Date Planned : __ / __ / __	Daily Tutorial Sheet - 2	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

***16.** Many elements have non-integral atomic masses, because: **(1984)**

(A) they have isotopes

(B) their isotopes have non-integral masses

(C) their isotopes have different masses

(D) the constituents, neutrons, protons and electrons, combine to give fractional masses

***17.** An isotone of $^{76}_{32}Ge$ is: **(1984)**

(A) $^{77}_{32}Ge$ **(B)** $^{77}_{33}As$ **(C)** $^{77}_{34}Se$ **(D)** $^{78}_{34}Se$

18. The increasing order (lower first) for the values of e/m (charge/mass) for electron (e), proton (p), neutron (n) and alpha particle (α) is: **(1984)**

(A) e, p, n, α **(B)** n, p, e, α **(C)** n, p, α, e **(D)** n, α, p, e

19. Bohr's model can explain: **(1985)**

(A) the spectrum of hydrogen atom only

(B) spectrum of an atom or ion containing one electron only

(C) the spectrum of hydrogen molecule

(D) the solar spectrum

20. Electronegative radiation with maximum wavelength is : **(1985)**

(A) ultraviolet **(B)** radio wave **(C)** X-ray **(D)** infrared

21. The radius of an atomic nucleus is of the order of : **(1985)**

(A) 10^{-20} cm **(B)** 10^{-13} cm **(C)** 10^{-15} cm **(D)** 10^{-8} cm

22. The possible sum of the number of neutrons and protons in the isotope of hydrogen is : **(1986)**

(A) 6 **(B)** 5 **(C)** 4 **(D)** 3

23. The electron density in the XY-plane in $3d_{x^2-y^2}$ orbital is zero. **(1986)**

24. The ratio of the energy of a photon of 200Å wavelength radiation to that of 400Å radiation is : **(1986)**

(A) $\frac{1}{4}$ **(B)** 4 **(C)** $\frac{1}{2}$ **(D)** 2

25. Which one of the following sets of quantum numbers represents an impossible arrangement ? **(1986)**

	n	ℓ	m	s		n	ℓ	m	s
(A)	3	2	–2	1/2	**(B)**	4	0	0	1/2
(C)	3	2	–3	1/2	**(D)**	5	3	0	–1/2

26. Rutherford's alpha particle scattering experiment eventually led to conclusion that : **(1986)**

(A) mass and energy are related

(B) electrons occupy space around the nucleus

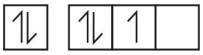
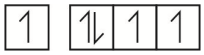
(C) neutrons are burried deep in the nucleus

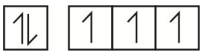
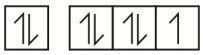
(D) the point of impact with matter can be precisely determined

27. The outermost electronic configuration of the most electronegative element is : **(1988)**

(A) ns^2np^3 **(B)** ns^2np^4 **(C)** ns^2np^5 **(D)** ns^2np^6

28. The orbital diagram in which the Aufbau principle is violated : **(1988)**

(A)  **(B)** 

(C)  **(D)** 

29. The triad of nuclei that is isotonic is: **(1988)**

(A) ${}^{14}_{6}C$, ${}^{15}_{7}N$, ${}^{17}_{9}F$ **(B)** ${}^{12}_{6}C$, ${}^{14}_{7}N$, ${}^{19}_{9}F$

(C) ${}^{14}_{6}C$, ${}^{14}_{7}N$, ${}^{17}_{9}F$ **(D)** ${}^{14}_{6}C$, ${}^{14}_{7}N$, ${}^{19}_{9}F$