

ION CHROMATOGRAPH

Photo of Instrument:



Instrument Name	IC (Ion Chromatograph)
Instrument Model & Serial No.	Metrohm 883 Basic IC plus
Instrument Make	Metrohm
Category of Instrument	Analytical Instrument
Description of Instrument	<p>Ion chromatography (IC) is a technique used to separate and analyze ions in a liquid sample. It is a form of liquid chromatography that focuses on the separation of ions based on their interactions with a stationary phase and a mobile phase. The technique is particularly useful for the analysis of inorganic ions and small organic ions.</p> <p>It can identify and quantify a wide range of ions, including common anions (e.g. chloride, sulphate, nitrate) and cations (e.g. sodium, potassium, calcium).</p>
Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)	<p>Stationary Phase: The stationary phase in ion chromatography is typically a resin or a column containing ion-exchange material. Ion-exchange resins have charged functional groups that attract and exchange ions from the sample.</p> <p>Mobile Phase: The mobile phase is a liquid solvent that helps move the sample through the column. It can be an aqueous solution</p>

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	<p>containing various salts or other buffers to control the separation.</p> <p>Sample Injection: The sample is injected into the ion chromatograph, and it passes through the column where ion exchange takes place.</p> <p>Separation: Ions in the sample are separated based on their affinity for the charged sites on the stationary phase. Cations and anions will interact differently with the resin, leading to distinct elution times.</p> <p>Detection: After separation, the ions are detected using a suitable detector. Common detectors include conductivity detectors, UV detectors, and suppressed conductivity detectors.</p>
<p>Application of Instrument (Limited to Major 4 or 5)</p>	<ul style="list-style-type: none"> • Environmental analysis • Water quality testing • Analysis of pharmaceuticals • Food and beverage analysis • Research in various scientific fields
<p>Type of Sample Required for Analysis/Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions</p>	<p>Sample should be Clear liquid solution.</p>
<p>Types of Analysis/Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions</p>	<p>Quantitative Analysis</p>
<p>Faculty In-Charge Name / Email / Contact</p>	<p>Prof. Shiny Joseph shiny@nitc.ac.in 04952285404</p>
<p>Technical Staff Name / Email / Contact</p>	<p>Muhammed Munaver Muhammedmunaver@nitc.ac.in 04952285484</p>
<p>Location of Instrument</p>	<p>Instrumentation Lab</p>

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Other Details	
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User Charges:

S.NO.	Type of Analysis/Testing	Internal - within Department of NITC	Internal - Other Departments NITC	External Academic Educational Institutes	National Labs	Industry
1	Quantitative Analysis		500	1000	1000	2000

Slot Booking and Payment Work Flow:

- Discuss the slot availability with the technical staff in the instrumentation lab of chemical engineering department.
- Collect the request form.
- Payment should be at the accounts section of the institute.
- Get the request form signed from the faculty in charge.
- Submit the request form and samples in the instrumentation lab.