

CPPRI LIBRARY

The CPPRI Library stands as comprehensive repository of knowledge and resources dedicated to the pulp and paper industry. It houses an extensive collection of books, journals, research papers, technical papers and digital resources related to pulp, paper and allied industries. This specialized library serves not only the researchers, scientists and professional associated with CPPRI but also caters to the broader academic and industrial community involved in the pulp and paper sector. The library collection is continually updated with the latest publications.



CPPRI PAPER MUSEUM

Paper Museum established by the CPPRI in 2009. It serves as a repository of knowledge and artifacts related to the history, evolution and technology of papermaking. The museum aims to educate visitors about the rich heritage of papermaking, trace development of paper and also explore the different raw materials used in papermaking.



For further information please contact

CENTRAL PULP AND PAPER RESEARCH INSTITUTE

DIRECTOR

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TRAINING CELL

OBJECTIVE

CPPRI offers various Short Term Courses (STC)/ Contact Training Programmes (CTP) / On-site Training Programmes (OTP) / Summer / Academic Training Programmes in different areas of paper making i.e. raw material preparation, pulp & papermaking, wastepaper processing, chemical recovery, environmental management, biotechnological applications etc. for pulp, paper and allied industries personnel as well as graduate & post graduate students.

ELIGIBILITY

In general, participants having degree/ diploma in science/pulp and paper engineers/ employees of the paper mills as chemists/supervisors/senior supervisors/shift in-charge etc., are eligible for these STC/ CTP/ OTP. Graduate and post graduate students are eligible for one month to twelve months summer/academic training programmes.

ENROLMENT

Interested mills may send their request to Director CPPRI. Individual candidates may send their request with application form. No refund of fees will be done once the enrolment of the participant is confirmed.

LODGING AND BOARDING

Depending upon the availability lodging and boarding facility / will be provided by the Institute on actual payment basis. The course fee does not include the lodging and boarding charge.

PILOT PLANT @ CPPRI

The CPPRI (Central Pulp and Paper Research Institute) Pilot Plant serves as a crucial facility for research, development, and testing in the pulp and paper industry. It's a scaled-down version of industrial setups, enabling scientists, researchers, and industry experts to experiment with new technologies, processes, and formulations before full-scale implementation.

This plant acts as a bridge between theoretical research and practical application, allowing for the testing of innovative ideas, process optimization, and the development of prototypes in a controlled environment.

Researchers and industry professionals utilize the CPPRI Pilot Plant to assess the feasibility of new methodologies, evaluate raw materials, improve production efficiency, and ensure product quality. Moreover, it facilitates collaborative projects between CPPRI and industry partners, fostering innovation and advancements in the pulp and paper sector.

The insights gained from experiments conducted in the pilot plant contribute significantly to the evolution of sustainable, efficient, and technologically advanced practices within the pulp and paper industry. This facility plays a pivotal role in shaping the future of the industry by facilitating research-driven solutions and fostering a culture of continuous improvement.

BIOTECHNOLOGY DIVISION AND FOOD PACKAGING PAPER TESTING FACILITY

OBJECTIVE

To establish and promote biotechnological applications in Pulp and Paper Industry as a cleaner and greener route for:

- Preservation and enhancement of pulp and paper properties
- Resource conservation
- Improved environmental performance
- Product development for food packaging paper & paper board

TECHNICAL SERVICES OFFERED

Microbial and chemical contaminant

- Determination of total microbial load in paper/paperboard samples and mill effluents antifungal and antibacterial properties of paper testing for chemical contaminants (Lead, Chromium, Cadmium, Mercury, PCB, PCP) through AAS and GC in paper/paperboard

Enzyme Evaluation

- Determination of enzyme activity, pH and temperature profiling
- Enzyme assisted re-pulping of wet strength papers Enzyme efficacy of biobleaching, biopulping, refining, deinking etc.

Determination of slimicide efficacy

- Microbial profiling in paper mills

MAJOR FACILITIES AVAILABLE

- Microbiology Lab Facility: LAF, Incubators, Autoclave, Deep Freezer, Centrifuge, UV spectrophotometer etc.
- Sophisticated Analytical Lab Facility: Atomic Absorption Spectroscopy (AAS), Gas-Chromatography (GC) etc.



CENTRAL PULP AND PAPER RESEARCH INSTITUTE

INTRODUCTION

Central Pulp and Paper Research Institute (CPPRI) is a premier research institute dedicated to the service of pulp, paper and allied industry. The institute prides itself of having state of art facilities and equipments and an enthusiastic team of dedicated, well experienced and trained scientists for carrying out quality research work in various areas of pulp & papermaking i.e. from raw material to finished product. Over the years, the Institute has carved a niche and is considered at par with the reputed research organizations of developed countries like Sweden, Finland etc.

LOCATION

The Institute is located at Saharanpur, an industrial town of Uttar Pradesh (India), 168 kms from the National Capital New Delhi. Reputed institutions like Department of Paper Technology (IIT-Roorkee), Star Paper Mills Limited, and Indian Pulp & Paper Technical Association (IPPTA) are located in close vicinity of CPPRI.

OBJECTIVE OF THE INSTITUTE

- To develop into a centre of excellence for providing technical & consultancy services & carrying out quality research and scientific work dedicated to pulp & paper and allied industry
- To strive towards improving the overall technological and environmental status, global competitiveness and environmental sustainability of Indian Pulp and Paper Mills
- Information dissemination related to latest R&D and technological developments in paper industry & impart training to mill personnel for upgradation to knowledge and skill in various aspects of papermaking

The institute renders its services in various areas of Pulp and Papermaking and caters to the need of the paper industry through its different-different division.

PHYSICAL CHEMISTRY, PULPING AND BLEACHING DIVISION

OBJECTIVE

To provide testing, consultancy and research in the area of raw material preparation, handling and chemical analysis; pulping process optimization, additives pulping, solvent pulping, two stage pulping, bleaching and related technologies to Indian pulp and paper industry, Government agencies, International organization of pulp and paper makers, students and entrepreneurs etc.

MAJOR FACILITIES AVAILABLE

- Schott automatic viscometer
- Laboratory chipper and chips classifier

- Laboratory scale bagasse depither
- Series digester and tumbling digester
- Recirculatory digester
- Serla screen
- Sprout waldron disk refiner
- Quantum mixture for oxygen
- Delignification
- Ozone treatment of pulp
- Electrical boiler for pre-steaming of chips

TECHNICAL SERVICES OFFERED

- Raw material handling & preparation
- Wood chips classification
- Raw material analysis for moisture, basic and bulk density of chips, holocellulose, lignin, hemicelluloses, extractive content, silica, ash, alpha, beta, gamma, cellulose and various solubilities
- Facilities of bench, semi pilot and pilot scale pulping and bleaching
- Process audit in the areas of raw material analysis, pulping and bleaching
- HRD training programme in the areas of raw material analysis, pulping and bleaching
- Pulping and bleaching chemical analysis



STOCK PREPARATION AND PAPERMAKING DIVISION

OBJECTIVE

To undertake Research and Development activities and offers technical support to Indian Pulp and Paper Mills through: Project Based Support and RSC-DCPPAI funded projects

MAJOR FACILITIES AVAILABLE

- PFI Mill
- Zero Span Tensil Tester
- FillerAbrasion Tester
- Particle Charge Detector
- Dynamic Handsheet Former
- Bauer Mcnett Fibre Classifier
- Water Retention Centrifuge
- Total Organic Carbon (TOC)Analyser

TECHNICAL SERVICES OFFERED

- Quality improvement of paper
- Optimization of papermaking operations
- Evaluation of wet end chemicals
- Paper machine deposit control
- Pulp & Fibre strength Evaluation



CHEMICAL RECOVERY AND BIOREFINERY DIVISION

OBJECTIVE

- Undertake R&D work in the area of chemical recovery operation, black liquor characterization, lignin recovery, desilication and thermal treatment of black liquor
- Improving properties of agro-residue black liquor and development of process technologies for its smooth and viable processing in chemical recovery system
- Providing technical services to mills for installation, commissioning and smooth functioning of chemical recovery
- Becoming Centre of Excellence in the area of Chemical Recovery and Biorefinery

MAJOR FACILITIES AVAILABLE

- Advanced Bomb Calorimeter
- CHNSAnalyser
- Advanced Rheometer
- UV-Visible Spectrophotometer
- Rotary Evaporator
- Density Meter
- Surface TensionAnalyser
- Flame Photometer
- TGA/DTA
- Stabinger Viscometer
- Banana Fibre Extraction Machine

TECHNICAL SERVICES OFFERED

- Physico-chemical, Thermal and Rheological Analysis of Black Liquor
- Pilot scale liquor heat treatment of agro black liquor to enhance energy generation and improve rheological and combustion behaviour
- Pilot plant scale studies on desilication of silica rich black liquors
- Pilot scale studies on non-process elements in chemical recovery cycle and their control technical support to equipment manufacturers in designing and development of machinery and in commissioning of chemical recovery system
- Technical services during retrofitting of chemical recovery plant, PG test, process optimization and trouble shooting
- Annual contracts of chemical recovery systems for providing technical services for smooth operations and improved chemical recovery efficiency



PAPER AND PAPER BOARD TESTING DIVISION

(Accredited by NABL-National Accreditation Board for Chemical & Testing Laboratories)

OBJECTIVE

The Paper Testing Laboratory of CPPRI has been accredited by NABL in accordance with ISO/IEC 17025:2017. The Laboratory performs a wide range of technical services specific to the paper industry. All paper and paper board tests viz physical, strength, optical, surface, barrier properties and printability tests are performed by using standard test methods based on ISO, TAPPI and BIS standards. The paper testing lab of CPPRI is well equipped with imported sophisticated laboratory instruments specific to the paper and paper board samples. The Paper Testing Laboratory maintains the controlled environmental conditions of temperature and relative humidity as per BIS/ISO standards to ensure accurate and reproducible test results.

MAJOR FACILITIES

- Projection Microscope
- L & W Elemendorf Tear Strength Tester
- L & W Burst Strength Tester
- L & W Crush Strength Tester (RCT, ECT, CMT, FCT, CCT etc.)
- L & W Bendtsen Air Permeance Tester
- L & W Bendtsen Roughness Tester
- L & W Elrepho Spectro photometer
- L&W Micrometer
- Paper stiffness – Resonance, Taber and bending stiffness
- Laboratory Pilot Coater
- Laboratory Hard and Soft nip Calendar
- Laboratory Surface Sizing Instruments

TECHNICAL SERVICES OFFERED

- Microscopy and Fibre Analysis
- Paper & Paper/Corrugated board Testing
- Conversion and Modification of Paper and Paper Board (Coating, Printing etc.)

ENVIRONMENTAL MANAGEMENT DIVISION

(Accredited by NABL-National Accreditation Board for Chemical & Testing Laboratories)

OBJECTIVE

- Determination of optimal fresh water requirement and

- explore reuse/recycle of back water/treated effluent in the process to reduce fresh water consumption.
- Adequacy assessment, performance evaluation and up gradation of existing ETPs.
- Evaluation of various tertiary treatment options including kidney / membrane technologies and feasibility of Zero Liquid Discharge in Pulp & Paper Mills
- Land application of treated effluents
- Water Balance & Material Balance Studies
- Air pollution Monitoring and Control
- Solid Waste Management

MAJOR FACILITIES AVAILABLE

AOX Analyser, Trace Metal Analyser, UV-VIS Spectrophotometer, Flame Photometer, Mercury Analyser, Turbidity Meter, Oil & Grease Analyser, Lab Scale Water Treatment System, Membrane Filtration System Zero Head Space Extraction Apparatus, Nitrogen Analyser, Ultrasonic Open Channel & Close Pipe flow Meter, Flame Photometer, pH Meter, Noise Analyser, Complete Range of Air Monitoring Equipments for Ambient, Stack, Fugitive & NCG Emissions monitoring

TECHNICAL SERVICES OFFERED

- Characterization of pulp and paper mill effluents for various physical, chemical & biological pollution parameters
- Surface & ground water analysis & monitoring. Evaluation of bio-energy potential in effluents
- Identification and selection of appropriate technologies for environmental management
- Assistance to technology promoters / suppliers for designing and fabrication of pollution control equipments.
- Monitoring of ambient air quality, stack emissions and odorous emissions
- Analysis of gaseous pollutants including non condensable gases (mercaptans, H₂S etc.)
- Consultancy services related to trouble shooting, adequacy assessment & performance efficiency evaluation of Effluent Treatment Plant (ETP) and Air Pollution Control Devices (APCD)
- Evaluation of toxicity potential of ETP sludge and waste water
- Water Audit and Hazardous Waste Audit
- Annual Environmental Monitoring Contracts
- Training & skill development programme

