

Date Planned : __ / __ / __	Daily Tutorial Sheet - 13	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 3	Exact Duration : _____

148. In ψ_{321} the sum of orbital angular momentum, spherical modes and angular node is:

- (A) $\frac{\sqrt{6h} + 4\pi}{2\pi}$ (B) $\frac{\sqrt{6h}}{2\pi} + 3$ (C) $\frac{\sqrt{6h} + 2\pi}{2\pi}$ (D) $\frac{\sqrt{6h} + 8\pi}{2\pi}$

***149.** Which sets of quantum no. are consistent with the theory?

- (A) $n = 2, l = 1, m = 0, s = -\frac{1}{2}$ (B) $n = 4, l = 3, m = -2, s = -\frac{1}{2}$
(C) $n = 3, l = 2, m = -3, s = +\frac{1}{2}$ (D) $n = 4, l = 3, m = -3, s = +\frac{1}{2}$

150. The energies E_1 and E_2 of two radiations are 25eV and 50eV respectively. The relation between their wavelengths i.e. λ_1 and λ_2 will be:

- (A) $\lambda_1 = \frac{1}{2}\lambda_2$ (B) $\lambda_1 = \lambda_2$ (C) $\lambda_1 = 2\lambda_2$ (D) $\lambda_1 = 4\lambda_2$

***151.** The probability of finding the electron in p_x -orbital is:

- (A) maximum on two opposite sides of the nucleus along x-axis
(B) zero at the nucleus
(C) same on all the side around the nucleus
(D) zero on the z-axis

***152.** Which statements concerning light are true?

- (A) it is a form of energy (B) it can be deflected by a magnet
(C) it consists of photons of same energy (D) it is part of electromagnetic spectrum

***153.** Which statements concerning Bohr's model are true?

- (A) predicts that probability of electron near nucleus is more
(B) angular momentum of electron is given by $= \frac{nh}{2\pi}$
(C) introduces the idea of stationary states
(D) explains line spectrum of hydrogen