Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2020

Subject Name: Modern Pharmaceutical Analytical Techniques
Subject Code: MPH101T/MQA101T Branch: M.Pharm (Pharmaceutics, QA)
Semester: 1 Date: 08/03/2021 Time: 11:00 To 02:00 Marks: 75

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(20)**

a) Explanatory note on UHPLC with its applications.
b) Discuss different types of crystals used in X-Ray Crystallography.
c) Give full form of: MALDI, APCI, TLC and FAB.
d) Write a short note on Isotopic Peaks in mass Spectroscopy.
e) Explain Spectroflourimetry
f) Write analytical application of gel chromatography
g) Explain Radio-immunoassay
h) Give principle of DRD and its application.
i) Mention types of ion-exchange resins used in Ion exchange chromatography.
j) Explain Instrumentation of Mass Spectroscopy

Q-2 **Attempt any two questions of following :** **(20)**

A Discuss on pumps, sample injectors, columns and detectors used in HPLC along with its principle, instrumentation and applications.
B Classify electrophoresis techniques. Discuss its theory and application
C Write a detailed note on DTA and TGA.

Q-3 **Attempt any seven questions of following :** **(35)**

A What is flow cytometry? Name parameters assayed by flow cytometry.
B Explain the modes of molecular vibrations in IR.
C Compare and Differentiate GSC and GLC with their applications
D Explain principle of atomic absorption spectroscopy. What are its applications in analysis?
E Explain Lamberts beers law and its application in analysis.
F Define Quantum numbers and its role in NMR. Write different applications of it.
G Explain in detail different application of GC MS.
H Write descriptive note on Autoradiography.
I Define and explain: Chemical shift, factors influencing chemical shift and Spin- Spin coupling.