MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
1	An electron and a proton are accelerated through the same potential. If their masses are me and mp respectively, then the ratio of their de-Broglie wavelength is:	A. 1 B. mp/me C. me/mp
2	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
3	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
4	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
5	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
6	Choose incorrect about properties of photon	A. Rest mass of photon is zero B. A photon is never at rest C. Photon is not deflected by electric field not by magnetic field D. The velocity of photon is different in different media
7	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
8	The minimum energy required to remove an electron is called:	A. Stopping potential B. Work function C. Kinetic energy D. None of these
9	Maximum speed of electrons in X-rays tube which is producing X-rays photons of frequency f is	
10	Figure represents a graph of kinetic energy (K) of the photoelectrons (in eV) and frequency (v) for a metal used as cathode in photoelectric experiment. The work function of metal is:	A. 1 eV B. 2 eV C. 1.5 eV D. 3 eV
11	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.
12	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
13	de-Broglie wavelength associated with an electron moving at a speed of 1x106 ms-1 is	A. 4x10-10 ms-1 B. 5x10-10 m C. 6x10-10 m D. 7x10-10 m
		A. 2.53 × 1017

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:	B. 2.53 × 1019 C. 7.5 × 1019 D. 7.5 × 1017
15	A photo cell receives light from a source at 50 cm away and produces 40mAcurrent inthe circuit. When the same source at is at distance 1 m from photo cell,current in the circuit will be	A. 20 mA B. 80mA C. 60 mA D. 10 mA
16	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
17	For X-rays which of the following is not correct:	A. Cause of ionization in air when they pass through it B. Can be deflected by electric and magnetic fields C. Can be used to detect flaws in metal casting D. Travel with the speed of light
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	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
20	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