



CENTRAL INSTRUMENTATION FACILITY

SCHOOL OF CHEMICAL AND LIFE SCIENCE

Year of Establishment: 1991

Mission of Central Instrumentation Facility, SCLS

- For Scientific research, Instrumentation is the integral part and the research papers which are technically sound, i.e. practicing the latest instrumentation which are readily accepted for publication world over. Here at Jamia Hamdard, we have school wise instrumentation facility.
- School of Chemical and Life Sciences (SCLS) has a well maintained Central Instrumentation Facility (C.I.F.), where a good number of high end equipment's are installed. This central facility serves/supports all the users/researchers of Jamia Hamdard for the instrumentation, apart from what are available in their laboratory/Departmental Instrumentation Facility (DIF).
- AMC/CMC of such instruments is done every year with respective /authorized companies.
- Gases and other consumables are used to run many instruments, and purchased under the R/c.
- More than 600 students have been enrolled as a users of C.I.F.
- This facility was opened for all the researchers of the Jamia Hamdard and also useful for the summer trainee and M.Sc. Students when they visit/observe instruments functioning under the supervision of concerned teacher.
- At present there are nearly 15 analytical instruments installed in C.I.F.

Total Staff members of C.I.F.

- In charge of CIF: Prof. (Dr.) M. Samim, Dept. of Chemistry, SCLS
- Technical Staff: Senior Technical Assistant: Dr. Sarika Chouksey
Laboratory Attendant: Mohd. Irshad,

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List of C.I.F. Instruments

- 1. Atomic Absorption Spectrophotometer(AAS)**
- 2. CNSN O**
- 3. Gel Documentation System**
- 4. HPLC**
- 5. HPTLC**
- 6. RT-PCR**
- 7. Spectropolarimeter (CD)**
- 8. Ultra Centrifuge**
- 9. Millipore Water Filtration Unit**
- 10. 2D Gel Electrophoresis**
- 11. Nanodrop Spectrophotometer**
- 12. Vis-Spectrophotometer**
- 13. EL- Micro Balance**
- 14. Microwave Oven**
- 15. Sonicator**

CHNS O analyzer

Application: Pharmaceuticals, chemicals, Oil-related products, Catalysts and clinical research.

Model: Elementar, Vario-III



Atomic Absorption Spectrophotometer

Application: Quantification of elements in water, wastewater and soil sample, etc.

Model: A J India, ZeeNit-65



Microwave digestion System

Application: Microwave oven is used for Energy, metals and plastic industry, materials, geology and pharmaceutical analysis.

Model: Multiwave 3000



High Performance Liquid Chromatography(HPLC)

Application: Drug Discovery, clinical Analysis
Proteomics, Pharmaceutical analysis,
Therapeutic Drug Monitoring, Structural
determination, Environmental chemistry and
Biochemical analysis etc.

Model: Waters (Qrt pump)



Ultra Sonication system

Application: Sonicator is often used to
break up tissue cells, extract proteins,
prepare and Disperse graphene and
nanomaterials

Model:



High Performance Thin Layer Chromatography (HPTLC)

Application: Purity control of chemicals, pesticides, steroids, phytochemicals and water analysis etc.

Model: Camag



EL-Micro balance

Application: It is used to determine the weight or mass of an object.

Model: Sartorius balance



RT-PCR qPCR

Application: Diagnosis of genetic diseases and, semiquantitative, in the determination of the abundance of specific different RNA molecules within a cell or tissue as a measure of gene expression.

Model: Roche, LC-480



2D-Gel Electrophoretic Unit

Application: Protein cataloguing, Protein quantification, Quality control of proteins, Host cell protein analysis and Downstream analysis such as western blotting.

Model: Biorad



Gel Documentation Unit

Application: Gel Doc system used for recording and measuring labelled protein And nucleic acid in different media like acrylamide, cellulose, or, agarose.

Model: Biorad uv itec



Water Purification Milli Q System

Application: Milli-Q water quality is ultra pure (Resistivity value: 18.2 MQ.CM @ 25°C < ppb)

Model: ELIX-15 Merck- Millipore



Spectropolarimeter (CD)

Application: An imaging Spectropolarimeter is used to gain a better understanding of evolution and dynamics of solar magnetic and velocity fields. Secondary structures of proteins.

Model: Jasco J-810



Spectrophotometer

Application: It is used for the quantitative determination of a great variety of substances in solution.

Model: CECIL 1101



Nanodrop Spectrophotometer

Application: Provide accurate nucleic acid concentrations and identifying contaminants that may alter experimental results

Model: Thermo, ND-2000c



Ultra Centrifuge

Application: Ultracentrifuges are used in biology for a pelleting fraction on cell organelles like mitochondria, ribosome's, and even viruses.

Model: Ultra LE-80



