

## MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
Oi .	Quotiono	A. 4/3
1	The ratio of the longest and shortest wavelength of the Lyman series is approximately:	B. 9/4 C. 9/5 D. 16/7
2	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
3	Light of frequency 2 times the threshold frequency is incident on the metalsurface. If the frequency is by quartered and intensity is doubled, the photoelectric becomes	A. Quadrupled B. Zero C. Doubled D. Halved
4	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
5	The minimum energy required to remove an electron is called:	A. Stopping potential B. Work function C. Kinetic energy D. None of these
6	Maximum speed of electrons in X-rays tube which is producing X-rays photons of frequency f is	
7	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
8	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
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 × 1019 B. 7.5 × 1019 C. 9.1 × 1013 D. 2.53 × 1013
10	Light elements do not emit X-rays because	A. Electrons in it have high binding energy B. These materials are non- material C. There is a small difference in their energy shells D. Electrons in it require very large energy to remove from these materials
11	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
12	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
13	To find longest wavelength radiation in Ballmer series, the value of n used is:	A. 2 B. 3 C. 4 D. ∞
14	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

15	Intensity of light from a point source at the edge of unit sphere will be:	A. □ B. □ C. P(4π) D. 4□
16	A proton, accelerated through a p.d V has a certain de Broglie wavelength. In order to have the same de Broglie wavelength, an $\Box$ -particles must be accelerated through a potential difference:	A. 4V B. 8V C. V/4 D. V/8
17	A proton and an	A. 1:2 B. √2: 1 C. 2√2: 1 D. 2:1
18	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
19	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
20	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