



PAT-003-1192004 Seat No. _____

M. Sc. (Micro) (Sem. II) (CBCS) Examination

August - 2020

Analytical Techniques : Paper - 210

Faculty Code : 003

Subject Code : 1192004

Time : $2\frac{1}{2}$ Hours]

[Total Marks : **70**

- 1 Answer Any Seven : (2 marks each) 14**
- (i) What is regressive staining?
 - (ii) What is phosphorescence?
 - (iii) Define HOPE fixative.
 - (iv) What is spectroscopy?
 - (v) Define scattering and fluorescence.
 - (vi) Enlist anion and cation exchanger matrices.
 - (vii) What is isocratic and gradient elution?
 - (viii) Enlist the basic components for an HPLC system.
 - (ix) What is an ampholyte?
 - (x) What is the relation between RPM and RCF?
- 2 Answer any two of the following : (7 marks each) 14**
- (i) Give an account of phase contrast microscopy.
 - (ii) Explain the theories of tissue fixation and staining.
 - (iii) Describe the principle and significance of auto radiography.
- 3 Answer the following : (7 marks each) 14**
- (i) Explain use of Electromagnetic radiation in spectroscopy.
 - (ii) Give an account of nuclear magnetic resonance spectroscopy.

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- 3** Answer the following : (7 marks each) **14**
- (i) Explain infrared spectroscopy in detail.
 - (ii) Describe the significance of UV-Visible spectrophotometry.
- 4** Answer the following : (7 marks each) **14**
- (i) Explain the types of Mass analyzers used in LC-MS.
 - (ii) Discuss the principle and advantages of HPLC.
- 5** Write a note on any two of the following : (7 marks each) **14**
- (i) Applications of Centrifugation
 - (ii) SDS-PAGE
 - (iii) Isoelectric focusing
 - (iv) Western-blotting
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