

**School Name: School of Health Sciences**  
**Course Title: Fundamental of Medical Imaging**  
**Semester: III**

**Program Name: BRIT**  
**Course Code: BHRI-302**

- Who discovered X-rays, and in which year?
- What is the function of an intensifying screen?
- What was the primary limitation of the first-generation CT scanner?
- What is the role of collimators in a gamma camera?
- Which imaging technique uses single-photon emission for diagnostics?
  
- How are X-rays produced in an X-ray tube?
- What role does Bremsstrahlung radiation play in X-ray production?
- Describe how Power Doppler differs from Color Doppler in detecting blood flow.
- What are the advantages of CT scans over traditional X-rays?
- Describe role of radioactive tracers play in nuclear medicine imaging?
- Describe the construction and working principle of a modern X-ray tube.
- Explain the process of loading and unloading a radiographic cassette.
- Explain the principle of MRI and how it utilizes magnetic fields and radio waves to produce detailed images of the body.
- Name two key properties of X-rays.
- What does film "loading" refer to?
- How does a CT scanner work?
- What is the function of scintillation crystals in a gamma camera?
- What is A-mode in ultrasound imaging?
- Why are X-rays considered dangerous in high doses?
- What are the key differences between screen and non-screen films?
- Describe the basic principle behind CT scanning.
- Describe the principle behind SPECT and its key applications in cardiac imaging.
- How do X-rays help in industrial applications?

- Describe the construction and working principle of a modern X-ray tube.
- Explain the process of loading and unloading a radiographic cassette.
- Describe the working principle of PET. How does PET imaging differ from SPECT, and what are its key clinical applications?