

## Long Answer Type Questions

**1. Rutherford's atomic model was a reasonably good model of structure of atom based on at the famous particle scattering experiment. However, it was subsequently modified by Neils Bohr and later on, by others. The resulting improvements in the understanding of atomic structure have greatly contributed to further scientific advancement. There are many other similar examples in scientific field when original contributors happily accept modifications in their ideas.**

**Answer the following questions based on the above information:**

**(i) Name the scientific values associated with above anecdotes.**

**(ii) Give any example from your life experiences so far which reflects display of such a value by you as an individual.**

**(iii) In what way such a personal attribute is likely to help you?**

**Ans.** (i) Intellectual honesty, open-mindedness, ability to accept failure.

(ii) Any examples, say your perception about culture and traditions, your wrong understanding of a physical phenomenon and subsequent change in belief.

(iii) Improvement in thought process, better learning.

**2. An old man and a scientist were talking about a deserted house. The old man was sure that it was haunted by ghosts, but the scientist discarded the view saying no one had ever seen a ghost. The old man was annoyed and challenged the scientist about existence of atoms, sub-atomic particles which also could not be seen.**

**(i) Name the three sub-atomic particles and their discoverers.**

**(ii) Whose viewpoint do you support and why?**

<b>Ans.</b> (i) Particles	Discoverer
Electrons	J.J. Thomson
Protons	E. Goldstein
Neutrons	Chadwick

(ii) view point in support of scientist as he discourages superstition.