

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1122]

NOVEMBER 2022

Sub. Code: 5004

**B.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR (Regulation 2010-2011)
PAPER IV – PHYSICS & PRINCIPLES OF INSTRUMENTATION
Q.P. Code: 725004**

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on :

(3X10=30)

1. Define Mass and Specific Gravity. Elaborate on the Properties of Matter.
2. Elaborate with a diagram, the principle and working of an Electron Microscope. Write about the advantages and disadvantages of an Electron Microscope.
3. What is Spectrophotometer? Elaborate on its parts, maintenance and applications of spectrophotometer in a medical laboratory.

II. Write Notes on :

(8X5=40)

1. Water bath.
2. Chemical Balance.
3. Voltage Stabiliser.
4. Laws of diffusion and its applications.
5. Personal Monitoring Device.
6. Application of Electrolytes in Medicine.
7. Lasers and its Applications in Medicine.
8. Role of pH meter in a lab.

III. Short Answers on :

(10X3=30)

1. What is Dispersion?
2. Types of Refrigerators.
3. Focal length and Magnification.
4. Define Osmosis.
5. Turns of ratio.
6. Law of Thermodynamics.
7. Name three isotopes and its uses.
8. Decay constant.
9. Gamma radiation.
10. Define Frequency and Wavelength.
