

ANSWER KEY ACE OF PACE CLASS 10 th MEDICAL		
PHYSICS	CHEMISTRY	BIOLOGY
1. (2)	26. (3)	51. (1)
2. (1)	27. (1)	52. (4)
3. (3)	28. (4)	53. (4)
4. (4)	29. (3)	54. (2)
5. (3)	30. (2)	55. (3)
6. (4)	31. (1)	56. (2)
7. (3)	32. (4)	57. (2)
8. (4)	33. (3)	58. (1)
9. (1)	34. (3)	59. (3)
10. (1)	35. (1)	60. (1)
11. (4)	36. (3)	61. (4)
12. (2)	37. (2)	62. (1)
13. (3)	38. (1)	63. (4)
14. (2)	39. (3)	64. (2)
15. (4)	40. (4)	65. (1)
16. (4)	41. (2)	66. (4)
17. (3)	42. (3)	67. (3)
18. (3)	43. (1)	68. (1)
19. (2)	44. (3)	69. (4)
20. (4)	45. (4)	70. (2)
21. (1)	46. (1)	71. (2)
22. (2)	47. (4)	72. (2)
23. (4)	48. (3)	73. (2)
24. (2)	49. (2)	74. (4)
25. (2)	50. (2)	75. (2)

ACE OF PACE (SOLUTION)

1. Repulsion is sure test for electrification as one charged body can attract another uncharged body due to induction also.

$$2. I = \frac{V}{R_{eq}} = \frac{3}{\left(\frac{2 \times 6}{2+6}\right)} = 2 \text{ A}$$

$$3. R_{eq} = \frac{(3+3)(2+2+2)}{(3+3)+(2+2+2)} = 3 \text{ ohm}$$

$$4. W_{app} = W_{liq} = W_{air} - F_b$$

$$F_b = W_{air} - W_{liq} = 60 \text{ N} - 52 \text{ N} = 8 \text{ N}$$

5. Distance of boy from his image = distance of boy from mirror + distance of image from mirror

6. angle of incidence = angle of reflection = 30°

$$\text{Angle of deviation due to plane mirror is } \delta = 180 - 2i = 180^\circ - 2(30^\circ) = 120^\circ$$

7. The field strength of a bar magnet is maximum at poles and minimum at its centre.

8. Initial point and final point are same, so total displacement is 0.

9. Initial point and final point are same, so total displacement is 0, hence its average velocity also zero.

10. Speed of sound wave is $v = f \lambda = (1000 \text{ Hz})(0.5 \text{ m}) = 500 \text{ m/s}$

$$\text{Time taken } t = \frac{\text{distance}}{\text{speed}} = \frac{500 \text{ m}}{500 \text{ m/s}} = 1 \text{ sec}$$

11. (4)

12. Potential energy of a body at height h is $U = mgh \Rightarrow U \propto h \Rightarrow \frac{U_1}{U_2} = \frac{h}{3h} = \frac{1}{3}$

$$13. P = \frac{mgh + \frac{1}{2}mv^2}{t} = \frac{(10)(9.8)(10) + \frac{1}{2}(10)(2)^2}{10} = 100 \text{ watt}$$

14. apparent weight = true weight – buoyancy force

15.

$$16. W_{earth} = mg_{earth} = m(6g_{moon}) = 6(mg_{moon}) = 6(300 \text{ N}) = 1800 \text{ N}$$

17. Isotopes means same atomic number (Z), and different atomic mass number (A).

18.

$$19. H = I^2 R t \Rightarrow R = \frac{H}{I^2 t} = \frac{80 \text{ J}}{(2 \text{ A})^2 (10 \text{ s})} = 2 \Omega$$

$$20. KE = \frac{p^2}{2m} \Rightarrow KE \propto \frac{1}{m} \Rightarrow \frac{KE_1}{KE_2} = \frac{m_2}{m_1} = \frac{1}{4}$$

21.

$$22. n = \frac{360^\circ}{\theta} - 1 \left(\text{if } \frac{360^\circ}{\theta} \text{ is even} \right)$$

23. Force of gravity (weight of the box) is perpendicular to the displacement, $\theta = 90^\circ$, so workdone is

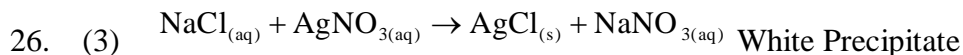
$$W = FS \cos 90^\circ = 0 \text{ J}$$

24. $F = m a$

$$F = (3.0 \text{ kg})(0.5 \text{ m/s}^2) = (1.5 \text{ kg})(a)$$

$$a = 1.0 \text{ m/s}^2$$

25. $W_{\text{app}} = m(g - a) = m(g - g) = 0$



27. (1) Fe, Zn and Pb are more reactive than Cu and Ag is less reactive, So Ag can't displace Cu from CuSO_4 solution

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

29. (3) Toothpastes, are generally basic for cleaning the teeth can neutralise the excess acid and prevent tooth decay.

30. (2) Brass – Cu and Zn

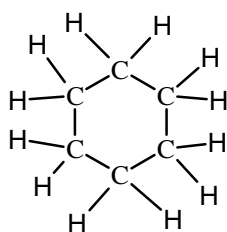
Bronze – Cu and Sn

Stainless steel – Fe, Ni and Cr

Solder – Pb and Sn

31. (1) Milk of magnesia is a $\text{Mg}(\text{OH})_2$ solution of pH 10. It is alkaline solution.

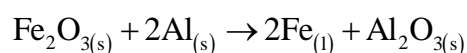
32. (4) Cyclohexane is C_6H_{12}



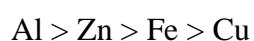
33. (3) Bleaching powder is CaOCl_2 ie, calcium chloro hypochlorite.

34. (3) Fe, Co and Ni was placed in group – 8 in Mendeleev's periodic table.

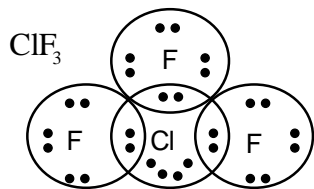
35. (1) The reaction of iron (III) oxide (Fe_2O_3) with aluminium is used to join railway tracks or cracked machine parts. This reaction is known as the thermite reaction.



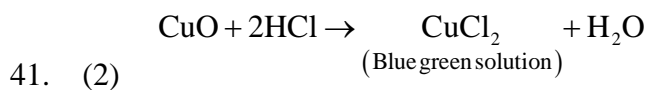
36. (3) According to the reactivity series, the correct order of reactivity of the elements is given as



37. (2) 'ZnO' is amphoteric as it reacts with both acids as well as bases to produce salts.
38. (1)
39. (3)
40. (4)



ClF_3 is not following octet Rule



42. (3) C – F

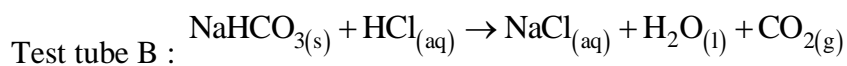
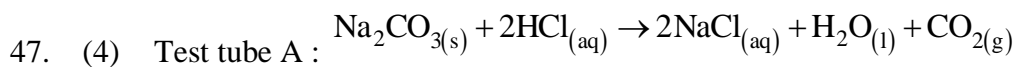
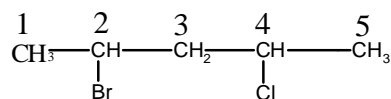
Since the electronegativity difference is more in between C & F

43. (1)

44. (3) Vinegar contains acetic acid (CH_3COOH)

45. (4)

46. (1)



66. Due to neural signal muscles contract to generate heat energy that get distributed by blood.
67. Amylase digest starch.
68. MArasmus means PEM.
69. The figure clearly mentions animal as option D buried only in the deepest layer and not in the superficial layers suggesting it came earliest but later got extinct.
70. Left ventricle pumps blood to all body parts via Aorta hence most muscular.
71. Cerebellum
72. Pituitary is also refered a the master gland.
73. A synapse is always made between Axon of first neuron and dendrite or cyton of second neuron.
74. Spinal cord is the link between brain and all body parts except head.
75. Urea