

MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
Sr		A. The intensity increases B. The minimum wavelength
1	The potential difference applied to an X-rays tube is increased. As a result, in the emitted radiation	decrease C. The intensity remains unchanged D. Both B & D. Both B
2	Light of frequency 4f0 is incident on the metal of the threshold frequency f0. The maximum kinetic energy of the emitted photoelectrons is	A. 3h f0 B. 3/2h f0 C. 2h f0 D. 1/2h f0
3	In photo electric cell, the photo electric current	A. Decreases with increase in frequency of light B. Depends on intensity and frequency of light C. Does not depend upon the frequency of light and but depends upon intensity of light D. Increases with increase in frequency of light
4	In electron microscope, we use high speed electrons because them	A. Penetration power is higher B. Wavelength is smaller C. Frequency is smaller D. K.E is smaller
5	Threshold wavelength for metal having work function \square is \square . What is the threshold wavelength for metal having work function 2 \square :	A. /□ B. 2 C. 4 D. □/□
6	According to Bohr's theory, a line in the Ballmer series arises when the electron jumps from any of the higher orbits to the orbit with quantum number:	A. 1 B. 2 C. 3 D. 4
7	If an electron is accelerated such that its K.E is 4 times of its rest mass energythen thetotal relativistic energy of electrons is about	A. 5 × 10–12 J B. 4 × 10–13 J C. 3 × 10–13 J D. 6 × 10–12 J
8	The momentum of the moving photon is:	A. Zero B. C. □ D. □
9	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
10	A proton and an \Box – $\Box\Box\Box\Box\Box\Box\Box$ 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
11	Monochromatic light of wavelength 300 nm is incident normally on a surface of area 4 cm2. If the intensity of light is 150 mW/m2; the rate at which photon strike the surface:	A. 2.53 × 1019 B. 7.5 × 1019 C. 9.1 × 1013 D. 2.53 × 1013
12	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.
13	In photoelectric effect experiment, stopping potential depend upon	A. Intensity of light B. Frequency of light C. Photoelectric current D. Both A and B
14	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	×	1	()T	1

15	Which of the following is not true?	A. The Lyman series is a continuous spectrum B. The Ballmer series is a line spectrum in the visible region C. The Paschen series is a line spectrum in the infrared region D. The spectral series formula can be derived from Rutherford's model of the hydrogen atom 18. The photoelectric effect is the ejection of
16	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
17	The maximum energy of the electrons released in a photo cell is independent of:	A. Frequency of incident light B. Intensity of incident light C. Nature of cathode rays D. None of these
18	Which of the following statement is true about soft X-rays?	A. They have large wavelength B. They have high energy C. They have low energy D. Both A and C
19	An electron in the n=1 orbit hydrogen atom is bound by 13.6 eV. If a hydrogen atom is in the n=3 state, how much energy is required to ionize it:	A. 13.6 eV B. 4.53 eV C. 3.4 eV D. 1.51eV
20	Light of frequency 1.5 times the threshold frequency is incident on a photo sensitive material. If the frequency is halved and intensity is doubled the photo electric current becomes	A. Four times B. Half C. Double D. Zero