

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

**[AHS 0423]**

**APRIL 2023**

**Sub. Code: 5004**

**B.Sc. MEDICAL LABORATORY TECHNOLOGY**  
**FIRST YEAR (Regulations 2010-2011& 2018-2019 onwards)**  
**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. What is the principle of Transformer and Stabiliser? What are the differences between Alternate current and Direct current? Write about the uses of Transformer, Stabiliser, Alternate current and Direct current.
2. Define Ultrasound. What are its properties, problems and applications in Medical field?
3. Write in detail about principle, parts and application of Fluorescent Microscope.

**II. Write Notes on :** **(8X5=40)**

1. Uses and care of Balance.
2. Centrifuge and its uses.
3. Incubator – Principle and Uses.
4. Hot air oven.
5. pH meter.
6. Artificial Radioactivity.
7. Ionising radiation –Types and uses.
8. Viscosity and its application in human body.

**III. Short Answers on :** **(10X3=30)**

1. Define Osmosis.
2. What is Electrolysis?
3. Define Power.
4. Parts of Distillation Apparatus.
5. Caloric value of food.
6. Semiconductor.
7. Charles Law.
8. Importance of fuses.
9. Kinetic theory of Gases.
10. Uses of Film badge.

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