SEM-IV-PHY-H-CC-T-09

Elements of Modern Physics [F.M.=10]. For numerical questions type only the answer.

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Q1. What is the frequency of a photon of energy 4 eV. [Marks : 2]

Help : 10 to the power y can be written as 10^y

Your answer

Q2. The photoelectric threshold wavelength is 680 nm from a sodium surface. What is the work function of sodium. [Marks : 2]

Your answer

Q3. The change in wavelength in Compton effect is - [Marks : 1]

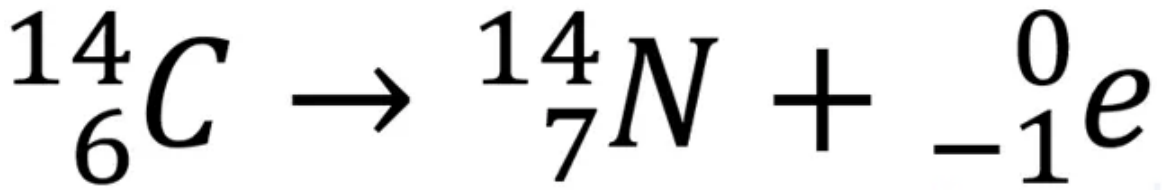
- ◯ Independent of the frequency of incident radiation
- ◯ Dependent of the frequency of incident radiation
- ◯ Dependent on the nature of the scattering material
- ◯ Dependent of the intensity of incident radiation

Q4. A radioactive sample has its half-life equal to 60 days. What is its - (i) disintegration constant, (ii) average life. [Marks : 2]

Help : You can type answer as - (i) your answer, (ii) your answer

Your answer

Q5. The following reaction represents - [Marks : 1]



- ◯ beta+ decay
- ◯ beta- decay
- ◯ electron capture
- ◯ none

Q6. What is the ratio of stimulated to spontaneous emission rates for the wavelength 5900 angstrom at 250 degree celsius. [Marks : 2]

Your answer

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