

DEPARTMENT OF CHEMISTRY (S.F.)
DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam



Syllabus

ADD ON COURSE

on

**DMCK/SFCHEM/AD31/2021: Chemistry Instrumentation and its
Applications**

Academic Year: 2021-22



DEVA MATHA COLLEGE KURAVILANGAD

DEPARTMENT OF CHEMISTRY SELF FINANCE

Add on Courses offered for Students:2021-2022

***IIPG- Chemistry Instrumentation and its
Applications - *for PG Students***

DMCK/ SFCHEM /AD 31/2021

***IPG- Chemistry & Life**

DMCK/ SFCHEM /AD 32/2021

Department Coordinator: Ms.Riya Tresa

DEVA MATHA COLLEGE KURAVILANGAD

ADD-ON COURSE FOR THE AY 2021-22

Title: CHEMISTRY- INSTRUMENTATION AND ITS APPLICATIONS
(DMCK/SFCHEM/AD31/2021)

Instructional Hours: 30 hrs

Duration: 2 Months

Mode of Instruction: Offline

Intake Capacity: 25 students

Eligibility: BSc Chemistry

Course Objectives

1. To introduce instrumentation and practical aspects of various spectroscopy techniques.
2. Exposure to advanced instrumentation facilities and maintenance.

Module 1 (10 Hours)

Introduction of instrumental techniques and hands on experience rotary evaporator, immersion coolers, Thermal instruments such as TGA-DTA, DSC etc,

Module 2 (10 Hours)

Chromatography- HPLC, Ion – exchange chromatography – Theory, Gas chromatography–Qualitative and quantitative studies using GC. Important applications of chromatographic techniques

Module 3 (5 Hours)

Surface Area Analyser -BET; Diffraction techniques- XRD.

Module 4 (5 Hours)

Industrial visit

References

1. D.A. Skoog and D.M West, Principles of Instrumental Analysis, 2nd Edn., Saunders college, Philadelphia, 1980.
2. Pecksock, Shields, Carrns and Mc William, Modern Methods of Chemical Analysis, John Wiley, 2nd Edn., 1976.H.H. Willard , L.L. Merrit, J.A. Dean and F.A. Settle, Instrumental Methods of Analysis, D, Van Nonstrand, N.Y, 1981.
3. F.W. Fifield and D. Kealey, Principles and Practice of Analytical Chemistry, 2nd Edn., International Book Company, London, 1983.
4. Leitinin and W. Harris, Chemical Analysis, 2nd Edn., McGraw Hills, Tokyo, 1975.
5. H.A. Donald and F. Calbreath, Clinical chemistry- A fundamental text book, An HBJ international Edn., W.B. Saunders, 1992.
6. K. Wilson and J. Walker, Practical Biochemistry-Principles and Techniques, Cambridge University Press, 1995.

Assessment Procedure

Descriptive examination

Grading

5 point scale (A+,A,B,C,failed)

Course outcome

- The study of basic non-instrumental laboratory techniques.
- Give awareness of waste disposal managements.
- The study of basic instrumental laboratory techniques
- Aware good lab practices and lab safety.




Principal
Deva Matha College
Kuravilangad - 686 633