

ACE OF PACE (MEDICAL) CLASS 10<sup>th</sup>

## (SOLUTION)

1. (A) I.R. radiation is used for curing body aches.
2. (D) Angle of incidence = Angle of reflection
3. (C) Focal length of mirror will remain unchanged.
4. (C) Frequency remains unchanged as it depends on the source.

5. (A)  $P = \frac{1}{f} = \frac{1}{0.25\text{m}} = 4\text{Dioptre}$

6. (C)  $\langle \text{speed} \rangle = 10\text{ m/s}$   
 $\langle \text{velocity} \rangle = 0$   
 Because net displacement = 0  
 $s^2$

7. (B) Theory based.

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

9. (C)  $R_{\text{series}} = R + R = 2R$

$$R_{\text{parallel}} = \frac{R \times R}{R + R} = \frac{R}{2}$$

$$\frac{R_{\text{series}}}{R_{\text{parallel}}} = \frac{2R}{R} \times 2 = \frac{4R}{R}$$

10. (C)  $V = 45\text{ km/hr} = 45 \times \frac{5}{18}\text{ m/s} = \frac{25}{2}\text{ m/s}$

$$s = 150 + 850 = 1000$$

$$t = \frac{1000}{25} \times 2 = 80\text{ s}$$

11. (A) Theory

12. (A) Theory

13. (A)  $I = \frac{dq}{dt}$

14. (D) Theory

15. (B) Theory

16. (C) Theoretical

17. (A) R - ohm

18. (D)

$$I = \frac{q}{t}$$

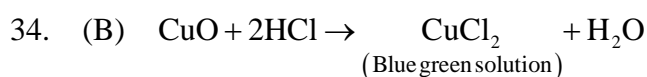
Unit of charge  $\rightarrow$  amp sec

19. (D) Theoretical

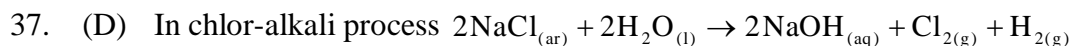
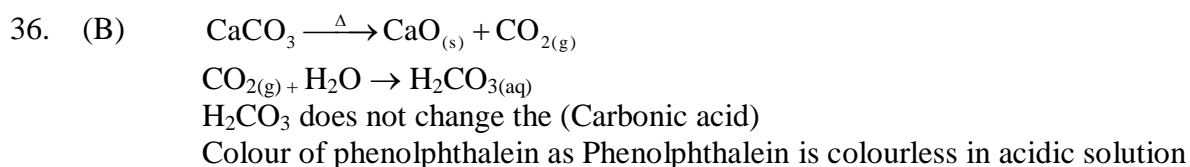


29. (D)  $\text{CuSO}_4$  is acidic salt because it is made from  $\text{Cu}(\text{OH})_2$  (weak base) and  $\text{H}_2\text{SO}_4$  (strong acid)
30. (A) Sodium hydrogen carbonate ( $\text{NaHCO}_3$ ) is used in soda acid fire extinguisher
31. (B) Pb (Lead) is used in storage battery
32. (C) I and II are correct.  
Plaster of paris is  $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$  (Calcium sulphate hemihydrate)

33. (A) C and Si both belongs to the same group. Hence forms similar hydride



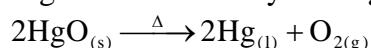
35. (D) Gallium (Ga) and Caesium (Cs) has very low melting point. These two metal melts if we keep on palm.



38. (A) In the reactivity series, Ag lies below Cu, so Ag cannot displace Cu.

39. (D) The compounds formed by the transfer of electrons from a metal to a non-metal are known as ionic compounds Eg, CaO,  $\text{MgCl}_2$  etc;

40. (B) 'Hg' was obtained by heating mercuric oxide.

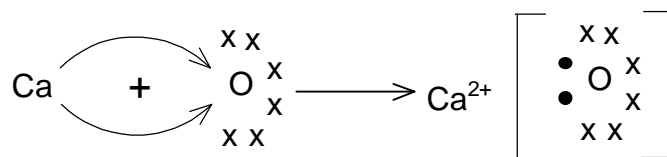


41. (A)  $\text{Na}_2\text{CO}_3$  – Sodium carbonate is used for removing permanent hardness of water

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

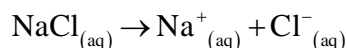
43. (B) 'ZnO' is amphoteric as it reacts with both acids as well as bases to produce salts.

44. (C) The maximum number of electron transfer occurs in the formation of CaO is given as



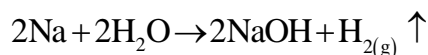
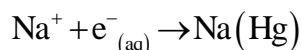
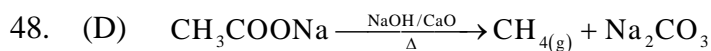
45. (D) Copper reacts with moist carbon dioxide in the air and slowly loses its shiny brown surface and gains a green coat. This green substance is copper carbonate.

46. (B)



(Brine)

Cathode:-

47. (D)  $\text{C}_4\text{H}_9\text{OH}$  has higher boiling point here as the boiling points increase with increase in molecular mass

49. (C) In the presence of sunlight, Cl atoms replace the hydrogen atoms one by one. It is a substitution reaction.

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

51. (D)

52. (A) ATP is called the currency of energy

53. (B)

54. (A)

55. (B) Pyruvic acid is reduced to lactic acid anaerobically in muscles that give cramps.

56. (D) Lichens are called the pioneers of primary succession.

57. (D)

58. (A) Gamete formation is the only process involving sexual method.

59. (C)

60. (A) Red algae have the pigment r-phycoerythrin that can capture sunlight of shortest wavelength.

61. (A) Annual rings are formed by the activity of cambium ring formed per year. One ring of cambium is added every year to the pre-existing rings. Thus total number of rings give an approximate age of plant.

62. (B)

63. (A) Plasma membrane does not allow the pigment to be lost in water but on heating the plasma membrane gets inactivated and thus loses the capacity to control the color loss.

64. (B)

65. (C) Apple is a false fruit as the thalamus develops into fruit.

66. (A) These plants are directly exposed to sunlight.

67. (A) Double fertilization leads to triploid endosperm in angiosperms.

68. (D)

69. (D)

	$I^A$	$I^B$
$I^A$	$I^A I^A$ (A blood group)	$I^A I^B$ (AB blood group)
i	$I^A i$ (A blood group)	$I^B i$ (B blood group)

70. (C)

71. (D)

72. (B)

73. (D)

74. (B)

75. (B)

	T	t
T	TT	Tt
t	Tt	tt

76. (D) Sexual reproduction causes variation which leads to development of minute difference between members of same species

77. (A) Law of dominance states that one of the factors for a pair of inherited traits will be dominant and the other recessive, unless both factors are recessive.

78. (B) Main metabolic hormone of body is thyroid hormones which regulate all metabolic reactions of body.
79. (B) Antigens are proteins present of surface of cells which induces generation of antibody.
80. (A) AIDS is caused by HIV virus.
81. (C) Family is a group of related genera.
82. (C) Fungi are decomposers as they feed on dead and decayed organisms.
83. (D) Protists are first eukaryotes to evolve.
84. (B) Insects which belong to phylum arthropods are largest in number.
85. (D) Reptiles have 3 chambered heart with partially divided ventricles.
86. (C) Cholera and Hepatitis A spreads through food and water, malaria through mosquito and tuberculosis through respiratory droplets.
87. (D) Scurvy also called as bleeding disease of gums is due to vitamin C deficiency.
88. (D)
89. (D) Lactic acid is produced by anaerobic breakdown of glucose in our muscles.
90. (A) Diaphragm separates abdominal cavity and thoracic cavity. It is a muscular structure which separates these two cavities.
91. (B) Herbivorous animals have longer small intestine to increase the surface area for digestion of cellulose.
92. (C) Lacteals are lymph capillaries which are more porous than blood capillaries and absorbs fats .
93. (C) Epiglottis is a lid like covering which covers the larynx during swallowing.
94. (D) Left ventricle carries oxygenated blood which is pumped out to all parts of body through aorta.
95. (A) Oxygen released during photosynthesis comes from water.
96. (D) Ureters leaves the kidney taking urine stored in renal pelvis and opens into urinary bladder.
97. (C) Respiratory tract is lined by cilia which directs the foreign objects and flow of air.
98. (B) Since an aquatic organism takes dissolved oxygen and its concentration is less in water so they breathe at faster rate.
99. (B) Gases diffuse from higher to lower concentration through diffusion.
100. (C) Capillaries unite to form venules which open into veins.