

Que.1. Electrons are emitted with zero velocities from metal surface when exposed to radiation of wavelength 6800 \AA . Calculate V^0 and work function of metal.

Que.2. When electromagnetic radiation of wavelength 300 nm falls on the surface of sodium, electrons are emitted with a kinetic energy of $1.68 \times 10^5 \text{ J/mol}$. What is the minimum energy needed to remove an electron from sodium? What is the maximum wavelength that will cause a photoelectron to be emitted?

Que.3. In a photoelectric experiment, the wavelength of the light incident on metal is changed from 300 nm to 400 nm and $(hc/e = 1240 \text{ nm-V})$. Find the decrease in the stopping potential:

- (a) 3 V (b) 1 V (c) 4 V (d) No change

Que.4. In photoelectric emission, does increase in frequency, increase the no. of electrons emitted from the metal surface? Explain with reason.

Que.5. The threshold frequency for photoelectric effect for a metal surface is found to be $4.8 \times 10^{16} \text{ Hz}$. The stopping potential required when the metal is irradiated by radiation of frequency $5.6 \times 10^{16} \text{ Hz}$ is -

- (a) 11 V (b) 22 V (c) 33 V (d) 44 V



Shot on OnePlus

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