ACE OF PACE (SOLUTION)
(SOLUTION)

1. (C)

$$\because \quad P = \frac{w}{t} = \frac{FS}{t} = \frac{ma - s}{t}$$

$$= \frac{Kg - m - sec^{-2} \times m}{sec} = kg - m^2 - sec^{-3}$$

2. (A) Theoretical

3. (A) Theoretical

4. (A) $V_{solid} > V_{liq} > V_{gas} \rightarrow$ for sound

5. (D) Only e can be added or removed to make any substance negatively charged or positively charged.

6. (D)

$$a = \frac{v - u}{t}$$

$$= 30 \times \frac{5}{18} \times \frac{1}{10} = 0.83\, m/s^2$$

7. (B) Theoretical

8. (B) Latent heat of ice = 80 cal/gm
Heat released = ml = $1 \times 80 = 80$ cal

9. (B) S = 200 m

10. (B) Theoretical

11. (C) A prism has two triangular bases with three rectangular faces.

12. (C) area under $v - t$ graph $= v \times t = S$
$S \rightarrow$ displacement

13. (A) It will increases

14. (A) Particle strikes ground with some speed

$$\Delta P = m(v - u)$$

$$= m(10 - (-10))$$

$$= 1 \times 20 = 20$$

15. (C) Theoretical

16. (B) $R_{eq} = 2\Omega$

$$I = \frac{10}{2} = 5A$$

17. (B) Fission reaction take place.

18. (B) Ammeter, because it is connected in series with the circuit.

19. (B) $\Delta P = m(V - U) = 18 \times \frac{5}{18} \times 2000 = 10^4 \text{ kgm/s}$

20. (B)

$$\mu_1 \sin i = \mu_2 \sin r$$
$$\mu_1 \sin 30 = 1 \sin 90$$
$$\mu_1 \times \frac{1}{2} = 1$$
$$\mu_1 = 2$$

21. (D) Theoretical

22. (A)

$$D = 2\pi r \times n$$
$$(9.5 \text{ km})\left(\frac{1000 \text{ m}}{1 \text{ km}}\right) = 2\left(\frac{22}{7}\right)(r)(2000)$$
$$2r = \frac{9.5 \times 7}{22 \times 2}$$
$$D = 1.5 \text{ m}$$

23. (D) $KE = \frac{P^2}{2m}$

24. (A) $S = ut + \frac{1}{2}at^2$

$$= 0 \times 10 + \frac{1}{2} \times 4 \times (10)^2$$
$$= 200 \text{ m}$$

25. (D) Potential drop between P and Q is zero because the circuit is shorted at the end points.

26. (C) HCl contains only one H^+ ion per molecule

27. (C) Electroplating of metals is done based upon the principle of electrolysis

28. (D) NH_3 being a polar gas is highly soluble in water.

29. (A) $2NH_3(\text{excess}) + 3Cl_2 \rightarrow N_2 + 6HCl$

30. (A)

$$Cu + 4HNO_3 \xrightarrow{\Delta} Cu(NO_3)_2 + H_2O + 2NO_2$$

(Oxidising nature of nitric acid)

31. (C) According to the reactivity series, the correct order of reactivity of the elements is given as

Al > Zn > Fe > Cu

32. (D) Gallium (Ga) and Caesium (Cs) has very low melting point. These two metal melts if we keep on palm.

33. (C) $NaCl_{(aq)} + AgNO_{3(aq)} \rightarrow AgCl_{(s)} + NaNO_{3(aq)}$

White Precipitate

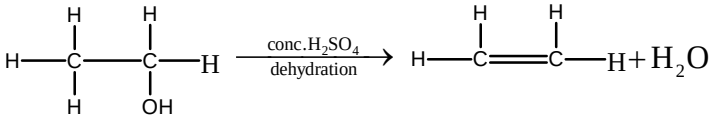
34. (D) $CaCl_2$ – Calcium chloride is used to dry any gas in the laboratory

35. (B) 'ZnO' is amphoteric as it reacts with both acids as well as bases to produce salts.

36. (D) The highly reactive metals like Ca is extracted by the electrolysis of their molten chloride.

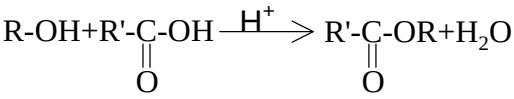
37. (C) Hg being a liquid there is no question of being ductile.

38. (A)



39. (C) Ionic compounds are generally soluble in water and insoluble in solvents such as Kerosene, petrol, etc.

40. (C) Ester is prepared as follows



41. (B)

$NaCl_{(aq)} \rightarrow Na^+_{(aq)} + Cl^-_{(aq)}$

(Brine)

Cathode:-

$Na^+ + e^-_{(aq)} \rightarrow Na(Hg)$

$2Na + 2H_2O \rightarrow 2NaOH + H_{2(g)} \uparrow$

42. (C) During corrosion of Fe, it form brown colour Fe_2O_3.

43. (C) $NaCl + H_2O + CO_2 + NH_3 \rightarrow NH_4Cl + NaHCO_3$

Ammonium Chloride — Sodium hydrogen Carbonate

44. (D) C_4H_9OH has higher boiling point here as the boiling points increase with increase in molecular mass

45. (B) $CaCO_3 \xrightarrow{\Delta} CaO_{(s)} + CO_{2(g)}$

$CO_{2(g)} + H_2O \rightarrow H_2CO_{3(aq)}$

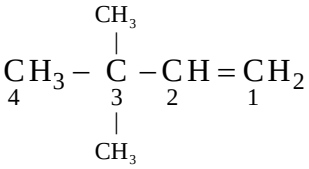
H_2CO_3 (Carbonic acid)does not change the colour of phenolphthalein as it is colourless in acidic solution

46. (D) K_2SO_4 (because of strong acid & strong base)

47. (A) On diluting the acidic solution the concentration of H^+ ions decreases in one litre solution so pH increases and similarly on diluting the basic solution the concentration of OH^- ions decreases in one litre so pH decreases.

48. (B)

Structure is



(1) First numbering the longest carbon chain we see 4 carbon atoms forming the longest chain

$\therefore$ but – 1- ene

As double bond exists between C1 and C2 atom.

There are 2 methyl groups both attached to C3 atom

Hence 3,3 – dimethyl but – 1- ene.

49. (C) $CuCO_3.Cu(OH)_2$ is green in colour.

50. (D) Ionisation energy decreases down the group , so Li has highest ionization energy and Cs has lowest ionization energy

51. (D)
52. (C)
53. (C)
54. (A)
55. (B)
56. (B)
57. (B)
58. (B)
59. (D)
60. (B)

	T	t
T	TT	Tt
t	Tt	tt

61. (C)
62. (B)
63. (A)
64. (A)
65. (D)
66. (A)

67. (B)
68. (B)
69. (A)
70. (B)
71. (B)
72. (C)
73. (C)
74. (B)
75. (C)
76. (A) Echinoderms are exclusively marine
77. (C) Connective tissue comprises nearly 70% of total tissues.
78. (C)
79. (D) Deficiency of vit. K causes defect in blood clotting.
80. (A) Salivary amylase causes digestion of starch.
81. (D)
82. (A) Canine : Tearing, Premolar and Molars : Crushing and Grinding
83. (D)
84. (D) Left ventricle pumps blood to all over the body.
85. (B) RBC have a life span of 120 days after which they are by spleen.
86. (C) Diabetes insipidus **is** characterized by sugar less watery urine.
87. (D) Iodine deficiency causes deficiency of thyroxine.
88. (A) Difficulty in seeing nearby object is called hypermetropia.
89. (C) SA node is also called pace maker of the heart.
90 (A) RBC are most abundant blood cells.
91. (C) Typhoid spread through contaminated food and water.
92. (B)
93. (B) Homologous : same in structure, different in function.
94. (A) Antivenom has ready made antibodies for immediate effect.
95. (B) Hinge joint move in one plane only
96. (B) Tuberculosis : *Mycobacterium tuberculosis,* Diptheria : *Corynebacterium diptheriae,* Cholera : *Vibrio choleriae*
97. (B)
98. (C) Sperm and ovum are haploid cells.
99. (D) Thyroxine regulate Basal Metabolic Rate (BMR)
100. (D)