



**MANGALORE UNIVERSITY**  
**MSc Medical Physics**

**Semester – III: Practical Nuclear/Radiation**

**MPP 507: Medical Physics Practical-VII**

**(4 hr in a week)**

**Objective:**

To provide practical knowledge on sources of ionising radiations used in diagnosis and therapy, radioisotope uptake and their measurements.

**Outcomes:**

Students will be able to:

- Understand the radiation sources and their production,
- Evaluate the radiographic images,
- Design and conduct experiments to measure radiation output and their dosimetric evaluation.

**List of experiments:**

1. Calibration and use of alanine dosimeter using ESR technique.
2. Preparation and standardization of unsealed sources.
3. Quality assurance of a diagnostic x-ray machine.
4. Evaluation of characteristics of a radiographic image.
5. Study and calibration of thyroid uptake measurement unit.
6. Dose output measurement of photon ( $^{60}\text{Co}$  gamma rays and high energy x-rays) beams used in radiotherapy treatment.
7. Dose output measurement of electron beams used in radiotherapy treatment.
8. Determination of percentage depth dose of photon and electron beams.

**Additional experiments may be added**