KEY

46) 1	47) 4	48) 3	49) 4	50) 2	51) 2	52) 1	53) 2	54) 4	55) 3
56) 1	57) 2	58) 2	59) 3	60) 1	61) 3	62) 2	63) 3	64) 1	65) 3
66) 1	67) 4	68) 4	69) 3	70) 2	71) 2	72) 3	73) 3	74) 1	75) 3
76) 1	77) 2	78) 2	79) 3	80) 2	81) 3	82) 1	83) 2	84) 4	85) 3
86) 1	87) 1	88) 4	89) 2	90) 4					

PRESIDENCY MEDICAL-ACADEMY, MANGALORE
PROG:-NEET LONG-TERM'2021-2022
TEST TYPE:- DPT -02

SUB:-CHEMISTRY **Date : 10-12-21**

Chemistry

1. **List – I** **List – II**
A) Bohr's atomic model 1) Fine spectrum of Hydrogen
B) de-Broglie's concept 2) Atomic orbital
C) Sommerfield atomic model 3) Dual nature of any particle in motion
D) Schrodinger Wave equation 4) Quantisation of angular momentum
The correct match
A B C D
1) 2 3 4 1 2) 4 3 2 1
3) 4 3 1 2 4) 3 4 2 1

2. Which one of the following expressions represent the electron probability function (D)
1) $4\pi r\,dr\,\psi^2$ 2) $4\pi r^2\,dr\,\psi$ 3) $4\pi r^2\,dr\,\psi^2$ 4) $4\pi r\,dr\,\psi$

3. Value of $l = 3$, then the values of magnetic quantum numbers are
1) $\pm1, \pm2, \pm3$ 2) $0, \pm1, \pm2, \pm3$ 3) $-1, -2, -3$ 4) $0, +1, +2, +3$

4. The two electrons occupying an orbital are distinguished by
1) Principal quantum number 2) Azimuthal quantum number
3) Magnetic quantum number 4) Spin quantum number

5. The impossible set of quantum numbers is
1) $n = 2, l = 0, m = 0, s = +1/2$ 2) $n = 2, l = 1, m = 0, s = +1/2$
3) $n = 2, l = 0, m = 1, s = -1/2$ 4) $n = 3, l = 1, m = -1, s = -1/2$

6. The correct set of quantum numbers for the unpaired electron of chlorine atom is
n l m n l m n l m n l m
1) 2 1 0 2) 2 1 1 3) 3 1 0 4) 3 0 0

7. The set of quantum numbers not applicable to an electron is
1) 1, 1, 1, +1/2 2) 1, 0, 0, +1/2 3) 1, 0, 0, –1/2 4) 2, 0, 0, +1/2

8. The maximum number of electrons in a sub-,-- shell is given by the expression.
1) $(l + 2)$ 2) $(2l + 2)$ 3) $(4l + 2)$ 4) $(l + 1)$

9. The maximum number of electrons that a p-orbital can accomodate is
1) 6 2) 2 3) 10 4) 14

10. The number of orbitals in the quantum level n = 4 is
1) 4 2) 9 3) 16 4) 18

11. The quantum number which is equal for all the d-electrons in an atom is
1) ℓ 2) m 3) s 4) n

12. Which of the following is not a possible va of azimuthal quantum number (l) for electron with n = 3?
1) zero 2) 1 3) 2 4) 3

13. Which of the following sets of quantum numbers is correct for an electron in 4f - orbitals?
1) $n = 4, \ell = 3, m = 4, s = +1/2$ 2) $n = 4, \ell = 4, m = -4, s = -1/2$
3) $n = 4, \ell = 3, m = +1, s = +1/2$ 4) $n = 3, \ell = 2, m = -2, s = +1/2$

14. Which of the following in relation to energy of sublevels in H-atom is incorrect?
1) 4s < 4p < 4d < 4f 2) 3s < 4s < 5s < 6s 3) 4s = 4p < 5s < 6p 4) 2s < 3s = 3p < 4d

15. The reason for chromium to have $[Ar]3d^5 4s^1$ configuration instead of $[Ar]3d^4 4s^2$ is
1) Pauli's exclusion principle 2) Aufbau principle
3) more exchange energy 4) Heisenberg's principle

16. The correct set of quantum numbers for 4d- electrons is
1) $4, 3, 2, +\frac{1}{2}$ 2) 4, 2, 1, 0 3) $4, 3, -2, +\frac{1}{2}$ 4) $4, 2, 1, -\frac{1}{2}$

17. The number of d - electrons retained in Fe^{3+} (At. no. of Fe = 26) ion is
1) 3 2) 4 3) 5 4) 6

18. Which of the following has least number of unpaired electrons ?
1) Fe^{3+} 2) Fe^{2+} 3) Co^{2+} 4) Co^{3+}

19. Which of the following may represent the c ground state of nitrogen atom?
1) 2) 3)  4) 

20. Which one of the following pairs of ions have the same electronic configuration
1) Cr^{3+}, Fe^{3+} 2) Fe^{3+}, Mn^{2+} 3) Fe^{3+}, Co^{3+} 4) Sc^{3+}, Cr^{3+}

21. Number of molecules in one litre of oxygen at STP conditions is
1) $\frac{6.02\times10^{23}}{32}$ 2) $\frac{6.02\times10^{23}}{22.4}$ 3) 32 x 22.4 4) $\frac{32}{22.4}$

22. Air contains nitrogen and oxygen in the volume ratio of 4 : 1. The average molecular weight of air is
1) 30 2) 28.8 3) 28 4) 14.4

23. The ratio between the number of molecules in equal masses of nitrogen and oxygen is
1) 7 : 8 2) 1 : 9 3) 9 : 1 4) 8 : 7

24. One gram of hydrogen contains 6×10^{23} atoms. Then 4 grams of He contains
1) 6×10^{23} atoms 2) 12×10^{23} atoms 3) 24×10^{23} atoms 4) 1.5×10^{23} atoms

25. M g of a substance when vaporized occupy a volume of 5.6 litre at NTP. The molecular mass of the substance will be:
1) M 2) 2M 3) 3M 4) 4M

26. The number of moles of $BaCO_3$ which contain 1.5 moles of oxygen atoms is
1) 0.5 2) 1 3) 3 4) 6.02×10^{23}

27. The largest number of molecules is in
1) 34g of water 2) 28g of CO_2 3) 46g of CH_3OH 4) 54g of N_2O_5

28. How many atoms are contained in one mole of sucrose ($C_{12}H_{22}O_{11}$) ?
1) $45 \times 6.02 \times 10^{23}$ atoms/mole 2) $5 \times 6.62 \times 10^{23}$ atoms/mole
3) $5 \times 6.02 \times 10^{23}$ atoms/mole 4) None of these

29. The volume occupied by 4.4g of CO_2 at STP is
1) 22.4 L 2) 2.24 L 3) 0.224 L 4) 0.1 L

30. Number of molecules in 100 ml of each of O_2, NH_3 and CO_2 at STP are
1) In the order $CO_2 < O_2 < NH_3$ 2) In the order $NH_3 < O_2 < CO_2$
3) The same 4) $NH_3 = CO_2 < O_2$

Key

1-10	3	3	2	4	3	3	1	3	2	3
11-20	1	4	3	1	3	4	3	3	2	2
21-30	2	2	4	1	4	1	1	1	2	3