

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc./IMSc , Winter 2019-20 Examination

Semester: 1 / 7

Subject Code: 11202104

Subject Name: Analytical Techniques

Date: 27/11/2019

Time: 10:30am to 1:00pm

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type. (08)**
 What is ligand? Explain ligand-based affinity Chromatography
- Q.1. B) Answer the following questions (Any two)**
- (a) Short note (Each of 02 marks) (04)
1. Name any two detergents and their uses
 2. Draw the EMR spectrum and label
- (b) Short note on Different types of media for electrophoresis (04)
- (c) Short note membrane Based techniques for purification (04)
- Q.2. A) Answer the following questions.**
- (a) Short note (Each of 02 marks) (04)
1. Basic principle of Electrophoresis
 2. Different light source in UV Visible spectrophotometers
- (b) Applications of TLC (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Short note (Each of 01 marks) (03)
1. What is Gel permeation chromatography
 2. Any two enzymes involved in cells disruption
 3. Name any two detectors
- (b) Short note on NMR instrumentation (03)
- (c) Short note on Electromagnetic radiation Spectrum (03)
- Q.3. A) Essay type (Each of 04 marks) (08)**
- (a) Explain the basic principle and applications of Centrifugation
- (b) Applications of Radioisotopes in Biochemistry
- Q.3. B) Answer the following questions (Any two)**
- (a) Short note (Each of 02 marks) (04)
1. Units and measurement of radioactivity
 2. Applications of Ultracentrifugation
- (b) Short note on Radioimmunoassay (04)
- (c) Short note on 2D –gel electrophoresis. (04)
- Q.4. A) Answer the following questions.**
- (a) Short note (Each of 02 marks) (04)
1. Types of Centrifuges
 2. List the two Density chemicals and their application
- (b) Short note on gel electrophoresis (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Full forms (Each of 01 marks) (03)
1. RCF
 2. SDS, SLS
 3. HPLC
- (b) Short note on sedimentation coefficient (03)
- (c) Short note on buffers and its importance in analysis (03)