

- Which of the following is an inert gas ?  
(a)  $H_2$  (b)  $O_2$   
(c)  $N_2$  (d) Argon
- If 0.1M of a weak acid is taken and its percentage of degree of ionization is 1.34%, then its ionization constant will be :  
(a)  $0.8 \times 10^{-5}$  (b)  $1.79 \times 10^{-5}$   
(c)  $0.182 \times 10^{-5}$  (d) none of these
- If a substance with half-life 3 days is taken at other place in 12 days, what amount of substance is left now ?  
(a) 1/4 (b) 1/8  
(c) 1/16 (d) 1/32
- To prepare a solution of concentration of 0.03 g/mL of  $AgNO_3$ , what amount of  $AgNO_3$  should be added in 60 mL of solution ?  
(a) 1.8 g (b) 0.8 g  
(c) 0.18 g (d) none of these
- How will you separate a solution (miscible) of benzene +  $CHCl_3$  ?  
(a) Sublimation (b) Filtration  
(c) Distillation (d) Crystallisation
- When alcohol reacts with concentrated  $H_2SO_4$ , intermediate compound formed is :  
(a) carbonium ion  
(b) alkoxy ion  
(c) alkyl hydrogen sulphate  
(d) none of the above
- According to law of mass action rate of a chemical reaction is proportional to :  
(a) concentration of reactants  
(b) molar concentration of reactants  
(c) concentration of products  
(d) molar concentration of products
- In Hall's process the main reagent is mixed with :  
(a) NaF (b)  $Na_3AlF_6$   
(c)  $AlF_3$  (d) none of these
- In electrolysis of dilute  $H_2SO_4$ , what is liberated at anode ?  
(a)  $H_2$  (b)  $SO_4^{2-}$   
(c)  $SO_2$  (d)  $O_2$

10. A gas can be liquefied :  
(a) above its critical temperature  
(b) at its critical temperature  
(c) below its critical temperature  
(d) at any temperature
11. Which of the following is hypnotic ?  
(a) Acetaldehyde (b) Paraldehyde  
(c) Metaldehyde (d) None of these
12. By which of the following process permanent hardness of water can be removed, by adding ?  
(a) Soda lime (b) Sodium bicarbonate  
(c) Washing soda (d) Sodium chloride
13. Vinegar obtained from sugarcane has :  
(a)  $\text{CH}_3\text{COOH}$  (b)  $\text{HCOOH}$   
(c)  $\text{C}_6\text{H}_5\text{COOH}$  (d)  $\text{CH}_3\text{CH}_2\text{COOH}$
14. What is the packet of energy called ?  
(a) Electron (b) Photon  
(c) Positron (d) Proton
15. When an acid cell is charged then :  
(a) voltage of cell increases  
(b) electrolyte of cell dilutes  
(c) resistance of cell increases  
(d) none of the above
16. NaOH is prepared by the method :  
(a) Down cell (b) Castner cell  
(c) Solvay process (d) Castner-Kellner cell
17. When toluene is treated with  $\text{KMnO}_4$ , what is produced ?  
(a) Benzene (b) Chlorobenzene  
(c) Benzaldehyde (d) Benzoic acid
18. Solder is an alloy of :  
(a) 70% lead, 30% tin  
(b) 30% lead, 70% tin  
(c) 80% lead, 20% tin  
(d) 90% copper, 10% tin
19. Carboic acid is :  
(a)  $\text{C}_6\text{H}_5\text{CHO}$  (b)  $\text{C}_6\text{H}_6$   
(c)  $\text{C}_6\text{H}_5\text{COOH}$  (d)  $\text{C}_6\text{H}_5\text{OH}$

20. Alcohols are isomeric with :  
 (a) acids (b) ethers  
 (c) esters (d) aldehydes
21. The groups linkage present in fats is :  
 (a) peptide linkage  
 (b) ester linkage  
 (c) glycosidic linkage  
 (d) none of the above
22. The group present in waxes are :  
 (a) acid group (b) ester group  
 (c) alcohol group (d) ether group
23. Which of the following is liquid at room temperature ?  
 (a)  $\text{CH}_3\text{I}$ — $66^\circ\text{C}$ ,  $42^\circ\text{C}$   
 (b)  $\text{CH}_3\text{Br}$ — $94^\circ\text{C}$ ,  $3^\circ\text{C}$   
 (c)  $\text{C}_2\text{H}_5\text{Cl}$ — $139^\circ\text{C}$ ,  $12^\circ\text{C}$   
 (d)  $\text{CH}_3\text{F}$ — $115^\circ\text{C}$ ,  $78^\circ\text{C}$
24. Which gas is liberated when  $\text{Al}_4\text{Cl}_3$  is hydrolysed ?  
 (a)  $\text{CH}_4$  (b)  $\text{C}_2\text{H}_2$   
 (c)  $\text{C}_2\text{H}_6$  (d)  $\text{CO}_2$
25. The only alcohol that cannot be prepared by the indirect hydration of alkene is :  
 (a) ethyl alcohol (b) propyl alcohol  
 (c) isobutyl alcohol (d) methyl alcohol
26. Baking powder is :  
 (a)  $\text{NaHCO}_3$  (b)  $\text{NaHCO}_3 \cdot 6\text{H}_2\text{O}$   
 (c)  $\text{Na}_2\text{CO}_3$  (d)  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
- When washing soda is heated :
27. (a)  $\text{CO}$  is released  
 (b)  $\text{CO} + \text{CO}_2$  is released  
 (c)  $\text{CO}_2$  is released  
 (d) water vapour is released
28. Which of the following attacks glass ?  
 (a)  $\text{HCl}$  (b)  $\text{HF}$   
 (c)  $\text{HI}$  (d)  $\text{HBr}$
29. A colourless gas with the smell of rotten fish is :  
 (a)  $\text{H}_2\text{S}$  (b)  $\text{PH}_3$   
 (c)  $\text{SO}_2$  (d) none of these
- Salicylic acid is prepared from phenol by :
30. (a) Reimer-Tiemann reaction  
 (b) Kolbe's reaction  
 (c) Kolbe-electrolysis reaction  
 (d) none of the above
31. Lucas test is done for :  
 (a) alkyl halides (b) alcohols  
 (c) acids (d) aldehydes
32. Hydrogen can be fused to form helium at :  
 (a) high temperature and high pressure  
 (b) high temperature and low pressure  
 (c) low temperature and high pressure  
 (d) low temperature and low pressure

33. When  $\text{CO}_2$  is bubbled through a solution of barium peroxide in water :
- $\text{O}_2$  is released
  - carbonic acid is formed
  - $\text{H}_2\text{O}_2$  is formed
  - no reaction occurs
34. The most important ore of tin is :
- cassiterite
  - cryolite
  - cerussite
  - none of these
35. Heating of ore in presence of air to remove sulphur impurities is called :
- calcination
  - roasting
  - smelting
  - none of these
36.  $\text{CaCO}_3 \rightleftharpoons \text{CaO} + \text{CO}_2$  reaction in a line goes to completion because :
- $\text{CaO}$  does not react to  $\text{CO}_2$  to give  $\text{CaCO}_3$
  - backward reaction is very low
  - $\text{CO}_2$  formed escapes out
  - none of the above
37. If 30 mL of  $\text{H}_2$  and 20 mL of  $\text{O}_2$  reacts to form water, what is left at the end of the reaction ?
- 10 mL of  $\text{H}_2$
  - 5 mL of  $\text{H}_2$
  - 10 mL of  $\text{O}_2$
  - 5 mL of  $\text{O}_2$
38. Which of the following is a highly corrosive salt ?
- $\text{FeCl}_2$
  - $\text{PbCl}_2$
  - $\text{Hg}_2\text{Cl}_2$
  - $\text{HgCl}_2$
39. 0.5 M of  $\text{H}_2\text{SO}_4$  is diluted from 1 L to 10 L, normality of resulting solution is :
- 1 N
  - 0.1 N
  - 10 N
  - 11 N
40. Formula for tear gas is :
- $\text{COCl}_2$
  - $\text{CCl}_3\text{NO}_2$
  - $\text{N}_2\text{O}$
  - none of these
41. Which of the following is potassium ferricyanide ?
- $[\text{K}_4[\text{Fe}(\text{CN})_6]]$
  - $[\text{K}_3[\text{Fe}(\text{CN})_6]]$
  - $[\text{K}_3[\text{Fe}(\text{CN})_5]]$
  - $[\text{K}_3[\text{Fe}(\text{CN})_4]]$
42. Sodium nitroprusside when added to an alkaline solution of sulphide ions produce a :
- red colouration
  - blue colouration
  - purple colouration
  - brown colouration
43. The product obtained on reaction of  $\text{C}_2\text{H}_5\text{Cl}$  with hydrogen over palladium carbon is :
- $\text{C}_3\text{H}_8$
  - $\text{C}_4\text{H}_{10}$
  - $\text{C}_2\text{H}_6$
  - $\text{C}_2\text{H}_4$

44. A solution has pH = 5, it is diluted 100 times, then it will become :  
 (a) neutral (b) basic  
 (c) unaffected (d) more acidic
45. Ketones react with Mg - Hg over water gives :  
 (a) pinacolone (b) pinacols  
 (c) alcohols (d) none of these
46. X is heated with soda lime and gives ethane. X is :  
 (a) ethanoic acid (b) methanoic acid  
 (c) propanoic acid (d) either (a) or (c)
47. Which is used to produce smoke screens ?  
 (a) Calcium phosphide  
 (b) Zinc sulphide  
 (c) Sodium carbonate  
 (d) Zinc phosphide
48. The conversion of maltose to glucose is possible by the enzyme :  
 (a) zymase (b) lactase  
 (c) maltase (d) diastase
49. The product obtained on fusion of  $\text{BaSO}_4$  and  $\text{Na}_2\text{CO}_3$  is :  
 (a)  $\text{BaCO}_3$  (b)  $\text{BaO}$   
 (c)  $\text{Ba(OH)}_2$  (d)  $\text{BaHSO}_4$
50. A 5 molar solution of  $\text{H}_2\text{SO}_4$  is diluted from 1 L to 10 L. What is the normality of the solution ?  
 (a) 0.25 N (b) 1 N  
 (c) 2 N (d) 7 N

#### ANSWER KEYS

1. d 2.b 3. c 4.a 5.c 6.a 7. b 8.b 9.d 10.c  
 11. b 12. c 13. a 14. b 15. a 16. d 17. d 18. b 19. d 20. b  
 21. b 22. b 23. a 24. a 25. d 26. a 27. d 28. b 29. b 30. a  
 31. b 32. a 33. c 34. a 35. b 36. c 37. d 38. d 39. b 40. b  
 41.b 42.c 43.c 44.a 45.b 46.c 47.a 48.c 49. a 50.b