

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth

DATE :

SUBJECT : CHEMISTRY

DPP No. : 2

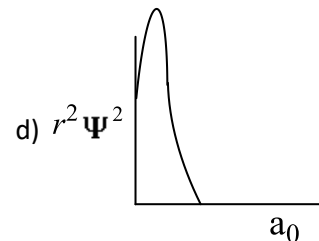
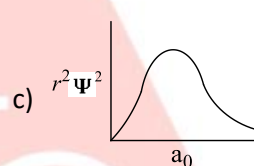
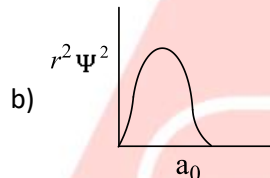
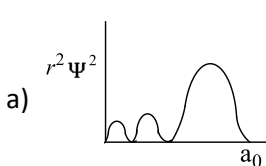
Topic :- STRUCTURE OF ATOM

- In the ground state of the H-atom, the electron is :
 - In the second shell
 - In the nucleus
 - Nearest to the nucleus
 - Farthest from the nucleus
- Atoms consist of electrons, protons and neutrons. If the mass attributed to neutron was halved and that attributed to the electrons was doubled, the atomic mass of ${}^6_6\text{C}^{12}$ would be approximately:
 - Same
 - Doubled
 - Halved
 - Reduced by 25%
- The number of electrons in a neutral atom of an element is equal to its:
 - Atomic weight
 - Atomic number
 - Equivalent weight
 - Electron affinity
- Which particle contains 2 neutrons and 1 proton?
 - ${}_1\text{H}^2$
 - ${}_2\text{He}^4$
 - ${}_1\text{T}^3$
 - ${}_1\text{D}^2$
- The highest number of unpaired electrons are in
 - Fe
 - Fe^{2+}
 - Fe^{3+}
 - All have equal number of unpaired electrons
- Maximum number of electrons in an orbit is given by:
 - n^2
 - $2n^2$
 - $n^2/2$
 - None of these
- The wave nature of electron is verified by
 - De-Broglie
 - Davisson and Germer
 - Rutherford
 - All of these
- Compared to the mass of lightest nuclei, the mass of an electron is only (app.)
 - 1/80
 - 1/800
 - 1/1800
 - 1/2800
- Which one of the following pair of atoms/atom-ion have identical ground state configuration?
 - Li^+ and He^+
 - Cl^- and Ar
 - Na^+ and K^+
 - F^+ and Ne
- The total number of orbitals in a shell with principal quantum number 'n' is:
 - 2n
 - $2n^2$
 - n^2
 - n + 1
- Which of the following statements does not form a part of Bohr's model of hydrogen atom?
 - Energy of the electrons in the orbit is quantised
 - The electron in the orbit nearest the nucleus has the lowest energy
 - Electrons revolve in different orbits around the nucleus
 - The position and velocity of the electrons in the orbit cannot be determined simultaneously



12. Penetration power of proton is:
 a) Greater than e b) Less than electron c) Greater than ' n ' d) None of these
13. Bohr's theory is applicable to
 a) He b) Li^{2+} c) He^{2+} d) None of these
14. Which set of quantum numbers is possible for the last electron of Mg^+ ion?
 a) $n = 3, l = 2, m = 0, s = +1/2$
 b) $n = 2, l = 3, m = 0, s = +1/2$
 c) $n = 1, l = 0, m = 0, s = +1/2$
 d) $n = 3, l = 0, m = 0, s = +1/2$
15. The electronic configuration for ${}_{26}\text{Fe}$ is:
 a) $[\text{Ar}]3d^6, 4s^2$ b) $[\text{Ar}]3d^7, 4s^2$ c) $[\text{Ar}]3d^5, 4s^2$ d) $[\text{Ar}]3d^7, 4s^1$

16. Which of the following radial distribution graphs correspond to $n = 3, l = 2$ for an atom?



17. In which orbital electron is most tightly bound to the nucleus?
 a) 5s b) 4p c) 4d d) 5d
18. Ca^{2+} is isoelectronic with
 a) Na b) Ar c) Mg^{2+} d) Kr
19. Threshold wavelength depends upon :
 a) Frequency of incident radiation
 b) Velocity of electrons
 c) Work function
 d) None of the above

20. The electrons identified by quantum numbers

- I. $n = 4, l = 1$
 II. $n = 4, l = 0$
 III. $n = 3, l = 2$
 IV. $n = 2, l = 1$

Can be placed in order of increasing energy from the lowest to highest as

- a) $\text{IV} < \text{II} < \text{III} < \text{I}$ b) $\text{II} < \text{IV} < \text{I} < \text{III}$ c) $\text{I} < \text{III} < \text{II} < \text{IV}$ d) $\text{III} < \text{I} < \text{IV} < \text{II}$