

**B.Sc. MEDICAL LABORATORY TECHNOLOGY**  
**FIRST YEAR**  
**PAPER IV – PHYSICS AND PRINCIPLES OF INSTRUMENTATION**

*Q.P. Code : 725004*

**Time : Three Hours**

**Maximum : 100 Marks**

**Answer ALL questions.**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Explain the principle of pH meter and application in clinical field.
2. Explain the construction and working of electron microscope.
3. Explain the construction and working of physical balance and applications in laboratory.

**II. Write Notes on:**

**(8 x 5 = 40)**

1. Refrigerators.
2. Autoclave.
3. Chromatic aberrations.
4. Transformer.
5. Isotopes used in medicine.
6. Properties of electromagnetic radiation.
7. Clinical thermometer.
8. Personnel monitoring device-TLD.

**III. Short Answers on:**

**(10 x 3 = 30)**

1. Define Viscosity.
2. Explain centrifuge principle.
3. State Ohms law.
4. What is specific heat capacity?
5. Explain wavelength and frequency.
6. Why fuse is necessary in electricity?
7. What is artificial radioactivity?
8. What is velocity of light in air?
9. Define osmosis.
10. What is ionizing radiation? Give examples.

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