



# MANGALORE UNIVERSITY

## MSc Medical Physics

### **MPP 459: Medical Physics Practical-VI (4 hr in a week) Objective:**

To provide practical knowledge on various kinds of dosimeters including personnel dosimeters and methods of dose estimation. Also able to plan and execute treatment plan and therapy.

#### **Outcomes:**

Students will be able to:

- design experiments to study and understand the radiation absorption properties, absorption coefficients and shielding of ionising radiations,
- design experiments to verify the response of different kinds of dosimeters,
- design and execute radiation diagnosis, therapy planning and delivery.

#### **List of experiments:**

1. To study the statistics of radioisotopic measurements and observe the effect of background on the counting statistics.
2. To determine the Absorption Coefficient of a given material for  $\beta$ - particles.
3. Study of linearity of dose monitoring system of linear accelerator
4. Brachytherapy treatment planning procedures using a computerised radiotherapy treatment planning system
5. Teletherapy treatment planning procedures using a computerised radiotherapy treatment planning system
6. To determine the radiation response of thermo luminescent dosimeter (TLD).
7. Demonstration of liquid scintillation counter.
8. Use of optical densitometer for field profile determination
9. Measurement of entrance and exit doses and evaluation (In-phantom)

**Additional experiments may be added**