C U SHAH UNIVERSITY

WADHWAN CITY

SUMMER EXAMINATION

Course: B.Sc | Semester: IV

Subject Name: Instrumental Methods of Analysis – II | Subject Code: 4LS04IMA1

SECTION – I

Q-1. Define the following terms: 07 Marks

a) Retention time
b) Rf value
c) Theoretical Plate
d) GC-MS
e) Electrophoresis
f) Adsorption

Q-2. Answer the following questions

a) Describe the principle and applications of Paper Chromatography 07 Marks
b) Describe the principle and applications of TLC 07 Marks

OR

Q-2. Answer the following with proper illustrations

a) Explain partition chromatography giving emphasis on Ascending Chromatography 07 Marks
b) Describe the plate & rate theory. 07 Marks

Q-3. a) Principle and applications of HPLC 07 Marks
a) Instrumentation and advantages of HPTLC 07 Marks

OR

Q-3. a) Explain the principle and instrumentation of Electrophoresis. 07 Marks
b) Classify electrophoresis. 07 Marks

SECTION – II

Q-4. Answer the following questions — 7 Marks

a) What is the Van Deemter equation? — 02 Marks
b) Explain the term GC — 02 Marks
c) Stationary phase — 02 Marks
d) Column efficiency — 01 Mark

Q-5. Answer the following questions

a) Instrumentation and working of GC — 07 Marks
b) Derivatization. — 07 Marks

OR

Q-5. Answer the following with proper illustrations

a) How can you differentiate preparative and analytical chromatography? — 07 Marks
b) Describe the development methods in TLC — 07 Marks

Q-6. Answer the following questions

a) Differentiate between HPLC & GC. — 07 Marks
b) What is gel permeation chromatography? — 07 Marks

OR

Q-6. Discuss the following questions

a) Describe instrumentation of HPLC — 07 Marks
b) Differentiate between HPLC & HPTLC — 07 Marks