

Chapter 9: Acid - Base Balance

1. Which acid is formed by the cause of thunder storm?
[All Board-18]
 (a) H_2CO_3 (b) HNO_2
 (c) H_3PO_4 (d) H_2SO_4 (b)
2. The pH value of water less than of which value will be threat to living beings? [All Board-18]
 (a) 14 (b) 9.5
 (c) 7.0 (d) 4.5 (d)
3. What is the standard pH value for skin of human body? [D.B.-17]
 (a) 5.0 (b) 5.5
 (c) 7.0 (d) 7.8 (b)
4. What will be the colour if wet blue litmus paper pass through SO_3 gas? [D.B.-17]
 (a) Green (b) Red
 (c) Colorless (d) Orange (d)
5. By dissolving soda ash in water completely which two ions will be produced? [R.B.-17]
 (a) Na^+ , CO_3^{2-} (b) H^+ , CO_3^{2-}
 (c) Na^+ , OH^- (d) OH^- , CO_3^{2-} (a)
6. What is the pH value of weak base? [R.B.-17]
 (a) 0-3 (b) 3-7
 (c) 7-11 (d) 11-14 (c)
7. What is the colour of universal indicator in weak acid? [Dj.B.-17]
 (a) Yellow (b) Red
 (c) Green (d) Blue (a)
8. $\text{FeCl}_3(\text{aq}) + \text{NaOH}(\text{aq}) \longrightarrow \text{A} + \text{NaCl}$. What is the colour of A? [Dj.B.-17]
 (a) Light blue (b) Reddish brown
 (c) Green (d) White (b)
9. Which is insoluble in water? [Dj.B.-17]
 (a) PbSO_4 (b) NaNO_3
 (c) K_2CO_3 (d) $\text{Ca}(\text{OH})_2$ (a)
10. What is the formula of Gypsum? [Dj.B.-17]
 (a) $\text{MgCO}_3 \cdot 2\text{H}_2\text{O}$ (b) $\text{MgCO}_3 \cdot \text{CaCO}_3$
 (c) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (d) $(\text{CaSO}_4)_2\text{H}_2\text{O}$ (c)
11. If wet blue litmus paper is passed through SO_3 gas, then what will be the colour? [Ctg.B.-17]
 (a) Green (b) Red
 (c) Colourless (d) Orange (b)
12. Which one is ideal pH of skin? [S.B.-17]
 (a) 5.5 (b) 6.5
 (c) 7.45 (d) 8 (a)
13. What type of compound does esculent root contain? [J.B.-17]
 (a) Acidic (b) Fatty
 (c) Alkaline (d) Neutral (c)
14. Which one of the following turns wet redlitmus into blue? [J.B.-17]
 (a) SO_2 (b) NO_2
 (c) NH_3 (d) HCl (c)
15. What is the pH value of pure water? [J.B.-17]
 (a) 4 (b) 5
 (c) 6 (d) 7 (d)
16. Which one is present in soft drinks? [J.B.-17]
 (a) HCOOH (b) H_2CO_3
 (c) CH_3COOH (d) H_3PO_4 (b)
17. Which is the weak acid? [B.B.-17]
 (a) HCl (b) H_2CO_3
 (c) HNO_3 (d) H_2SO_4 (b)
18. Green precipitate has found by a reaction with a solution of metal salt and caustic soda. Which is this ion? [B.B.-17]
 (a) Cu^+ (b) Fe^{2+}
 (c) Fe^{3+} (d) Al^{3+} (b)
19. Which color indicate by the aqueous solution of ammonia at pH paper? [D.B.-16]
 (a) Red (b) Yellow
 (c) Green (d) Blue (d)
20. Which one is the chlorination reaction? [R.B.-16]
 (a) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
 (b) $\text{CaCl}_2 + 2\text{NaOH} \rightarrow \text{Ca}(\text{OH})_2 + \text{NaCl}$
 (c) $\text{CH}_2 = \text{CH}_2 + \text{Cl}_2 \rightarrow \text{CH}_2\text{Cl}-\text{CH}_2\text{Cl}$
 (d) $\text{Ca}(\text{OCl})\text{Cl} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + 2[\text{Cl}]$ (d)
21. If the pH value of soil is more then which one is applied? [R.B.-16]
 (a) KCl (b) $\text{Fe}(\text{OH})_2$
 (c) $(\text{NH}_4)_2\text{SO}_4$ (d) NO_2CO_3 (c)
22. Which one is poisonous? [R.B.-16]
 (a) PbO (b) ZnO
 (c) FeO (d) Al_2O_3 (a)
23. What is the ideal pH value of body skin?
[R.B.-16; Dj.B.-16; C.B.-16]
 (a) 5.5 (b) 6.5
 (c) 7.35 (d) 7.45 (a)
24. By which reaction rainbow experiment is done?
[R.B.-16]
 (a) Addition (b) Neutralization
 (c) Hydrolysis (d) Polymerization (b)
25. What is the acceptance level of Arsenic in water?
[Dj.B.-16; R.B.-15]
 (a) 1.0 mg/litre (b) 0.1 mg/litre
 (c) 0.01 mg/litre (d) 0.001 mg/litre (c)
26. Which of the following changes the colour of wet litmus from red to blue? [Dj.B.-16]
 (a) CO_2 (b) SO_2
 (c) NH_3 (d) CO (c)
27. Which one is used to spot bitten by bee? [C.B.-16]
 (a) Vinegar (b) Salt
 (c) Sugar (d) Lime (d)
28. Which of the following is base? [C.B.-16]
 (a) Caustic soda (b) Copper oxide
 (c) Iron hydroxide (d) Vinegar (a)
29. What is the colour of the precipitation of $\text{Al}(\text{OH})_3$?
[C.B.-16]
 (a) White (b) Light blue
 (c) Reddish brown (d) Green (a)
30. How many mg/liter of arsenic is the acceptable rate in tube-well water in Bangladesh? [Ctg.B.-16]
 (a) 0.01 (b) 0.05
 (c) 0.06 (d) 0.07 (a)

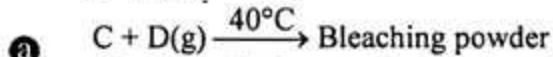
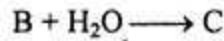
31. Which is the formula of Potash Alum? [Ctg.B. -16]
- $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 10 H_2O$
 - $KSO_4 \cdot Al_2(SO_4)_3 \cdot 24 H_2O$
 - $K_2SO_4 \cdot Al(SO_4)_3 \cdot 24 H_2O$
 - $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24 H_2O$
32. Table salt shows hygroscopic property in presence of which two matters in rainy season? [S.B. -16]
- $CaCl_2 \cdot AlCl_3$
 - $MgCl_2 \cdot KCl$
 - $CaCl_2 \cdot MgCl_2$
 - $KCl \cdot CaCl_2$
33. Neutral salt will be attained from which reaction? [S.B.-16]
- $Ca(OH)_2 + HCl$
 - $Ca(OH)_2 + CH_3 - COOH$
 - $NH_4OH + HCl$
 - $NaOH + H_2CO_3$
34. Which pH value of benzoic acid plays very effective role as food preservative? [S.B. -16]
- < 4.5
 - 4.5
 - $6.5 >$
 - $5.5 - 6.5$
35. What type of substance present in banana tree? [J.B. -16]
- Acidic
 - Alkaline
 - Neutral
 - Fat
36. What is the required pH value of urine? [J.B. -16]
- 5
 - 7
 - 6
 - 4
37. What is used to prevent the dental caries? [J.B. -16]
- Acid
 - Base
 - Salt
 - Water
38. Which compound is soluble in water? [B.B.-16]
- PbI_2
 - $BaCl_2$
 - $MgCl_2$
 - AgI
39. What is the value of pH in neutralisation reaction? [B.B. -16; D.B. -15]
- $pH = 8$
 - $pH > 7$
 - $pH = 7$
 - $pH < 7$
40. Acidic oxide is— [J.B.-17]
- P_2O_5
 - SO_2
 - NH_3

Which one of the following is correct?

- i
- ii
- i and ii
- i, ii and iii

41. pH of an acid solution is 4, to increase the pH value we have to add—[B.B.-16]
- solution of ammonia
 - concentrated hydrochloric acid
 - solid magnesium carbonate
- Which one is correct?
- i and ii
 - ii and iii
 - i and iii
 - i, ii and iii

Answer to the questions no. 42-44 according to the stem :— [Ctg.B. -16]



42. What is the number of atom in one g of compound 'B'?

- 2.15×10^{22}
- 4.15×10^{22}
- 6.02×10^{22}
- 6.02×10^{23}

43. What is the pH of aqueous solution of 'C'?

- $pH = 2$
- $pH = 7$
- $pH < 7$
- $pH > 7$

44. How many moles of product will be obtained when two mole of 'D' gas react completely? [Ctg.B. -16]

- 1
- 2
- 3
- 4

Answer to the questions no. 45 and 46 according to the stem :— [Ctg.B. -16]

- 100mL solution contains 20g of H_2SO_4 and 20 g of $NaOH$.
45. How many grams of product will be produced with the solution mentioned in the stem?

- 16.33
- 28.98
- 35.5
- 40

46. What colour will show if pH paper is added in the said solution?

- Red
- Yellow
- Green
- Violet