13/1/24

Seat Number

DAGDU-23

BP 701T : Instrumental Methods of Analysis
(747701)

Total Pages : 2]

Time: 3 Hours | Max. Marks : 75

(1) Do not write anything on question paper except Seat No.

(2) All questions are compulsory. (3) Figures to right indicate full marks.

(3) Students should note, no supplement will be provided.

(4) Draw figure/diagram/cycles/pathways wherever necessary and it should be drawn with the black ink pen or black HB pencil.

1. Answer all the questions. 20

i) Give Sources of radiation in UV spectrophotometer

ii) Explain the fluorescence quenching with examples

iii) What are various methods for preparation of TLC plates

iv) Define auoxochrome and Chromophores

v) Explain principle of flame emission spectroscopy

vi) Give names of detectors used in GC.

vii) Describe principle of chromatography

viii) Enlist the factors affecting in measurement of fluorescence

ix) Explain the concept of Rf value

x) Discuss factors affecting Vibrational frequency in IR spectroscopy

2. Attempt any two of the following. 20

i) Explain instrumentation with Schematic diagram and applications of flame photometry

ii) Write a brief note on adsorption and partition column chromatography with its applications.

iii) Write principal, instrumentation and application of fluorescence spectroscopy

3. Attempt any seven of the following. 35

i) Explain Principle and applications of gas chromatography

ii) Enlist various detectors used in HPLC and discuss them in short

iii) Define: (i) Retention time (ii)Tailing factor (iii)Capacity factor (iv)Selectivity factor (v)Resolution

iv) Explain the principle, working and advantages of FTIR with labelled diagram

v) Explain the principle and Instrumentation of affinity chromatography

vi) Write a brief note on Nephlometry and Turbidimetry with its applications

vii) Write application, advantages and limitation of atomic absorption and atomic emission spectroscopy

viii) Explain the factors affecting electrophoretic mobility

ix) Explain HOOK'S LAW for prediction of IR frequency. Discuss factor affecting IR frequency.