

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. Define Potentiometry. Discuss in detail the Principle, applications, advantage and limitations of Ion Selective Electrodes.
2. Explain in detail the principle, components, application and advantage of Tandem mass spectrometer.

II. Short notes:**(10 x 5 = 50)**

1. Elucidation of primary structure of protein.
2. Chemiluminescence.
3. Management of biological and radioactive wastes.
4. Performance verification of Spectrophotometer.
5. Analytical sensitivity and specificity.
6. Affinity chromatography and its clinical applications.
7. Clinical uses of radioisotopes.
8. DNA Sequencing.
9. Quality control charts.
10. Receiver operating characteristic curve and its applications.

III. Reasoning Out:**(4 x 5 = 20)**

1. P_{50} expresses the relative affinities of different hemoglobins for oxygen.
2. Patient preparation and manner of specimen collection can significantly affect the result of Serum Calcium measurement.
3. Agarose gel electrophoresis of CSF protein is preferred in the diagnosis of Multiple Sclerosis.
4. Glucose is not stored in its monomeric form.
