

Q. Write down the three isotopes of Hydrogen nucleus and also explain which one is more stable on which is less stable and why? (1)

Q.2 Explain Radioactivity, α , β , γ decay and decay rate, with diagram. (2)

~~Q.3~~ ~~Quantum~~ ~~is~~ ~~a~~ ~~radioactive~~

Q.3 An old wooden tool is found to contain only 6.0% of $^{14}_6\text{C}$ that a sample of fresh wood would. How old is the tool? (2)

Q.4 Explain with a clear definition electron capture, neutrino hypothesis, positron emission with eqn. (1)

Q.5 Explain with Derivation Geiger Nuttal Law. (1)

Q.6 Explain Secular & Transient Equilibrium in details

Q.6 X what do you mean by the Q value of nuclear reactions? Calculate the Q value for $^4_2\text{He} + ^9_4\text{Be} \rightarrow ^{12}_6\text{C} + ^1_0\text{n}$? Is it endothermic or exothermic? (3)

Score
3/11/23