



Title of the Course: Analytical Tools for Chemical Analysis

Department: Chemistry

Course Objective: To enable students to acquire detail knowledge about principles and working of instruments used in various chemical analysis, for structure elucidation and determination of electrical and magnetic properties. The course imparts knowledge about the various techniques of separation as used for organic molecules, naturally occurring compounds and several pharmaceutical products. This helps the students during the project work to be taken at T.Y.BSc, and also motivates for further Research studies.

Course Content/Curriculum :

- 1, Induction session / Research areas of different CSIR laboratories in India. 2hrs
2. Theory of instrumentation working and demonstration of XRF. 3hrs
3. Theory of instrumentation working and demonstration of XRD. 3hrs
4. Theory of instrumentation working and demonstration of SEM. 3hrs
5. Theory of instrumentation working and demonstration of Coulometry. 3hrs
6. Theory of instrumentation working and demonstration of AAS. 3hrs
7. Theory of instrumentation working and demonstration of FTIR. 3hrs
8. Theory of instrumentation working and determination of Magnetic Susceptibility 3 hrs
9. Theory of instrumentation working and demonstration of GC and HPLC 3 hrs
10. Theory of instrumentation working and demonstration of LCMS 2hrs
11. Research areas of NIO. 2hrs

Course outcome: Students after completing this course gain adequate knowledge to operate instruments like XRD,XRFS,SEM, AC Susceptibility, GC, HPLC,FTIR for determination of structure, electrical and magnetic properties.

Academic Year 2016-17
Attendance of students for Summer Course in Analytical
Tools for Chemical Analysis held in April 2017

Sl. No.	Name of the Student	24/4	25/4	26/4	27/4	28/4
1	Trigu Rani Ferranden	P	P	P	P	P
2	Prabhansh Fa/Oswal	P	P	P	P	P
3	Alaha A. Nish	P	P	P	P	P
4	Manshi Desai	P	P	P	P	P
5	Ayvi M. Gaudh	P	P	P	P	P
6	Mangada R. Madhokar	P	P	P	P	P
7	Ruhana R. Dhawan	P	P	P	P	P
8	Sharna Saji	P	P	P	P	P
9	Akshatha Subhash Chandrajekar	P	P	P	P	P
10	Gunjan G. Chaudhary	P	P	P	P	P
11	Devi Kuntari Y. Deyakarla	P	P	P	P	P
12	Aarshi Anamath Nish	P	P	P	P	P
13	Sybil Perma	P	P	P	P	P
14	Rakshita Chitambar	P	P	P	P	P
15	Karandha Haridrahalasa Kolagotkar	P	P	P	P	P
16	Sandhya Vikram Kotkar	P	P	P	P	P
17	Priya Pankaj Surye	P	P	P	P	P
18	Shradha Niraj Walavalkar	P	P	P	P	P
19	Sandya M. Karthikar	P	P	P	P	P
20	Adisha Gunada Harvekar	P	P	P	P	P
21	Swarna Deepak Salgaonkar	P	P	P	P	P

V. S. Joshi



**Dempo Charities Trust's
Dhempe College of Arts and Science
Panaji, Goa**

Department Of Chemistry

Report of the long term non-conventional course entitled “Analytical Tools for Chemical Analysis”.

The department of chemistry organised a long term integrated (faculty of NIO) value added non-conventional course entitled “Analytical Tools for Chemical Analysis ” for SY BSC students in the month of May.

The course was conducted at National Institute of Oceanography, Donapaula Goa. There it was co-ordinated by Dr Brenda Mascarenhas Principal Scientist Geological Oceanography Department.

In the Introductory session the students were briefed about the various CSIR Institutes in different parts of the country. They were also briefed about the functioning at the various departments of NIO.

The students were given hands on training on the Instrumentation techniques like XRD, SEM, AAS, ICP- MS. They were briefed regarding the working of Instruments and also their applications in the scientific field.

During this one week tenure guest lectures were organized by expertise from the field of life sciences, Chemical, Physical and Geological and Environmental Sciences. The students were given exposure of the research carried out in different departments of NIO.

The student intake capacity was 25. The SYBSc students got registered for the course in the month of March , later they were divided into groups and the list was sent to National Institute of Oceanography.

Course Outcomes:

The students are well trained to operate the different Instruments like AAS, XRD, ICP, SEM . They also acquire the knowledge to carry out antimicrobial studies .This helps them to carry out Characterization studies for the TYBSc projects in the subjects of Chemistry, Physics, Geology, Zoology and Botany.The Course helps to increase the Research insight and analytical reasoning of the young and aspiring minds of the students.