**Q4: According to Einstein's photoelectric equation, the plot of the kinetic energy of the emitted photoelectrons from a metal vs the frequency of the incident radiation gives a straight line whose slope**

(a) depends on the nature of the metal used

(b) depends on the intensity of the radiation

(c) depends both on the intensity of the radiation and the metal used

(d) is the same for all metals and independent of the intensity of the radiation.

**Solution:**

According to photoelectric equation:

$K = hf - \Phi$

Where, f= frequency of light used

$\Phi$= work function of metal

K= kinetic energy

On comparing with y = mx+c

Slope = m = h = planck's constant

Which is independent of nature of metal used or light