Date Planned : __ / __ / __	Daily Tutorial Sheet - 14	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 3	Exact Duration :_____

***154.** According to Bohr's theory:

(A) when the atom gets the required energy from the outside, electrons jumps from lower orbits to higher orbits and remain there

(B) when the atom gets the required energy from outside, electrons jumps from lower orbits to higher orbits and remain there for very short intervals of time and return back to the lower orbit, radiating energy

(C) angular momentum of the electron is proportional to n

(D) angular momentum of the electron is independent of n

***155.** The kinetic energy of photoelectron emitted on irradiating a metal surface with frequency ν is related by $KE = h\nu - W$. The plots of KE vs. incident frequency (ν) shows:

(A) a straight line with intercept on x-axis equal to threshold frequency

(B) a straight line with slope equal to Planck's constant

(C) a straight line with extra polated intercept on y-axis equal to ionization energy (work function)

(D) a straight line with intercept on x-axis equal to the product of threshold frequency and Planck's constant

156. Based on equation $E = -2.178\times10^{-18}\left(\frac{Z^2}{n^2}\right)J$ certain conclusions are drawn as under which of these is not correct:

(A) For $n = 1$, the electron has a more negative energy than it does for $n = 6$ which means that the electron is more loosely bound in the smallest allowed orbit.

(B) The negative sign in equation simply means that the energy of electron bound to the nucleus is lower than it would be if the electrons were at the infinite distance from the nucleus.

(C) Larger the value of n, larger is the orbit radius

(D) Equations can be used to calculate the change in energy when the electron changes orbit.

***157.** The stationary Bohr's orbit can be readily explained on the basis of wave nature of electron if it is assumed that:

(A) wave in any of the orbits is the stationary wave

(B) the position of maximum and minima of wave does not change with time

(C) the length of the circular orbit must be an integral multiple of the wavelength

(D) wave in any of the orbit is not stationary wave

158. If the wavelength of photon is 2.2×10^{-11}m then momentum of the photon is:

(A) 3.0×10^{-23} kg ms^{-1} **(B)** 3.3×10^{22} kg ms^{-1}

(C) 1.45×10^{-44} kg ms^{-1} **(D)** 6.89×10^{43} kg ms^{-1}

***159.** Which of the following parameters are not same for all hydrogen like atoms and ions in their ground state?

(A) Radius of orbit **(B)** Speed of electron

(C) Energy of electron **(D)** Angular momentum of electron