

ANSWERS

I. Multiple Choice Questions (Type-I)

1. (ii) 2. (iv) 3. (i) 4. (i) 5. (iii) 6. (iii)
7. (iii) 8. (iii) 9. (ii) 10. (iv) 11. (iii)
12. (a) (iii), (b) (iii), (c) (iii), (d) (i), (e) (ii) 13. (i)

II. Multiple Choice Questions (Type-II)

14. (ii), (iii) 15. (i), (iii) 16. (i), (iv)
17. (i), (iv) 18. (i), (iii), (iv) 19. (ii), (iii)
20. (ii), (iii) 21. (i), (iv) 22. (i), (iii)
23. (i), (iii)

III. Short Answer Type

24. The added electron in fluorine goes to second quantum level. Due to small size of fluorine it experiences repulsion from other electrons much more in comparison to that in chlorine because in chlorine, the electron is added to 3rd quantum level in which larger space is available for movement.
26. Group : 1, Valency : 1
Outermost electronic configuration = $8s^1$
Formula of Oxide = M_2O
27. Compare your plot with the plot given in the textbook.
28. (i) Carbon
(ii) Aluminium
30. (i)
32. The outermost electronic configuration of nitrogen ($2s^2 2p_x^1 2p_y^1 2p_z^1$) is very stable because p -orbital is half filled. Addition of extra electron to any of the $2p$ orbital requires energy.
Oxygen has 4 electrons in $2p$ orbitals and acquires stable configuration i.e., $2p^3$ configuration after removing one electron.
35. After removing 1 electron from the sodium atom the ion formed acquires the configuration of inert gas, neon. The second electron is removed from one of the $2p$ -orbitals which are completely filled i.e., have a total of 6 electrons and are closer to the nucleus.

37. (i) $S < P < N < O$
(ii) $P < S < N < O$
39. (a) Decrease in size of atom and increase in nuclear charge.
(b) Increase in atomic size.
40. Metallic character decreases and non metallic character increases in moving from left to right in a period. It is due to increase in ionisation enthalpy and electron gain enthalpy.
41. Decrease of one shell.
42. Electronegativity decreases in a group from top to bottom. Thus, caesium is the least electronegative element.

IV. Matching Type

43. Be = 111, O = 66, C = 77, B = 88, N = 74.
44. Most reactive non metal = B, Most reactive metal = A, Least reactive element = D, Metal forming binary halide = C
45. (i) \longrightarrow (D); (ii) \longrightarrow (A) (iii) \longrightarrow (B) (iv) \longrightarrow (C)

V. Assertion and Reason Type

46. (ii)
47. (iii)
48. (iv)