

ACE OF PACE (SOLUTION)
(SOLUTION)

1. (C)

$$R_{\text{series}} = R_1 + R_2 + R_3$$

$$\frac{1}{R_{\text{parallel}}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

2. (B) Magnetic monopoles do not exist.

3. (A) Theory based

4. (A) Theory based

5. (A) I.R. radiation is used for curing body aches.

6. (D) Angle of incidence = Angle of reflection

7. (A) $v = iR$

8. (B)

$$v = u + at$$

$$= 10 + 9 \times 2$$

$$= 28 \text{ m / c}$$

9. (A) Theoretical

10. (A) Particle strikes ground with some speed

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

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

$$= 1 \times 20 = 20$$

11. (B) Theoretical. Latent heat of boiling of water is 540 cal.

12. (A) Conduction.

13. (D) Theoretical

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

15. (D) $V^2 \propto S$

16. (C) displacements \leq distance

17. (B) Polarity i.e. formation of north-South pole, depends upon the direction of flow of current only

18. (C) Extremely high temperature is required to start the nuclear fusion reaction

19. (D)

20. (D)

21. (B) $s = 90 \times \frac{5}{18} \times 8 = 200\text{m}$

22. (C)

$$V = 60 \times \frac{5}{18} \text{ m/s}$$

$$t = 10 \times 60$$

$$d = v \times t$$

$$= 60 \times \frac{5}{18} \times 10 \times 60\text{m}$$

$$d = \frac{6 \times 5 \times 6}{18} \text{ km}$$

$$= 10\text{km}$$

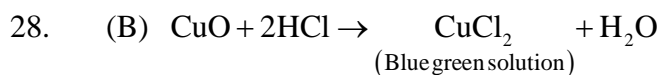
23. (B) Both Ammeter and Voltmeter have a Galvanometer inside.

24. (A) Theory based

25. (A) Theory based

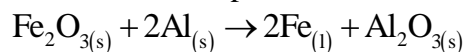
26. (B) Pb (Lead) is used in storage battery

27. (C) HgS- Cinnabar

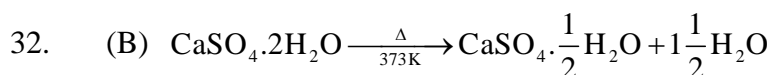


29. (C) 'Au' is the least reactive element in the reactivity series, does not react with air hence does not corrode easily

30. (A) The reaction of iron (III) oxide (Fe_2O_3) with aluminium is used to join railway tracks or cracked machine parts. This reaction is known as the thermite reaction.



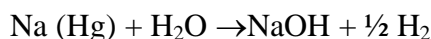
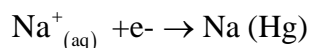
31. (B) 'Al' is a very reactive element, obtained by the electrolytic reduction of aluminium oxide.



33. (D) Atomic radius decreases from left to right across a period
 $\text{Li} > \text{Be} > \text{B} > \text{C} > \text{N} > \text{O}$

34. (D) Alcohol contains – C – OH group.

35. (C) Cathode :



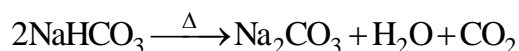
36. (B) Oxygen (Z=8) 2, 6

Sulphur (Z=16) 2, 8, 6

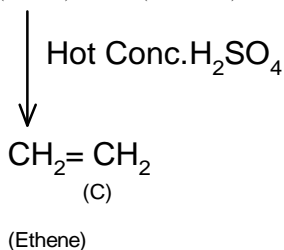
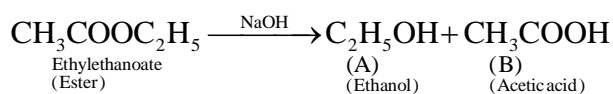
Both have '6' valence electrons

37. (A) The alloy of any metal with Hg is amalgam.

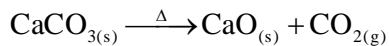
38. (A) The following reaction takes place when NaHCO_3 is heated during cooking.



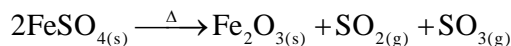
39. (B)



40. (B)



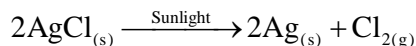
(Limestone) (Quick lime)



(Ferrous sulphate) (Ferric
oxide)

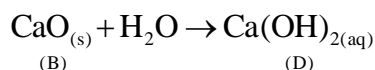


(Lead nitrate) (Lead oxide) (Nitrogen dioxide)
(Brown fumes)

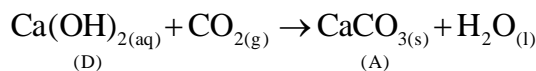


(silver chloride)

41. (B) $\text{CaCO}_{3(\text{s})} \xrightarrow{\Delta} \text{CaO}_{(\text{s})} + \text{CO}_{2(\text{g})}$
(A) (B) (C)



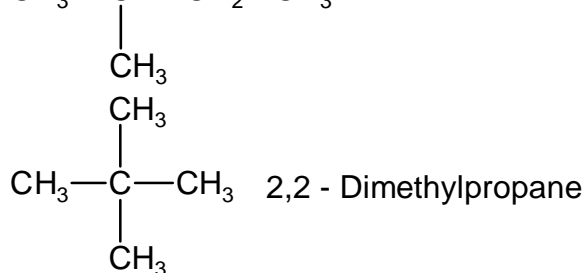
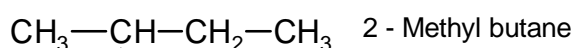
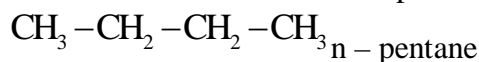
(B) (D)



(D) (A)

42. (D) The compounds formed by the transfer of electrons from a metal to a non-metal are known as ionic compounds Eg, CaO , MgCl_2 etc;

43. (A) There are 3 structural isomers possible for pentane. They are



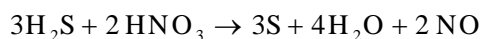
44. (A)



45. (B) Sodium hydrogen carbonate (NaHCO_3) is used in Soda-acid fire extinguishers

46. (C) $\text{NaCl}_{(\text{aq})} + \text{AgNO}_{3(\text{aq})} \rightarrow \text{AgCl}_{(\text{s})} + \text{NaNO}_{3(\text{aq})}$
White Precipitate

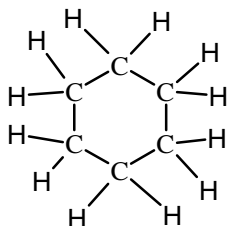
47. (B)



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

49. (B) Brass – Cu and Zn
Bronze – Cu and Sn
Stainless steel – Fe, Ni and Cr
Solder – Pb and Sn

50. (D) Cyclohexane is C_6H_{12}



51. (A) Photolysis is also known as splitting of water molecule.

52. (D) Asexual reproduction is uniparental and thus has no variations

53. (B)

54. (D) More is the organic matter more is the oxygen consumed by aerobes to break it down. Thus it is an indirect measurement of knowing the organic matter content.

55. (D)

56. (A) Gir in Gujrat is famous for lions

57. (C)

58. (B) Smooth endoplasmic reticulum is involved in lipid synthesis while rough endoplasmic reticulum is involved in protein synthesis

59. (B)

60. (C) Dark reactions take place independent of availability of light

61. (C)

62. (B) Mitochondria is semi-autonomous in nature
63. (B)
64. (B)
65. (C) Osmosis causes movement of water from higher concentration to the lower concentration of water.
66. (D) Pteridophytes are first vascular plants.
67. (A)
68. (A) Anemophily- Wind pollination
Hydrophily- Water pollination
Entomophily- Insect pollination
Ornithophily- Bird pollination
69. (C)
70. (B) Meiosis is reduction division
71. (B)
72. (A) Bhopal gas tragedy was due to leakage of methyl iso-cyanide
73. (B)
74. (A) Ribosomes are not bound by any cell membrane
75. (C) Eutrophication is the enrichment of a water body with nutrients, usually with an excess amount of nutrients. This process induces growth of plants and algae and due to the biomass load, may result in oxygen depletion of the water body.
76. (D) Only vertebrates have ribs. Animals can be cold blooded also. Organs can be internally present and hence not exposed to atmosphere
77. (C) Such marriage shall lead foetus to suffer from HDN i.e. hemolytic disease of newborn
78. (A) Uricotelism is feature of animals to conserve water in body
79. (B) Muscles produce movements via regular contraction & relaxation. Contraction is an active process that involves ATP
80. (C) 11th & 12th pair of ribs are floating as they are not connected to sternum or costal cartilage
81. (B) Man, Dog and Camel are uricotelic as they all are mammals.
82. (B) Loop of Henle of nephron is responsible for osmoregulation due to difference in permeability of both limbs of loop of Henle.
83. (B) Larger the surface area more shall be exchange of gases.
84. (C) Pulmonary artery carries deoxygenated blood. Valves are found in veins and venous blood is returned to right atrium.
85. (C) Efferent means motor nerve fibres.
86. (C)
87. (D)
88. (C)
89. (B)
90. (A)
91. (C) Direct question
92. (C) Capillary have only one layer of squamous epithelial cells called Tunica intima.
93. (B)
94. (B)
95. (D) 72-75 beats per minute
 $\therefore \frac{60 \text{ sec}}{72 - 75 \text{ beats}} = 0.8 \text{ sec/ beat}$
96. (B) Appendix arises from caecum, which is the point where small intestine ends and colon (large intestine) begins.
97. (D) Gustatory receptors are receptors of taste. They respond to chemical constituents in the food.
98. (B) Afferent = sensory = towards CNS.
99. (A) In children, Heart Rate is higher (newborn upto 140/min)
100. (D) Myelin or Medullary sheath is present on nerve fibre or axons.