**Chapter 2- A particle View of Matter**

**Key Knowledge**

* Historical development of the model of atomic theory with contributions from Dalton to Chadwick
* Limitations of the models of atomic theory
* Mass number, isotopes, electronic configuration including subshells.

**Chapter Outcomes**

* Explain how experimental evidence contributed to our understanding of the atom.
* Identify limitations of the atomic models of Dalton, Thomson, Rutherford and Bohr.
* Describe the contribution of Chadwick.
* Describe the structure of the nuclear atom in terms of the arrangement of protons, neutrons and electrons.
* Use standard symbols to represent the isotopes of any given element.
* Explain the difference between Rutherford’s concept of an electrons orbit and the quantum mechanics concept of an orbital.
* Apply subshell theory to write electronic configurations, in shell and subshell representation for the elements 1-36.
* Apply subshell theory to write the electronic configuration of an atom or ion in its ground state or exited state.