MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
1	Work function of all metals varies from 2 eV to 4eV. It is 4.2 eV for Aluminum and 2eV for Sodium. If these two metals are illuminated by same light, the threshold frequency of Aluminum is	A. Less than Sodium B. Equal to that of Sodium C. Grater than Sodium D. Can't be decided
2	Threshold wavelength for metal having work function □ is □. What is the threshold wavelength for metal having work function 2 □□:	A. /□ B. 2 C. 4 D. □/□
3	de-Broglie wavelength associated with an electron moving at a speed of 1×10^6 ms-1 is	A. 4×10^{-10} ms-1 B. 5×10^{-10} m C. 6×10^{-10} m D. 7×10^{-10} m
4	What will be the number of photons emitted per second by 25 W source of monochromatic light of wavelength 600 nm:	A. 7.5×10^{17} B. 7.5×10^{19} C. 5.5×10^{19} D. 5.5×10^{17}
5	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.
6	When ultraviolet rays are incident in metal plate, then photoelectric effect does not occur. It occurs by the incidence of:	A. x-rays B. Infrared rays C. Radio wave D. Greenhouse effect
7	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
8	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
9	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. 2.53×10^{19} B. 7.5×10^{19} C. 9.1×10^{13} D. 2.53×10^{13}
10	The de-Broglie wavelength of the particle of mass m and energy E is:	B. I C. $\Box = I\sqrt{2}\Box\Box$ D. □ = 1
11	To find longest wavelength radiation in Ballmer series, the value of n used is:	A. 2 B. 3 C. 4 D. ∞
12	A photo cell receives light from a source at 50 cm away and produces 40mA current in the 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
13	The threshold frequency depends on the nature on:	A. Natural frequency B. Photosensitive anode C. Photosensitive cathode D. Photon
14	The minimum energy required to remove an electron is called:	A. Stopping potential B. Work function C. Kinetic energy D. None of these
15	The Balmer series is found in the spectrum of:	A. Hydrogen B. Nitrogen C. Oxygen D. All

16	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
17	The hydrogen atoms are excited to the stationary state designated by the principal quantum number n=4, the number of maximum spectral lines are observe:	A. 2 B. 3 C. 4 D. 6
18	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
19	Intensity of light from a point source at the edge of unit sphere will be:	A. ☐ B. ☐ C. $P(4\pi)$ D. 4☐
20	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