



Department of Chemical Engineering (Research Facilities)

| Facility | Make / Model | Purpose | Funding Source |
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| CHEMCAD Process Simulation Software | Chemstations, USA | Chemical Process Engineering Simulation | Ministry of Chemicals and Fertilizers |
| COMSOL Multiphysics software | COMSOL Inc. USA | Finite element analysis, solver and Simulation software / FEA Software package for various physics and engineering applications, especially coupled phenomena, or Multi-physics | Department |
| Hydraflash software | Hydrafact, UK | Hydrate and PVT prediction | GAIL (India) Ltd. |
| HEAT-Int software | Process Integration, UK | Pinch analysis, improving performance of heat recovery systems, heat exchanger network design and optimization | Department |
| ProDyn software | Ingenious Inc. | Dynamic Simulation and operator training (used mainly to train students) | Department |
| Dell Precision T5600 Chassis workstation | Dell | High speed computing | Department |
| Universal Process Control Trainer | Apex Innovations Pvt Ltd | Incorporates wide range of experiments, applications and advanced control techniques using industry standard instrumentation and controls | Department |
| Brookefield Viscometer | Brookfield Engineering Laboratories Inc., USA | By utilizing a multiple speed transmission and interchangeable spindles, a variety of viscosity ranges can be measured (Newtonian and Non-Newtonian) | Department |

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| Accoustic Interferometer | Mittal Enterprises, Model- F05 | Estimation of Thermodynamic properties of liquids | Department |
| Gas Chromatograph | Sigma Instruments Pvt. Ltd, Vadodara | Composition Analysis | Department of Science & Technology |
| Gas Chromatograph | Shimadzu Gas Chromatograph Model: GC-2014 | Composition Analysis | Aditya Birla Science and Technology Company |
| Seven Multi-Ion meter | Mettler-Toledo India Private Limited | Water analysis (7 parameters) | Ministry of Chemicals and Fertilizers |
| Automatic Potentiometric Titrator | Spectralab | Composition Analysis | Ministry of Chemicals and Fertilizers |
| UV - Spectrophotometer | HACH/ DR 5000, USA | Composition Analysis | Ministry of Chemicals and Fertilizers |
| Bomb-Calorimeter (Microprocessor based) | Toshniwal Model CC01/M3 | Determination of Heat of combustion, Calorific values and sulfur contents of solids, liquids & volatile fuels and other easily burning materials. | Department |
| BET surface area analyzer | Smart Instruments Company Pvt. Ltd. Model- SMART SORB 93 | Surface area measurement of powder samples and particle size range determination | Department |
| Multi-Mode membrane Test rig | Labcon Scientific instruments, Mumbai | For Membrane separation studies | Ministry of Chemicals and Fertilizers |
| Unmixed combustion kinetics test rig | Assembled and fabricated | To study the kinetics of catalytic reactions | DST |
| Refractometer (Hand Held) | ATAGO make | Refractive Index measurement and Composition analysis | Ministry of Chemicals and Fertilizers |
| Abbe Refractometer | Toshibha (India) | Refractive Index measurement and Composition analysis | Department |

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| Ozone Generator | Eltech Engineers, Mumbai | For advanced oxidation studies | Ministry of Chemicals and Fertilizers |
| Spin coater | Apex Instruments company, Calcutta | Thin film studies | Ministry of Chemicals and Fertilizers |
| COD digester | Spectralab, Mumbai Model 2015D | COD analysis | Ministry of Chemicals and Fertilizers |
| Water Distillation Unit | Ramnath Enterprises | To prepare distilled water | Ministry of Chemicals and Fertilizers |
| BOD incubator | BTI-06 | COD analysis | Ministry of Chemicals & Fertilizers |
| Kjeldahl Nitrogen apparatus | HACH | Estimation of total Kjeldahl nitrogen, several minerals, and nutrients. | Ministry of Chemicals and Fertilizers |
| Temperature calibrator (2 nos., -40 °C – 200 °C & 250 °C – 1200 °C) | Tempsens Instruments CALSYS -40/200 | Temperature calibration | DST GAIL (India) Ltd |
| Refrigerated Circulator | Julabo Labrotechnik GMH, GERMANY Julabo model F32- HE | Circulating bath | GAIL (India) Ltd |
| Fuel cell test rig | SPIC Science Foundation | Fuel cell studies | Ministry of New & Renewable Energy |
| Barometer | Labcon Scientific Instruments | Atmospheric pressure measurements | Ministry of Chemicals and Fertilizers |
| Water Bath | BTI-63 | For maintaining constant temperature for reactors | Ministry of Chemicals and Fertilizers |
| pH meter | ElicoLI-610 | For measuring pH of sample | Ministry of Chemicals and Fertilizers |
| Muffle furnace | BTI-41 | To dry and heat the samples at high temperature. Total solids and volatile solids of waste can be found out. | Ministry of Chemicals and Fertilizers |

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| DO Meter | Model EQ-642 | Estimation of Dissolved Oxygen | Ministry of Chemicals and Fertilizers |
| TDS meter | Model:682 | Estimation of Total dissolved solids | Ministry of Chemicals and Fertilizers |
| Turbidity meter | Make: Equiptronics, Model: 811 | Estimation of Turbidity | Ministry of Chemicals and Fertilizers |
| Phase equilibrium test rig | Ablaze Glass works Pvt. Ltd. | Gas-Liquid phase equilibria studies | Aditya Birla Science and Technology Company |
| Wetted wall column test rig | Ablaze Glass works Pvt. Ltd. | Estimation of mass transfer co-efficients | Aditya Birla Science and Technology Company |
| Packed bed absorption column test rig | Ablaze Glass works Pvt. Ltd. | Estimation of absorption efficiency | Aditya Birla Science and Technology Company |
| Batch distillation column test rig | Labcon Scientific Instruments | Batch distillation studies | Ministry of Chemicals and Fertilizers |
| Reaction Kinetic test rig | Assembled and fabricated | Coke Kinetic studies | Aditya Birla Science and Technology Company |
| Sartorius Weighing Balance | Chiron Instruments (India) Pvt Ltd Model : CP224S | High accuracy measurement of mass | Ministry of Chemicals and Fertilizers |
| Orsat Apparatus | Vensil Glass Works | Flue gas analysis | Aditya Birla Science and Technology Company |
| Rotary Vacuum Evaporator | Ablaze Glass works Pvt. Ltd. | For Vacuum evaporation | Research Initiation Grant (BITS Pilani) |

