DPP

DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : CHEMISTRY**
DATE : **DPP No. : 10**

Topic :- STRUCTURE OF ATOM

1. If $n = 3$, $l = 0$ and $m = 0$, then atomic number is
   a) 12 or 13 b) 13 or 14 c) 10 or 11 d) 11 or 12

2. The threshold wavelength for photoelectric effect on sodium is 5000 Å. Its work function is:
   a) 4×10^{-19} J b) 1 J c) 2×10^{-19} J d) 3×10^{-10} J

3. The first atom with incomplete d-shell is:
   a) Sc b) Cu c) Fe d) Zn

4. The wave number of the spectral line in the emission spectrum of hydrogen will be equal to $\frac{8}{9}$ times the Rydberg's constant if the electron jumps from
   a) $n = 3$ to $n = 1$ b) $n = 10$ to $n = 1$ c) $n = 9$ to $n = 1$ d) $n = 2$ to $n = 1$

5. Particle nature of electron was experimentally demonstrated by
   a) Max Bon b) J.J. Thomson c) De-Broglie d) Schrondinger

6. The difference in angular momentum associated with the electron in two successive orbits of hydrogen atom is:
   a) h/π b) $h/2\pi$ c) $h/2$ d) $(n-1)h/2\pi$

7. The volume of nucleus is about:
   a) 10^{-4} times that of an atom
   b) 10^{-12} times that of an atom
   c) 10^{-6} times that of an atom
   d) 10^{-10} times that of an atom

8. The species having more electrons than neutrons is:
   a) F b) Na^{+} c) O^{2-} d) Mg^{2+}

9. The characteristic not associated with Planck's theory is
   a) Radiations are associated with energy
   b) The magnitude of energy associated with a quantum is proportional to frequency
   c) Radiation energy is neither emitted nor absorbed continuously
   d) Radiation energy is neither emitted nor absorbed discontinuously

10. H has two natural isotopes of $_1H^1$ and $_1H^2$ and O has two isotopes O^{16} and O^{18}. Which of the following mol.wt. of H_2O will not be possible?
   a) 19 b) 20 c) 24 d) 22

11. Which ion has the maximum magnetic moment?
   a) Mn^{3+} b) Cu^{2+} c) Fe^{3+} d) V^{3+}

12. Photoelectric effect was discovered by :
   a) Hallwach b) Lenard c) Einstein d) Hertz

13. The electronic configuration of Cr^{3+} is
   a) $[Ar]3d^4 4s^2$ b) $[Ar]3d^3 4s^0$ c) $[Ar]3d^2 4s^1$ d) $[Ar]3d^5 4s^1$

14. When light is directed at the metal surface, the emitted electrons:
   a) Are called photons
   b) Have random energies
   c) Have energies that depend upon intensity of light
   d) Have energies that depend upon the frequency of light

15. Increasing order (lowest first) for the values of e/m for electron (e), proton (p), neutron (n) and α-particles is
   a) e,p,n,α b) n,α,p,e c) n,p,e,α d) n,p,α,e

16. A photon having a wavelength of 845 Å, causes the ionisation of N atom. What is the ionisation energy of N?
   a) 1.4 kJ b) 1.4×10^4 kJ c) 1.4×10^2 kJ d) 1.4×10^3 kJ

17. The minimum real charge on of any particle, which can exist is:
   a) 1.6×10^{-19} coulomb b) 1.6×10^{-10} coulomb c) 4.8×10^{-10} coulomb d) Zero

18. Minimum number of photons of light of wavelength 4000 Å, which provide 1 J energy:
   a) 2×10^{18} b) 2×10^9 c) 2×10^{20} d) 2×10^{10}

19. An electron jumps from an outer orbit to an inner orbit with an energy difference of 3.0eV. What will be the wavelength of the line emitted?
   a) 3660 Å b) 3620 Å c) 4140 Å d) 4560 Å

20. When a gold sheet is bombarded by a beam of α — particles, only a few of them get deflected, whereas most go straight, undeflected. This is because
    a) The force of attraction exerted on α- particle by electrons is insufficient
    b) The volume of nucleus is smaller than atom
    c) The force of repulsion acting on fast moving α-particle is very small
    d) The neutrons have no effect on α-particle