

**B.Sc. MEDICAL LABORATORY TECHNOLOGY****FIRST YEAR****PAPER IV – PHYSICS & PRINCIPLES OF INSTRUMENTATION***Q.P. Code: 725004***Time: Three Hours****Maximum: 100 Marks****Answer all questions****I. Elaborate on:****(3 x 10 = 30)**

1. Describe in detail, the construction and working of centrifuge. What are the applications of centrifuge in medical laboratory?
2. Describe in detail, the principle of calorimetry and techniques used in medical laboratory.
3. What are radio isotopes and what are the uses of radioisotopes in medicine?

**II. Write notes on:****(8 x 5 = 40)**

1. pH meter.
2. Construction and working of transformer.
3. Fluorescent microscope.
4. Photoelectric emission.
5. Electromagnetic spectrum.
6. TLD badge.
7. Specific gravity and its applications.
8. Production of ultrasound.

**III. Short answers on:****(10 x 3 = 30)**

1. Define mass and volume.
2. Thermometer types.
3. Magnification.
4. Define critical angle.
5. Current and voltage.
6. Types of transformers.
7. Scintillation counter.
8. Focal length.
9. What is the velocity of sound in air and soft tissue?
10. Gamma chamber.

\*\*\*\*\*