii) Dialysis

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219. (c) Explain what is observed when (i) an electrolyte NaCl is added to ferric hydroxide sol (ii) an emulsion is subjected to centrifugation (iii)direct current is passed through a colloidal

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220. (a) Define the following terms giving an example of each : (i) Associated colloids (ii) Lyophilic sol (iii)Adsorption

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221. (b)write the difference between physisorption and chemisorption with respect to the following : (i) Specificity (ii) Temperature dependence (iii) Reversibility and (iv) Enthalpy change

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222. Explain the following terms : (a) Electrodialysis

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223. What are enzyme catalysts ? Give a reaction involving an enzyme catalyst.

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224. Name four factors affccting adsorption gases by solids.

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225. What are oil in water and water in oil type of emulsions ? Give one example of cach type.

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