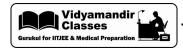


Date Planned : / /	Daily Tutorial Sheet - 1	Expected Duration : 90 Min		
Actual Date of Attempt : / /	Level - 1	Exact Duration :		

1.	Compa	Compared to the mass of lightest nuclei, the mass of an electron is only (approx.)								
	(A)	1/80	(B)	1/800	(C)	1/1836	(D)	1/2800		
2.	Which	hich of the following is isoelectronic with carbon atom?								
	(A)	N^+	(B)	O^{-2}	(C)	Na+	(D)	Al^{3+}		
3.	Which	Which of the following pair is isodiaphers?								
	(A)	$_{6}^{14}$ C and $_{11}^{23}$ Na			(B)	$_{12}^{24}$ Mg and $_{11}^{23}$ Na				
	(C)	4_2 He and $^{16}_8$ O			(D)	$_{6}^{12}$ C and $_{7}^{15}$ N				
4.	The ra	The ratio of e/m, i.e., specific charge for a cathode ray:								
	(A)	·								
	(B)	is constant								
	(C)	varies with the atomic number of gas in the discharge tube								
	(D)	varies with the atomic number of an element forming the cathode								
5.	In pho	In photoelectric effect, the number of photoelectrons emitted is proportional to:								
	(A)	intensity of incident beam			(B)	frequency of incident beam				
	(C)	wavelength of incident beam			(D)	All of the above				
6.	Einste	instein's photoelectric equation states that: $E_k = hv - \phi$								
	Here,	Here, E_k refers to:								
	(A)	Kinetic energy of all ejected electrons								
	(B)	Mean kinetic energy of emitted electrons								
	(C) Minimum kinetic energy of emitted electrons									
	(D)	-								
7.		maximum kinetic energy of the photoelectrons is found to be $6.63 \times 10^{-19} \mathrm{J}$, when the metal is								
	irradia		ation of f					the metal is about:		
	(A)	$1 \times 10^{15} \mathrm{s}$	(B)	$1\times10^{15}\mathrm{s}^{-1}$	(C)	$2.5 \times 10^{15} \mathrm{s}^{-1}$	¹ (D)	$4 \times 10^{15} \mathrm{s}^{-1}$		
8.	Bohr's	theory is appli	cable to:							
	(A)	Не	(B)	Li ²⁺	(C)	$\mathrm{He^{2+}}$	(D)	None of these		
9.	If r is	s the radius of first orbit, the radius of n^{th} orbit of the H atom will be:								
	(A)	r n²	(B)	r n	(C)	$\frac{\mathbf{r}}{\mathbf{n}}$	(D)	$r^2 n^2$		
10.	The pr	ne principal quantum number of H-atom orbital, if the energy of e^- is $-3.4~eV$, will be:								
	(A)	1	(B)	2	(C)	3	(D)	zero		
11.	Which	Which of the following electronic transition in hydrogen atom will emit largest amount of energy?								
	(A)	(A) From $n = 2$ to $n = 1$			(B)	From $n = 3$ to $n = 2$				
	(C) From $n = \infty$ to $n = 1$		(D)	From $n = 5$ to $n = 3$						



- **12.** The mass of an electron is m, its charge is e and it is accelerated from rest through a potential difference, V. The velocity of electron can be calculated by formula:
 - (A) $\sqrt{\frac{V}{m}}$
- **(B)** $\sqrt{\frac{eV}{m}}$
- (C) $\sqrt{\frac{2eV}{m}}$
- (D) None of these
- **13.** If the shortest wavelength of H-atom in Lyman series is x, the longest wavelength in Balmer series of He⁺ is:
 - (A) $\frac{36x}{5}$
- **(B)** $\frac{5x}{9}$
- (C) $\frac{x}{4}$
- **(D)** $\frac{92}{5}$
- **14.** According to Bohr's theory, the angular momentum of an electron in 5th orbit is:
 - **(A)** $25\frac{h}{\pi}$
- **(B)** $1 \frac{h}{\pi}$
- (C) $10\frac{h}{\pi}$
- **(D)** $2.5\frac{1}{2}$
- 15. If the energy difference between the ground state of an atom and in excited state is $4.4 \times 10^{-14} \, J$, the wavelength of photon required to produce the transition is:
 - (A) $2.26 \times 10^{-12} \,\mathrm{m}$

(B) $1.13 \times 10^{-12} \,\mathrm{m}$

(C) $4.52 \times 10^{-16} \text{ m}$

(D) $4.52 \times 10^{-12} \,\mathrm{m}$