MDCAT Physics Chapter 12 Atomic spectra MCQ's Test

Sr	Questions	Answers Choice
1	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
2	When an electron in an atom goes from a lower to higher its:	A. K.E. increases, P.E. decreases B. K.E. increases C. P.E increases D. K.E. decrease, P.E. increases
3	Ultraviolet radiation of 6.2 eV falls on an aluminium surface having work function ∅ = □. □ □□. The kinetic energy of the fastest electron emitted is:	A. 4 eV B. 2 eV C. 2.2 eV D. 1.2 eV
4	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
5	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
6	To find longest wavelength radiation in Ballmer series, the value of n used is:	A. 2 B. 3 C. 4 D. ∞
7	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
8	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
9	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
10	In which region of the electromagnetic spectrum does the Lyman series of hydrogen atom lie?	A. Infrared B. Visible C. Ultraviolet D. X-rays
11	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
12	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
13	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
14	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

15	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
16	The threshold frequency depends on the nature on:	A. Natural frequency B. Photosensitive anode C. Photosensitive cathode D. Photon
17	Of electron of 50 keV strike a heavy target. Then radiation emitted by target will be	A. Visible light B. Radio waves C. Ultraviolet D. None of these
18	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
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	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