1. (J & C 3-3) $^{32}\text{P}$ has a half-life of 14.3 d and emits beta particles with mean energy 0.695 MeV. Find the number of phosphorus atoms present in a 1 mCi source. Find the energy liberated per sec when such a source is placed in biological material ($1 \text{ d} = 8.64 \times 10^4 \text{ s}$).

2. (J & C 3-5) A source of $^{131}\text{I}$ with a half-life of 8.06 d has an initial strength of $1.20 \times 10^8 \text{ Bq}$. Find the mean life and determine the total number of disintegrations from the source.