MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
1	In which region of the electromagnetic spectrum does the Lyman series of hydrogen atom lie?	A. Infrared B. Visible C. Ultraviolet D. X-rays
2	The minimum energy required to remove an electron is called:	A. Stopping potential B. Work function C. Kinetic energy D. None of these
3	Intensity of light from a point source at the edge of unit sphere will be:	A. □ B. □ C. P(4π) D. 4□
4	A proton, accelerated through a p.d V has a certain de Broglie wavelength. In order to have the same de Broglie wavelength, an □ −particles must be accelerated through a potential difference:	A. 4V B. 8V C. V/4 D. V/8
5	Light of frequency 2 times the threshold frequency is incident on the metalsurface. Ifthe frequency is by quartered and intensity is doubled, the photoelectric becomes	A. Quadrupled B. Zero C. Doubled D. Halved
6	What will be the number of photons emitted per second by 25 W source of monochromatic light of wavelength 600 nm:	A. 7.5 × 1017 B. 7.5 × 1019 C. 5.5 × 1019 D. 5.5 × 1017
7	Maximum speed of electrons in X-rays tube which is producing X-rays photons of frequency f is	
8	The momentum of the moving photon is:	A. Zero B. I C. □ D. I□
9	Work function of all metals varies from 2 eV to 4eV. It is 4.2 eV for Aluminum and2eV for Sodium. If these two metals are illuminated by same light, the thresholdfrequency ofAluminum is	A. Less than Sodium B. Equal to that of Sodium C. Grater than Sodium D. Can’t be decided
10	The shortest wavelength of X-rays emitted from an X-rays tube depends on the:	A. Current in the tube B. Voltage applied to the tube C. Nature of gas in the tube D. Nature of material of tube
11	The frequency and work function of an incident photon are n and□□. If f0 is the threshold frequency, then necessary condition for the emission of photo electron is:	A. < □0 B. □ ≥ □0 C. f = □0/2 D. None of these
12	The ratio of the longest and shortest wavelength of the Lyman series is approximately:	A. 4/3 B. 9/4 C. 9/5 D. 16/7
13	electrons from the surface of a metal when:	A. It is heated to a high temperature B. Radiation of suitable wavelength falls on it C. Electrons of suitable velocity strike it D. It is placed in a strong electric field
14	How many photons per second does a one-watt bulb emit if its efficiency is 10% and the wavelength of light is 500 nm:	A. 2.53 × 1017 B. 2.53 × 1019 C. 7.5 × 1019 D. 7.5 × 1017
15	The de-Broglie wavelength of the particle of mass m and energy E is:	B. I C. □ = I√2□□ D. □ = 1

16	A proton and an □ − □□□□□□□□ are accelerated through same voltage, the ratio of their de- Broglie wavelength will be:	A. 1:2 B. √2: 1 C. 2√2: 1 D. 2:1
17	The Balmer series is found in the spectrum of:	A. Hydrogen B. Nitrogen C. Oxygen D. All
18	As the intensity of incident light increases:	A. Photoelectric current increases B. Photoelectric current decreases C. Kinetic energy of emitted photoelectrons increases D. Kinetic energy of emitted photoelectrons decreases
19	The potential difference applied to an X-rays tube is increased. As a result, in the emitted radiation	A. The intensity increases B. The minimum wavelength decrease C. The intensity remains unchanged D. Both B & C
20	Which one is the correct express of de-Broglie equation for the length of atoms of mass m at temp? T(k=Boltzmann’s constant):	A.