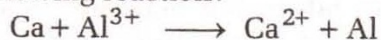
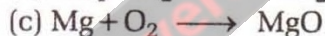
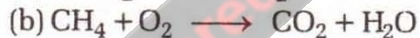
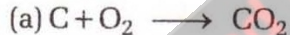


1. What is the stoichiometry coefficient of Ca in the following reaction?



- (a) 2 (b) 1
(c) 3 (d) 4
2. What is the value of x in the potash alum $\text{K}_2\text{SO}_4 \cdot \text{Al}_x(\text{SO}_4)_3 \cdot 24\text{H}_2\text{O}$?
- (a) 4 (b) 1
(c) 2 (d) None of these
3. Ozone is useful in the purification of water because
- (a) it releases oxygen on dissociation
(b) it does not give unpleasant smell like chlorine
(c) it acts as bactericide and destroys the bacteria, fungi etc
(d) All of the above
4. Internal energy is the sum of
- (a) kinetic energy and potential energy
(b) all types of energy of system
(c) energies of internal system
(d) None of the above

5. Which of the following is a combustion reaction?



(d) All of the above

6. $\text{C}_6\text{H}_5^{14}\text{COOH}$ is heated with Na_2CO_3 to release

(a) CO_2

(b) $^{14}\text{CO}_2$

(c) CO

(d) None of these

7. The mass of two molecules A and B are 100 kg and 64 kg respectively. If the diffusion rate of A is 12×10^{-3} then, the diffusion rate of B will be

(a) 15×10^{-3}

(b) 64×10^{-3}

(c) 5×10^{-3}

(d) 46×10^{-3}

8. Commercially ethyl bromide is manufactured by

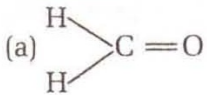
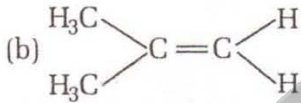
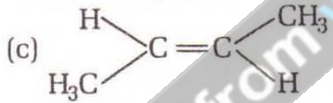

(a) ethyl alcohol + HBr

(b) ethanol + Br_2

(c) alcohol + HBr

(d) None of the above

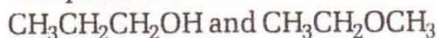
9. In the presence of Fe/HCl, aniline obtains from which of the following?
 (a) Benzene (b) Nitrobenzene
 (c) Dinitrobenzene (d) None of these
10. Which of the following is a strong base?
 (a) Benzamide (b) Butanamine
 (c) Nitrobenzene (d) Benzene
11. On comparison of S and S²⁻, the S²⁻ has
 (a) large radius and large size
 (b) small radius and large size
 (c) large radius and small size
 (d) small radius and small size
12. Which of the following is not correct?
 (a) $t_{1/2} = \frac{0.693}{k}$ (b) $N = N_0 e^{-kt}$
 (c) $\frac{1}{N} - \frac{1}{N_0} = \ln kt_{1/2}$ (d) None of these
13. Which of the following is the second most electronegative element?
 (a) Oxygen (b) Nitrogen
 (c) Fluorine (d) Sulphur
14. Which of the following is not correct according to Aufbau's rule?
 (a) $\boxed{\uparrow\downarrow}$ $\boxed{\uparrow\downarrow\uparrow\downarrow}$ (b) $\boxed{\uparrow\downarrow}$ $\boxed{\uparrow\downarrow\uparrow\downarrow}$
 2s 2p 2s 2p
 (c) $\boxed{\uparrow}$ $\boxed{\uparrow\downarrow\uparrow\downarrow}$ (d) $\boxed{\uparrow\downarrow}$ $\boxed{\uparrow\downarrow\uparrow\downarrow}$
 2s 2p 2s 2p
15. Which of the following has the lowest ionization potential?
 (a) Oxygen (b) Nitrogen
 (c) Fluorine (d) Sulphur
16. On homolytic fission, CH₃CH₂Cl gives
 (a) $\text{CH}_3\dot{\text{C}}\text{H}_2$ and $\text{C}\dot{\text{I}}$ (b) $\text{CH}_3\dot{\text{C}}\text{H}_2$ and $\text{Cl}\dot{\text{I}}$
 (c) $\text{CH}_3\dot{\text{C}}\text{H}_2$ and $\text{C}\dot{\text{I}}$ (d) $\text{CH}_3\dot{\text{C}}\text{H}_2$
17. If the diffusion rate of NH₃ is double of X, then the molecular weight of X will be
 (a) 68 (b) 48
 (c) 12 (d) 8
18. The bond order of C—C bond of benzene.
 (a) 1 (b) 2
 (c) between 1 and 2 (d) None of these
19. The decreasing order of bond length of following (A), Ethane (B) Ethene (C) Ethyne
 (a) A > B > C (b) B > A > C
 (c) C > B > A (d) C > A > B
20. What is the range of the size of colloidal particle?
 (a) 1 to 100 nm (b) 1 to 1000 cm
 (c) 1 to 1000 mm (d) 1 to 100 km
21. $\text{Zn}^{2+} \longrightarrow \text{Zn}(s) \quad E^\circ = -0.76 \text{ V}$
 $\text{Cu}^{2+} \longrightarrow \text{Cu}(s) \quad E^\circ = -0.34 \text{ V}$
 Which of the following is the spontaneous reaction?
 (a) $\text{Zn}^{2+} + \text{Cu} \longrightarrow \text{Zn} + \text{Cu}^{2+}$
 (b) $\text{Cu}^{2+} + \text{Zn} \longrightarrow \text{Cu} + \text{Zn}^{2+}$
 (c) $\text{Zn}^{2+} + \text{Cu}^{2+} \longrightarrow \text{Zn} + \text{Cu}$
 (d) None of the above
22. Which of the following element has the maximum electron affinity?
 (a) Fluorine (b) Chlorine
 (c) Sulphur (d) Xenon
23. Which is the most reactive inert gas?
 (a) He (b) Ne
 (c) Ar (d) Xe
24. Which type of bond presents in Xe molecule?
 (a) Covalent (b) Ion-dipole
 (c) van der Waals' (d) Dipole-dipole
25. Which of the following is irreversible reaction?
 (a) $2\text{NH}_3 \longrightarrow \text{N}_2 + 3\text{H}_2$
 (b) $\text{PCl}_5 \longrightarrow \text{PCl}_3 + \text{Cl}_2$
 (c) $\text{KClO}_3 \longrightarrow \text{KCl} + \text{O}_2$
 (d) $2\text{SO}_3 \longrightarrow 2\text{SO}_2 + \text{O}_2$
26. Heavy water is
 (a) H₂O (b) D₂O
 (c) H₂O₂ (d) None of these
27. H₂S is not a
 (a) reducing agent (b) acidic
 (c) oxidising agent (d) None of these
28. At constant temperature, the curve between p and V is
 (a) straight line
 (b) increasing curve
 (c) straight line with slope
 (d) None of the above
29. At constant temperature, on doubling the p and V, the reversible constant will become
 (a) constant (b) double
 (c) quarter (d) None of these
30. The electronic configuration of Mn²⁺ is
 (a) [Ne] 3d⁵, 4s⁰ (b) [Ar] 3d⁵ 4s²
 (c) [Ar] 3d⁵, 4s⁰ (d) [Ne] 3d⁵ 4s²

31. Generally the +3 oxidation state is
 (a) Ni (28) (b) Fe (26)
 (c) Zn (30) (d) Cu (29)
32. The structure of 1, 2-dihydroxy butane is
 (a) C(OH)—C(OH)—C—C
 (b) C—C(OH)₂—C—C
 (c) (OH)C—C—C—C(OH)
 (d) C—C(OH)—C(OH)—C
33. The atomic size increases on moving downward because
 (a) the number of electrons increases
 (b) the number of protons and neutrons increases
 (c) the number of protons increases
 (d) the number of protons, neutrons and electrons increases
34. The ionization energy decreases on moving downward because
 (a) charge increases
 (b) atomic size increases
 (c) atomic size decreases
 (d) screening effect decreases
35. Which of the following is tribasic acid?
 (a) H₃PO₂ (b) H₃PO₄
 (c) H₄P₂O₇ (d) H₃PO₃
36. Which has the maximum dipole moment?
 (a) 
 (b) 
 (c) 
 (d) 
37. In electrolytic cell, the cathode acts as
 (a) oxidising agent (b) reducing agent
 (c) Either (a) or (b) (d) Neither (a) nor (b)
38. The order of reaction may be
 (a) zero
 (b) fraction
 (c) whole number
 (d) zero, fraction, whole number
39. Which has the maximum relative ionization power?
 (a) α-rays (b) β-rays
 (c) γ-rays (d) X-rays

40. Which of the following is a vitamin?

- (a) Benzoic acid
 (b) Ascorbic acid
 (c) Oxalic acid
 (d) Formic acid

41. Which isomerism is shown by following compounds?



- (a) Position isomerism
 (b) Functional isomerism
 (c) Structural isomerism
 (d) Chain isomerism

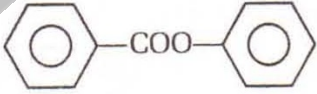

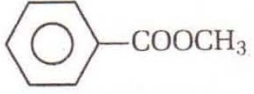

42. White lead is

- (a) Pb₃O₄
 (b) PbO
 (c) 2PbCO₃ · Pb(OH)₂
 (d) Pb(CH₃COO)₂ · Pb(OH)₂

43. The blister copper is

- (a) impure copper
 (b) alloy of copper
 (c) pure copper
 (d) copper with 1% impurity

44. Claisen condensation is not given by

- (a) 
 (b) CH₃CH₂COO-
 (c) 
 (d) 

45. AgNO₃ does not give precipitate with CHCl₃ because

- (a) CHCl₃ does not dissociate in water
 (b) Chemically AgNO₃ is unreactive
 (c) Chemically CHCl₃ is unreactive
 (d) None of the above

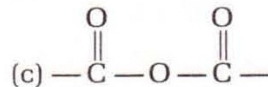
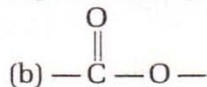
46. In ${}_{90}\text{Th}^{228} \longrightarrow {}_{83}\text{Bi}^{212}$, the emitted α and β particles are

- (a) 4α, 1β (b) 4α, 2β
 (c) 5α, 1β (d) 5α, 2β

47. Which of the following is obtained on the hydrolysis of PCl₃?

- (a) H₃PO₃ (b) PH₃
 (c) H₃PO₄ (d) POCl₃

48. Which bond is presents in protein and peptides?



49. Blood cells do not shrink in blood, because blood is

- (a) hypotonic (b) isotonic
(c) isomolecular (d) hypertonic

50. On isothermal expansion of ideal gas, its

- (a) internal energy increases
(b) enthalpy increases
(c) enthalpy becomes zero on decreasing
(d) enthalpy remains unchanged

Answer – Key

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