

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

**[MD 1022]**

**OCTOBER 2022**

**Sub. Code: 2043**

**M.D. DEGREE EXAMINATION**

**BRANCH XIII – BIOCHEMISTRY**

**PAPER I – PHYSICAL AND ORGANIC ASPECTS OF BIOCHEMISTRY,  
INSTRUMENTATION, BIOCHEMICAL TECHNIQUES, BIOSTATISTICS**

*Q.P. Code: 202043*

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Explain the steps in validating an Analytical method of a manufacturer before introducing it into your laboratory.
2. Discuss in detail the principle and applications of High Performance Liquid chromatography.

**II. Short notes:**

**(10 x 5 = 50)**

1. Westgard Multi QC rules and their interpretation.
2. Timed Urine Collection and Urine preservatives.
3. Reagent Grade water.
4. Electro endosmosis.
5. Turnaround time in laboratory.
6. Chemiluminescence.
7. Disposal of Biomedical waste in a Laboratory.
8. Gibbs Donnan Equilibrium.
9. Delayed Enhanced Lanthanum Fluoride Immunoassay – Principle and Applications.
10. Laboratory Information System.

**III. Reasoning Out:**

**(4 x 5 = 20)**

1. Patient preparation and manner of specimen collection can significantly affect the result of Serum Calcium measurement.
2. Water is a unique solvent.
3. Internal standards should be used in liquid scintillation counters. Why?
4. In SDS PAGE the movement of protein does not depend on the charge of protein.

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