

COURSE CONTENTS

MANAGEMENT DEVELOPMENT PROGRAM ON OPERATION AND MAINTENANCE OF ANALYTICAL EQUIPMENT

Introductory

- Activities of CSIR-Central Scientific Instrument Organisation (CSIO)
- Importance of Operation and Maintenance of Analytical Equipments
- Instrumental Method of Analysis
- General Design Considerations of Analytical Instruments
- Basic Electronics/ SMD components & Optics used in Analytical Instruments

Maintenance Management & Safety Aspects

- Maintenance of Analytical Instruments
- Test, Measurements and Calibration of Analytical Equipment
- Safety aspects in Analytical Instruments
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Analytical Instrumentation

- Basic Analytical instrument: Analytical Balances, pH Meter, Micropipette, Conductivity Meter
- Colorimetry
- Flame Photometer
- Atomic Absorption Spectrophotometer
- Spectrophotometers (UV-Visible, Photoluminescence, Fluorescence etc.)
- Spectrophotometers (FT-IR, FT-NIR, Raman etc.)
- Refractometers
- ICP-AES
- Electron Microscopy
- X-Ray Diffractometry
- Mass Spectrometry
- Chromatography (HPLC, GC, LC-MS etc)