ECAT Chemistry Chapter 5 Atomic Structure

Sr	Questions	Answers Choice
1	Question Image	A. Neutrons are attracted by nucleus B. Neutrons carry out nuclear reactions C. Neutrons carry no charge D. Neutrons are electromagnetic radiations
2	The third line of the Balmer series, in the emission spectrum of the hydrogen atom,is due to the transition from the	A. Fourth Bohr orbit to the first Bohr orbit B. Fifth Bohr orbit to the second Bohr orbit C. Sixth Bohr orbit to the third Bohr orbit D. Seventh Bohr orbit to the third Bohr orbit
3	The radius of first orbit of hydrogen atom	A. 0.329 A° B. 0.429 A° C. 0.529 A° D. 0.229 A°
4	Which is not true with respect to cathode rays?	A. A stream of electrons B. Charged particles C. Move with speed as that of light D. Can be deflected by magnetic fields
5	Rutherford's model of atom failed because:	A. The atom did o have a nucleus and electrons B. It did not account fro the attraction b/w protons and neutrons C. It did no account for the stability of the atom. D. There is actually no space b/w the nucleus ad the electrons.
6	The order of distance between the various Bohr orbits is	A. r₂-r₁> r₃-r₂> r₄-r₃> ..... B. r₁> r₂> r₂-r₃> r₄-r₃> ..... C. r₂-r₁= r₃- r₂= r₄- r₃> ..... D. r₂-r₁> r₃-r₂< r₄-r₃< ....
7	Rutherford's atomic model suggests the existence of	A. Atom B. Nucleus C. alpha particle D. Measons
8	The symbol of the element whose atoms have the outer most electronic configuration $2s^2 2p^3$is	A. N B. Li C. P D. Na
9	The total number of orbitals possible for the quantum number n is	A. n B. n² C. 2n D. 2n²
10	Electrons in degenerate orbitals are placed in separate orbitals with same spin according to	A. Hund's rule B. Pauli exclusion principle C. Aufbau principle D. Mosley's law
11	The experimental evidences for the existence of atomic nucleus comes from:	A. Line spectrum of hydrogen. B. Magnetic bonding of cathode rays. C. Millikan oil drop experiment

11	The experimental evidences for the existence of atomic nucleus comes from:	C. Millikan oil drop experiment. D. Scattering of alpha particles by thin metal foil.
12	E = hv is the	A. Spectral equation B. Plank's equation C. de Broglie's equation D. None of these
13	The spectrum of He is expected to be similar to that of	A. H B. Na C. He⁺ D. Li⁺
14	Mass of simple electron is:	A. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">9.1 x 10⁻³¹ kg<o:p> </o:p> B. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">9.1 x 10⁻³⁰ kg<o:p> </o:p> C. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">1.66 x 10⁻³¹ kg<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;"><o:p> </o:p> D. <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">9.1 x 10⁻³¹ kg<o:p> </o:p>
15	With the reference of w/m ratio of anode rays, the e/m ratio of cathode rays s:	A. Greater. B. same. C. Smaller. D. Not fixed.
16	In the ground state, an element has 13 electrons in its M shell. The element is	A. Copper B. Chromium C. Nickel D. Iron
17	The rules which describe the distribution of electron in atomic energy levels are Auf-ban principle, Pauli's exclusion principle. Hunds rule. The pauli exclusion principle refers to the	A. Orientation of orbital in space B. Fact that two electrons in the same orbital should have opposite spins C. Energy of the orbital D. Spin of the electron
18	Positive particle in discharged tube is produced by ionization of gas molecules, which is caused by	A. Gas molecules collide with anode B. Gas molecules are at high temperature C. Gas molecules produce X-rays D. Cathode rays remove electrons from gas molecules

19	The velocity of photon is:	A. Independent of its wavelength. B. Depends on its wavelength. C. Equal to square of its amplitude D. Depends on its source.
20	Cathode rays drive a small paddle wheel placed in their path. This observation shows that	A. Cathode rays travel in straight lines B. Cathode rays are negatively charged C. Cathode rays produce x-rays D. Cathode rays are material particles having momentum