Section A

1. The diameter of a collidal particle is of the order
(a) 10^{-3} m (b) 10^{-6} m
(c) 10^{-15} m (d) 10^{-7} nm

2. Which of the following substances is a natural colloid?
(a) sodium chloride solution (b) cane sugar solution
(c) urea solution (d) blood

3. Bleeding is stopped by the application of $FeCl_3$ because
(a) this causes coagulation of blood (b) this reverses the flow of blood
(c) this seals the blood vessels (d) this effects the nerves

4. Fog is a colloid and is an example of
(a) gas dispersed in gas (b) solid dispersed in gas
(c) solid dispersed in liquid (d) liquid dispersed in gas

5. Which of the following can act as a protective colloid?
(a) silica gel (b) gelatin
(c) sulphur (d) foam

6. As_2S_3 forms a negatively charged solution. Which of the following is the most effective in its coagulation?
(a) $BaCl_2$ (b) NaCl
(c) $Al_2(SO_4)_3$ (d) Na_2SO_4

7. The migration of colloidal particles under the influence of an electric field is known as
(a) sedimentation (b) migration
(c) electrophoresis (d) dialysis

8. Smoke is a dispersion of
(a) liquid in gas (b) solid in gas
(c) gas in solid (d) gas in gas

9. The process of removing dissolved impurities from a colloidal solution is known as
(a) dialysis (b) sedimentation
(c) osmosis (d) peptisation

10. In the adsorption of oxalic acid on activated charcoal, activated charcoal is called
(a) adsorbent (b) adsorbate
(c) adsorber (d) absorber

11. A catalyst enhances the rate of a chemical reaction
(a) by changing ΔG (b) by increasing Ea
(c) by decreasing Ea (d) by increasing ΔS

12. Which of the following catalysts is used for the hydrogenation of oil?
(a) Fe (b) Pt
(c) Mo (d) Ni

13. In sugar plants, the coloured matter is removed by animal charcoal by the process of
(a) adsorption (b) absorption
(c) precipitation (d) solubulisation

14. Lyophilic solutions are more stable than lyophobic solutions because
(a) colloidal particles are charged (b) colloidal particles are solvated
(c) colloidal particles are smaller (d) electrostatic repulsions are more

15. Bredig's electric arc method cannot be used for preparing the colloidal solution of
(a) Cu (b) Fe
(c) Ag (d) Na

16. Which of the following has the minimum value of gold number?
(a) gelatin (b) egg albumin
(c) gum arabic (d) starch

17. Which of the following is a true hydrophobic colloid?
(a) sulphur (b) gum
(c) starch (d) gelatin

18. Milk is an example of natural emulsion stabilised by

(a) fat (b) water

(c) casein (d) Ca^{2+}

19. Adsorption of O_2 on tungsten is an example of

(a) physical adsorption (b) chemical adsorption

(c) van der Waal's adsorption (d) all of the above

20. Which of the following constitutes an irreversible colloidal system? (Water is present as dispersion phase.)

(a) platinum (b) arsenic

(c) clay (d) all of the above

Section B

1. $Al(OH)_3$ is a positively charged solution. Which of the following will be the most effective in its coagulation?

(a) NaCl (b) $CaCl_2$

(c) Na_2SO_4 (d) $Na_3 PO_4$

2. The process of converting a fresh precipitate into a colloidal sol by using some electrolyte is called

(a) dialysis (b) peptisation

(c) cataphoresis (d) coagulation

3. The colloidal sol of As_2S_3 prefers to adsorb

(a) NO_3^- (b) H^+

(c) OH^- (d) S^{2-}

4. When fresh SnO_2 is peptised by a small amount of NaOH, the colloidal particle can be represented as

(a) $[SnO_2]\ SnO_3^{2-} : 2Na^+$ (b) $[SnO_2]\ Sn^{4+} : O^{2-}$

(c) $[SnO_2]\ Na^+ : OH^-$ (d) $[SnO_2]\ Sn^{4+} : OH^-$

5. Chromatography is based on

(a) absorption of solute
(b) hydration of solute
(c) adsorption and then dispersion of solute
(d) evaporation of solute

6. When an oil soluble dye is mixed with water in an oil emulsion, then

(a) the dispersion medium gets coloured
(b) the dispersed phase gets coloured
(c) both the phases get coloured
(d) none is coloured

7. When an oil soluble dye is mixed with an emulsion and the emulsion remains colourless, it is an

(a) O in W emulsion
(b) W in O emulsion
(c) O in O emulsion
(d) none of the above

8 Micelles are

(a) ideal solutions
(b) associated colloids
(c) adsorbed surfaces
(d) typical adsorbents

9 Which of the following does not correspond to a catalyst?

(a) it does not change Ea
(b) surface of catalyst adsorbs reactants
(c) catalyst forms intermediates
(d) enzymes are specific catalysts

10 The ability of a catalyst to direct a reaction to yield a particular product is

(a) reactivity
(b) selectivity
(c) activity
(d) all of the above

Answer Key

Section A

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	D	D	A	D	B	C	C	B	A	A
Que.	11	12	13	14	15	16	17	18	19	20
Ans.	C	D	A	B	D	A	A	C	B	D

Section B

Que.	1	2	3	4	5	6	7	8	9	10
Ans.	D	B	D	A	C	A	A	B	A	B