QB365 Question Bank Software Study Materials

Surface Chemistry 50 Important 1 Marks Questions With Answers (Book Back and Creative)

12th Standard

Chemistry

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

1) For Freundlich isotherm a graph of log $\frac{x}{m}$ is plotted against log P. The slope of the line and its y – axis intercept respectively corresponds to_____.

(a) $\frac{1}{n}$, K (b) log$\frac{1}{n}$, K **(c) $\frac{1}{n}$, log K** (d) log $\frac{1}{n}$, log K

2) Which of the following is incorrect for physisorption?

(a) reversible **(b) increases with increase in temperature** (c) low heat of adsorption

(d) increases with increase in surface area

3) Which one of the following characteristics are associated with adsorption?

(a) ΔG and ΔH are negative but ΔS is positive (b) ΔG and ΔS are negative but ΔH is positive

(c) ΔG is negative but ΔH and ΔS are positive **(d) ΔG, ΔH and ΔS all are negative.**

4) Fog is colloidal solution of _____.

(a) solid in gas (b) gas in gas **(c) liquid in gas** (d) gas in liquid

5) Statement : To stop bleeding from an injury, ferric chloride can be applied. Which comment about the statement is justified?

(a) It is not true, ferric chloride is a poison. **(b) It is true, Fe^{3+} ions coagulate blood which is a negatively charged sol**

(c) It is not true; ferric chloride is ionic and gets into the blood stream.

(d) It is true, coagulation takes place because of formation of negatively charged sol with Cl^-.

6) Hair cream is _____.

(a) gel **(b) emulsion** (c) solid sol (d) sol.

7) Which one of the following is correctly matched?

(a) Emulsion - Smoke **(b) Gel - butter** (c) foam - Mist (d) whipped cream - sol

8) The most effective electrolyte for the coagulation of As_2S_3Sol is _____.

(a) NaCl (b) $Ba(NO_3)_2$ (c) $K_3[Fe(CN)_6]$ **(d) $Al_2(SO_4)_3$**

9) Which one of the is not a surfactant?

(a) CH_3 -$(CH_2)_{15}$ -N^+ -$(CH_3)_2$ CH_2Br **(b) CH_3 -$(CH_2)_{15}$ -NH_2** (c) CH_3 -(- CH_2-)-$_{16}CH_2$ OSO_2^- Na^+

(d) OHC-$(CH_2)_{14}$ -CH_2 -COO^- Na^+

10) The phenomenon observed when a beam of light is passed through a colloidal solution is_____.

(a) Cataphoresis (b) Electrophoresis (c) Coagulation **(d) Tyndall effect**

11) In an electrical field, the particles of a colloidal system move towards cathode. The coagulation of the same sol is studied using K_2SO_4

(i), Na_3 PO_4

(ii), K_4 $[Fe(CN)_6]$

(iii) and NaCl

(iv) Their coagulating power should be

(a) II > I > IV > III **(b) III > II > I > IV** (c) I > II > III > IV (d) none of these

12) Collodion is a 4% solution of which one of the following compounds in alcohol – ether mixture?

(a) Nitroglycerine (b) Cellulose acetate (c) Glycoldinitrate **(d) Nitrocellulose**

13) Which one of the following is an example for homogeneous catalysis?

(a) manufacture of ammonia by Haber's process (b) manufacture of sulphuric acid by contact process

(c) hydrogenation of oil **(d) Hydrolysis of sucrose in presence of all HCl**

14) Match the following

a	V_2O_5	i	High density polyethylene
b	Ziegler – Natta	ii	PAN
c	Peroxide	iii	NH_3
d	Finely divided Fe	iv	H_2SO_4

(a)

A	**B**	**C**	**D**
iv	**i**	**ii**	**iii**

(b)

A	B	C	D
i	ii	iv	iii

(c)

A	B	C	D
ii	iii	iv	i

(d)

A	B	C	D
iii	iv	ii	i

15) The coagulation values in millimoles per litre of the electrolytes used for the coagulation of As_2S_3 are given below

(I) (NaCl) = 52

(II) (($BaCl_2$) = 0.69

(III) ($MgSO_4$) = 0.22

The correct order of their coagulating power is _____.

(a) III > II > I (b) I > II > III (c) I > III > II (d) II > III > I

16) Adsorption of a gas on solid metal surface is spontaneous and exothermic, then _____.

(a) ΔH increases (b) ΔS increases (c) ΔG increases **(d) ΔS decreases**

17) If x is the amount of adsorb ate and m is the amount of adsorbent, which of the following relations is not related to adsorption process?

(a) x/m = f(P) at constant T (b) x/m = f(T) at constant P (c) P = f(T) at constant x/m **(d) x/m = PT**

18) On which of the following properties does the coagulating power of an ion depend?

(a) Both magnitude and sign of the charge on the ion. (b) Size of the ion alone

(c) the magnitude of the charge on the ion alone (d) the sign of charge on the ion alone.

19) Match the following

a	Pure nitrogen	i	Chlorine
b	Haber process	ii	Sulphuric acid
c	Contact process	iii	Ammonia
d	Deacons Process	iv	Sodium azide (or) Barium azide

Which of the following is the correct option?

(a)

A	B	C	D
i	ii	iii	iv

(b)

A	B	C	D
ii	iv	i	iii

(c)

A	B	C	D
iii	iv	ii	i

(d)

A	**B**	**C**	**D**
iv	**iii**	**ii**	**i**

20) Activity of iron catalyst is increased by the _____ compound.

(a) CH_3COOH (b) H_2S **(c) Al_2O_3** (d) As_2O_3

21) In case of physical adsorption, there is desorption when _____.

(a) temperature increases (b) temperature decreases (c) pressure increases (d) concentration increases

22) Which among the following does not affect adsorption?

(a) surface area of the adsorbent **(b) catalyst** (c) temperature (d) pressure

23) The impurity present in the colloidal particle is _____.

(a) electrolytes (b) solute (c) both (a) and (b) (d) neither (a) or (b)

24) When the operation force between the absorbent and adsorbate is weak Vander waal's force, then it is called _____.

(a) physical adsorption (b) chemical adsorption (c) Vander waal's adsorption **(d) both (a) and (c)**

25) Pick out the dispersion method of preparation of colloids.

(a) oxidation (b) change of physical state (c) reduction **(d) peptisation**

26) The phenomenon of scattering of light by the sol particles is called _____.

(a) tyndall effect (b) electrophoresis (c) cataphoresis (d) dialysis

27) The oxidation of sodium sulphite by air is retarded by _____.

(a) MnO_2 (b) H_2S **(c) Alcohol** (d) AS_2O_3

28) The rate of decomposition of hydrogen peroxide decreases in presence of _____.

(a) Platinum (b) Iron (c) MnO_2 **(d) Glycerine**

29) Silver salt used in photography is _____.

(a) Agcl (b) $AgNO_3$ (c) AgF **(d) AgBr**

30) Emulsifying agent used for O/W emulsion is: _____.

(a) proteins (b) heavy metal salts of fatty acids (c) long chain alcohol (d) lamp black

31) The dispersed phase and dispersion medium in soap lather are respectively _____.

(a) gas and liquid (b) liquid and gas (c) solid and gas (d) solid and liquid

32) A substance which destroys the activity of a catalyst is_____.

(a) negative catalyst **(b) catalytic poison** (c) both (a) and (b) (d) promoter

33) In the decomposition of hydrogen peroxide _____acts a negative catalyst.

(a) H_2S **(b) glycerol** (c) pt (d) Fe

34) _____enzyme hydrolyses starch into maltose.

(a) pepsin **(b) diastase** (c) zymase (d) urease

35) An example of Gel is_____.

(a) sharing cream (b) paints **(c) butter** (d) whippedcream

36) The platinum catalyst used in the oxidation of SO_2 by contact process is poisoned by _____.

(a) As_2O_3 (b) V_2O_5 (c) Fe_2O_3 (d) $CuCl_2$

37) Which one of the following is correctly matched?

(a) Emulsion - Paint (b) Liquid Aerosol - Milk (c) Foam - Pumice stone **(d) Gel - Butter**

38) Which of the following is incorrect?

(a) Enzymes can be inhibited (poisoned) **(b) Catalytic activity of enzymes is decreased by coenzymes.**

(c) Enzyme catalysis is highly specific in nature (d) The rate of enzyme catalysed reaction varies with the pH of the system

39) It is an adsorbate _____.

(a) Silica gel (b) Silver (c) Copper **(d) NH_3**

40) Which is physical adsorption?

(a) O_2 on W (b) H_2 on Ni (c) Ethyl alcohol vapours on Ni **(d) N_2 on mica**

41) For $2SO_2 + O_2 \rightarrow 2SO_3$ the catalytic poison is _____.

(a) Pt **(b) As_2O_3** (c) AI_2O_3 (d) H_2S

42) The peptide glycyl L - glutamyl L - tyrosin is hydrolysed by the enzyme _____.

(a) Pepsin (b) Diastase (c) Maltase (d) Zymase

43) Zeolites carrying protons are used by _____.

(a) solid acid catalyst (b) basic catalyst (c) neutral catalyst (d) none

44) There are about _____ natural zeolites and _____ synthetic zeolites.

(a) 100, 200 (b) 50, 100 (c) 75, 150 **(d) 50, 150**

45) The advantage of Nano catalysts is _____.

(a) 100% selective transformations, excellent yield and extremely high activity like homogeneous catalysts

(b) they can be recovered and recycled like heterogeneous catalysts **(c) both (a) and (b)** (d) none

46) Whipped cream is an example for _____.

(a) Liquid aerosol (b) Solid aerosol **(c) Foam** (d) Emulsion

47) The electrolytes used in peptisation is called _____.

(a) peptising agent (b) dispersing agent (c) emulsifying agent **(d) both (a) & (b)**

48) Collodion cellophane or visiking is used in _____.

(a) Dialysis (b) Electro dialysis **(c) ultra filtration** (d) Hot dialysis

49) Emulsion can be separated into _____ layers during de emulsification.

(a) two (b) Three (c) four (d) many

50) An O/W emulsion containing potassium soap as emulsifying agent can be convert to W/O emulsion by addding _____.

(a) $CaCI_2$ (b) $AlCI_3$ **(c) Both (a) & (b)** (d) None