

**IMA- Question Bank for Test – 3**

**Portions:**

- X-Ray Diffraction Analysis (XRD)
- Atomic Absorption Spectroscopy (AAS), Flame Photometry, Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES)

**Part A (2 mark questions)**

1. What is Bragg's law? How is it useful for chemical analysis?
2. What is Duane-Hunt law?
3. What is Moseley's law? What are its applications?
4. What are the essential parts of XRD instrument?
5. Differentiate between theta-theta and theta-two theta goniometer.
6. Draw a typical XRD spectrum.
7. What are the limitations of XRD?
8. What are the interferences with AAS analysis?
9. What are the applications of Flame Photometry?

**Part B (16 marks questions)**

Explain with a schematic, the principle, applications, instrumentation and typical output of: (i) AAS, (ii) Flame Photometry, (iii) ICP-AES, (iv) XRD