Reg. No. | | | | | | | | | |

BTS 454

Second Semester M.Sc. Degree Examination, September/October 2022
(CBCS)
BIOTECHNOLOGY
Bioanalytical Techniques

Time : 3 Hours Max. Marks : 70

PART – A

1. Write Short notes on **any ten** of the following (**not** exceeding **1** page **each**) : **(10×2=20)**
   a) Name the SI units for the following.
      Length, Mass, Temperature, Energy.
   b) pH electrodes
   c) PAGE
   d) Factors affecting electrophoresis movement
   e) Principle of Ion exchange chromatography
   f) Paper chromatography
   g) Ultracentrifugation
   h) Radioisotopes
   i) Scintillation counter
   j) Chemiluminescence
   k) Principles of Circular Dichroism
   l) Nanoparticles and nanostructures in the human body.

PART – B

Write explanatory notes on **any five** of the following (**not** exceeding **3** pages) : **(5×6=30)**

2. Centrifuges and two types of rotors used in normal laboratories with figures.
3. Two-dimensional gel electrophoresis and its applications.
4. Plasma emission spectroscopy.
5. Components of Mass spectrometer.

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6. Electromagnetic radiations and their classification based on the spectrum.
7. UV and Visible spectroscopy and common assays.
8. Difference between HPLC and GC based on their principles and applications.

PART – C

Write long answers on **any two** of the following (not exceeding **7** pages) **(2×10=20)**

9. Define HPLC. Write the principle, components, detectors and applications of HPLC.
10. What is Mass spectrometry ? Give details about instrument and its applications.
11. Write the principle, instrumentation, factors affecting and applications of UV-VIS spectroscopy.
12. Discuss nanoparticles, properties and their applications in biology and medicine.

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