

ACE OF PACE (MEDICAL) CLASS 10th
(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)

$$\langle \text{speed} \rangle = 10\text{ m/s}$$

$$\langle \text{velocity} \rangle = 0$$

$$\text{Because net displacement} = 0$$

$$\text{s}^2$$

7. (B) Theory based.

8. (B) Latent heat of ice = 80 cal/gm

$$\text{Heat released} = ml = 1 \times 80 = 80\text{ cal}$$

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

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

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

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

$$s = 150 + 850 = 1000$$

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

11. (A) Theory

12. (A) Theory

$$I = \frac{dq}{dt}$$

13. (A)

14. (D) Theory

15. (B) Theory

16. (C) Theoretical

17. (A) R - ohm

18. (D)

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

Unit of charge → amp sec

19. (D) Theoretical

20. (D)

$$R_{eq} = 9\Omega$$

$$a = \frac{dv}{dt}$$

21. (B) a → constant acceleration

22. (D)

23. (C)

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

$$t = 10 \times 60$$

$$d = v \times t$$

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

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

$$= 10 \text{ km}$$

24. (B) S = 200 m

25. (B) Theoretical

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

27. (C) HgS- Cinnabar

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

29. (C) electrochemical series

30. (C) Vinegar contains acetic acid (CH₃COOH)

31. (B)

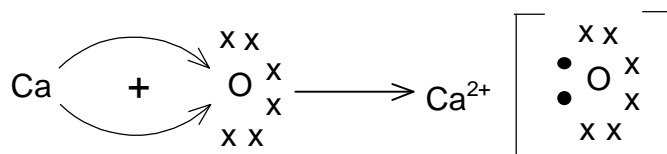
32. (D)

33. (B) $\text{CuO} + 2\text{HCl} \rightarrow \text{CuCl}_2 + \text{H}_2\text{O}$
(Blue green solution)

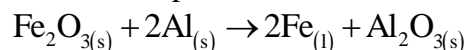
34. (C)

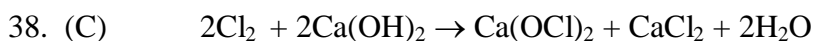
35. (B)

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



37. (A) The reaction of iron (III) oxide (Fe₂O₃) with aluminium is used to join railway tracks or cracked machine parts. This reaction is known as the thermite reaction.

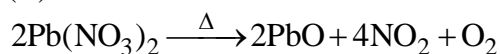




39. (A)

40. (C) Au and Pt are soluble in aqua regia (royal water), a mixture of 3 parts of Conc. HCl and 1 part of Conc. HNO_3 .

41. (C)



42. (A) Silver is the best conductor of electricity

43. (C)

In this reaction

PbO gets converted to Pb. Since it loses oxygen, it gets reduced.

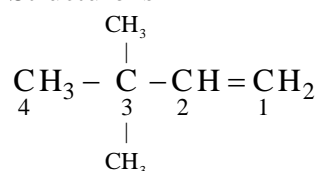
\therefore Metal oxide is reduced

C gains oxygen and becomes CO

\therefore C is oxidized

44. (B)

Structure is



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

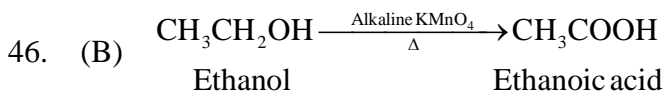
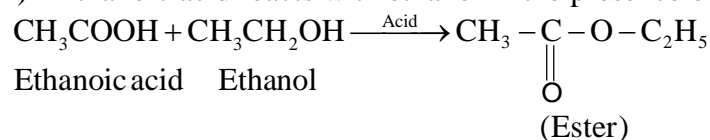
\therefore but - 1- ene

As double bond exists between C1 and C2 atom.

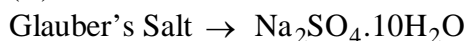
There are 2 methyl groups both attached to C3 atom

Hence 3,3 - dimethyl but - 1- ene.

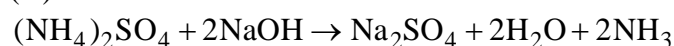
45. (B) Ethanoic acid reacts with ethanol in the presence of an acid catalyst to give an ester.



47. (B)

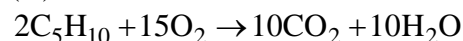


48. (A)



NaOH is a strong base whose pH can be 13 \therefore solution P

49. (A)



$$x : y \Rightarrow 15 : 10$$

$$= 3 : 2$$

50. (A) The border line elements such as boron, silicon, germanium, arsenic, antimony, tellurium and polonium are intermediate in properties and are called metalloids.
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) Leucopenia is the term used when total count of WBC is less.
77. (B) Salivary amylase is a carbohydrate digesting enzyme which digests cooked starch into maltose.
78. (C) Liver and spleen are the graveyard of all the blood cells.
79. (D) Striated muscles are skeletal muscles. They form the skeletal tissues of the body and voluntary in function.
80. (C) Intercalated discs present at the junction of two cells are characteristics of cardiac muscle fibres.
81. (C) Primary sexual organ forms gametes. In male, testis forms sperms.
82. (B) The main structural frame work of the body is skeletal tissue ie bone.
83. (B) Trypsin is present in pancreatic tissue. Functional at 7.5-8 .
84. (A) Sucrose = glucose + fructose
85. (A) Aerobic respiration involves complete breakdown of substrate in presence of oxygen to form CO₂ and water as byproduct.
86. (A) One heart beat includes one contraction and one relaxation ie one systole and one diastole.
87. (D) During Kwashiorkar, some fat is still left under skin, and hence skin is not dry. Extreme thinning of limbs is associated with Marasmus.

88. (A) Hypothalamus present in forebrain maintains body temperature.
89. (C) Pulmonary veins carry oxygenated blood from lungs to left atrium.
90. (A) Nucleated blood cells are WBC.
91. (D) Diastolic blood pressure is pressure of blood exerted on the wall of artery during relaxation of heart. It is 80 mm of Hg.
92. (C) Interstitial cells or Leydig cells are present in between seminiferous tubules which secrete testosterone.
93. (B) Urea is the chief nitrogenous waste of humans.
94. (D) Rhodopsin is sensitive to dim light and is not for colour vision.
95. (A) Respiration is the process which releases energy by breakdown of product.
96. (B) Secondary sexual characters of female is mediated by sex hormone i.e. estrogen.
97. (D) Ovary does all these functions
98. (A) Main muscle of inspiration is diaphragm. Intercostal muscle also helps but plays a minor role.
99. (A) Respiratory control centre is present in medulla region of brain.
100. (A) Thyroid hormone T_3 and T_4 control all metabolic reactions of body.