

ACE OF PACE (MEDICAL) CLASS 10th

(SOLUTION)

1. (A) Theoretical
2. (A) Particle strikes ground with some speed

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

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

$$= 1 \times 20 = 20$$
3. (C)

$$h = \frac{1}{2}gt^2$$

$$t = \sqrt{\frac{2h}{g}}$$

Time period is independent of mass.
4. (B)

$$W = F \cdot S$$

$$= 40 \times 10 \times \cos 0$$

$$= 400 \text{ J}$$
5. (C)

$$W = F \cdot S$$

$$= 40 \times 10 \times \cos 90$$

$$= 0 \text{ J}$$
6. (B) Theory
7. (D) $\text{Current} = \frac{\text{Charge}}{\text{Time}}$
8. (D) Dispersion is splitting of light into its constituent colors.
9. (C) Theory
10. (D) In wave motion energy is transfer from one point to another point.
11. (C)

$$R = \frac{\rho \ell}{A}$$

$$\rho = \frac{RA}{\ell}$$

ohm \times m
12. (B) I^2R
13. (B) $R = R_0(1 + \alpha \Delta T)$
 Resistance increases with increase in temperature.
14. (D) $\rho \rightarrow$ It is a property of material.
15. (C) Theoretical

16. (B)

$$\begin{aligned} F_{\text{net}} &= F_1 - F_2 \\ &= 30 - 20 \\ &= 10\text{N} \end{aligned}$$

17. (C)

$$\frac{m_1}{m_2} = \frac{60}{30} = 2$$

18. (A) $P = F \times V$

19. (C) 1 Joule = 1 Nm

20. (D) $P = \frac{W}{t} = \frac{E}{t}$

21. (A) Theoretical

22. (A) $V_{\text{om}} = -V_{\text{IM}}$
 $V_{\text{IM}} = 2\text{m/s}$

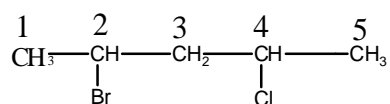
23. (B) Distance between trough is trough is known as wavelength

24. (B) $R_{\text{eq}} = 2\Omega$
 $I = \frac{10}{2} = 5\text{A}$

25. (C) Both PE and KE

26. (D) Isotopes have same atomic number but different atomic mass.

27. (A)

28. (A) $4\text{FeS}_2 + 11\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3 + 8\text{SO}_2$

29. (D) Butene and propyne are aliphatic open chain unsaturated organic compounds. Benzene is cyclic unsaturated organic compound.

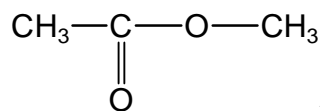
30. (B) It is basic salt because of (OH^-) hydroxyl ion.

31. (D)

On mixing 3parts of HCl and 1part HNO_3 , aqua regia is obtained.

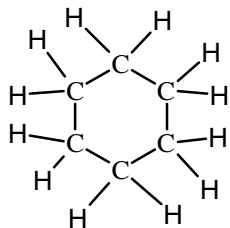
32. (D) The highly reactive metals like Ca is extracted by the electrolysis of their molten chloride.

33. (D)

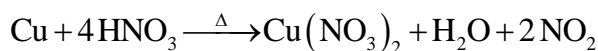


is an ester (methyl ethanoate) a sweet smelling substance used in making perfumes.

34. (D) Cyclohexane is C
- ₆
- H
- ₁₂

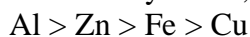


35. (A)



(Oxidising nature of nitric acid)

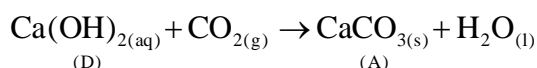
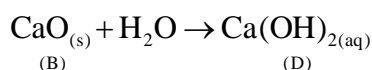
36. (C) According to the reactivity series, the correct order of reactivity of the elements is given as



37. (D)

	pH
Gastric Juice	– 1.2
Lemon juice	– 2.2
Blood	– 7.4
Milk of Magnesia	– 10

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



39. (B)
- $2\text{Pb}(\text{NO}_3)_{(s)} \xrightarrow{\Delta} 2\text{PbO}_{(s)} + 4\text{NO}_{2(g)} + \text{O}_{2(g)}$

40. (D) N, P, As – elements of group 5 in the Mendeleev's periodic table are not Dobreiner triad.

41. (B)

Silicon (Si) is a metalloid, because it exhibits same properties of both metals and non-metals

42. (D) In 22 carat gold, 22 parts of pure gold is alloyed with 2 parts of copper.

Brass – Cu and Zn

Bronze – Cu and Sn

Solder – Pb and Sn

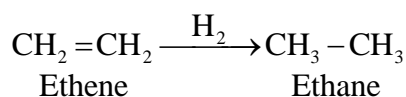
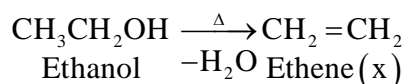
43. (A) Acetic acid is present in vinegar

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

45. (C) HgS- Cinnabar

46. (C) During corrosion of Fe, it form brown colour Fe
- ₂
- O
- ₃
- .

47. (A)



(X)

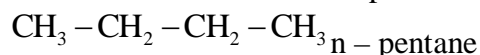
(Y)

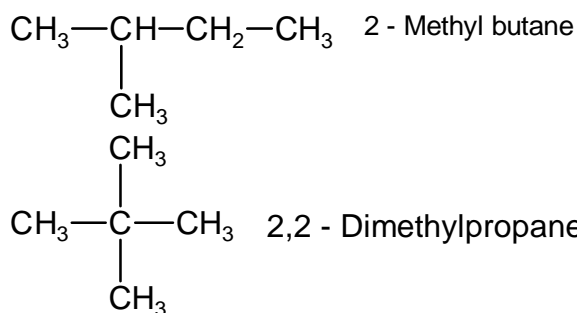
48. (A) There are 2 structural isomers of butane and 3 structural isomers of pentane, so totally there are 5 structural isomers by summing the structural isomers of butane and pentane.

The 2 structural isomers of butane are

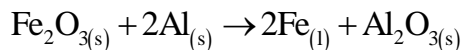
Butane and 2-Methylpropane.

There are 3 structural isomers possible for pentane. They are





49. (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.



50. (C) Bleaching powder is CaOCl_2 i.e., calcium chloro hypochlorite.

51. (A)

52. (B)

53. (C)

54. (A)

55. (B)

56. (B)

57. (B)

58. (B)

59. (C)

60. (B)

61. (B)

62. (C) Distilled water has no solutes thus has maximum water potential

63. (D) Manganese helps in splitting of water molecules

64. (C) Amitosis refers to unequal division of nucleus

65. (A) Water leaves the root cells and causes exosmosis. Due to this wilting of leaves takes place

66. (D)

67. (C) Male gamete has 22 autosomes with Y chromosomes.

68. (C)

69. (B)

70. (B) Plasmids are extra chromosomal DNA molecules present in bacterial cells

71. (C) AB blood group is universal acceptor as it has A as well as B antigens.

72. (B)

73. (C) Fermentation is an anaerobic process and takes place in cytoplasm

74. (C) Microspore mother cell is diploid while the microspores are haploid.

75. (C) Multiple alleles are found in a population. When there are more than two alleles for the same character, it is called multiple allele.

76. (D) Bile secreted by liver, stored in gall bladder.

77. (C)

78. (B)

79. (D) Left ventricle has to pump blood all over the body.

80. (A) Pulmonary vein carry oxygenated blood from lungs to left atrium.

81. (A) 72.75 beat per minute so $\frac{60\text{sec}}{72-75\text{beat}} = 0.8\text{sec/beat}$

82. (A) uric acid require little water

83. (A)

84. (D)

85. (B)

86. (A) Sinu Atrial node is the pacemaker of the heart. It is controlled by the medulla via sympathetic, parasympathetic nerves.
87. (B)
88. (B)
89. (B) Adrenaline hormone is released in fear / fight / flight
90. (A)
91. (A) Thyroxine is secreted by thyroid gland
92. (B)
93. (A) Windows for the brain = sensory organs.
94. (D)
95. (D)
96. (A)
97. (C)
98. (A)
99. (B)
100. (A)