

**2103000206030061**  
**EXAMINATION FEBRUARY-MARCH 2024**  
**BACHELOR OF SCIENCE (SIXTH SEMESTER)**  
**MICROBIOLOGY GE-3**  
**ANALYTICAL INSTRUMENTATION AND TECHNIQUES -**  
**LEVEL 3**

[Time: As Per Schedule]

[Max. Marks:50]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF SCIENCE (SIXTH SEMESTER)**
  - b. Name of the Subject: **ANALYTICAL INSTRUMENTATION AND TECHNIQUES**
  - c. Subject Code No: **2103000206030061**
2. Sketch neat and labelled diagram wherever necessary.
  3. Figures to the right indicate full marks of the question.
  4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Give Specific answers:**

**08**

1. Name any two elements of analytical instruments.
2. What is use of auto-samplers?
3. Name two general types of centrifuges used in the laboratory.
4. Write the formula of pH.
5. Give definition of electrophoresis.
6. Define chromatography.
7. What do you mean by unstable nuclei?
8. Define electron volt.

**Q.2 Explain any two of the following: 14**

1. Enlist calibration techniques and explain any two.
2. Give details on application of PCR.
3. Define autoradiography and elaborate on selection of emulsion and film used in autoradiography.

**Q.3 Explain any two of the following: 14**

1. Describe the Classification of Analytical Instruments.
2. Discuss about flame photometry.
3. Write a short note on practical techniques for autoradiography.

**Q.4 Write a short note on: (any two) 14**

1. Components of Photometers and Spectrophotometers.
2. Ion-exchange chromatography.
3. Atomic structure, stability, and radiation

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