PHYSICAL CHEMISTRY, PULPING AND BLEACHING DIVISION

OBJECTIVE

The objective of Physical Chemistry, Pulping and Bleaching (PCPB) Division is to provide testing, consultancy and research in the area of Raw material preparation, handling and chemical analysis; pulping process optimization, additive pulping, solvent pulping, two stage pulping, bleaching and related technolgies to Indian Pulp and Paper Industry, Goverment agencies, International organization of pulp and makers, students, enterpreneur etc.


Series Digester


Serala Screen

RAW MATERIAL ANALYSIS

- Chemical analysis of fibrous raw material as well as high grade alpha cellulose bleached biomass pulps for extractives, pentosans, alpha cellulose, S10, S18, ash, silica, calcium, Iron content etc.
- Physical and chemical analysis of non fibrous raw materials like anthraquione, resin, pigments etc.
- Harvesting age of woody raw material

POST DIGESTER TREATMENT

- Oxygen pre-treatment
- CPPRI pretreatment technology
- Acid pretreatment before bleaching

BLEACHING TECHNOLOGY

- Bleaching chemical optimization
- Oxygen / Ozone delignificaton optimization
- ECF/TCF bleaching optimization
- Reductive bleaching
- Bleaching of high yield pulp CTMP/MP

PULP ANALYSIS

- Kappa / Permaganate number
- Intrinsic viscosity of unbleached and bleached pulp
- Hemicellulose fractions in pulp
- Extractives in pulp
- Brightness of pulp

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 generator
- 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, gama cellulose and various solubilities
- Facilities for bench, semi pilot and pilot scale pulping and bleaching
- Process audits in the areas of raw material storage, pulping and bleaching
- HRD training programme in the areas of raw material analysis, pulping and bleaching
- Pulping and bleaching chemicals analysis

SUPPORT TO STARTUPS

PCPB Division did extensive work production of high yield CTMP pulp utilization waste i.e. rice straw, cotton waste, banana stem, water hyacinth, EFB fiber and maize plant waste for production of table wares, cup stocks and low grade packaging products. A number of start ups company were supported in development of process technology.


Single Disc Refiner

MODERN EXPERTISE DEVELOPED

- Production of high alpha cellulose pulp from cellulose biomass for production of more value added products i.e. rayon grade, food grade and pharma grade pulp
- Production of CTMP/BCTMP pulp from cellulosic biomass for various end uses like packaging, building material, table wares etc.
- Expertise and technical know how being provided for replacement of plastic wares with that of cellulosic products
- Facility created for ozone treatment studies of various raw material pulp
- Ozone dose optimization
- ZD or DZ treatment of pulp
- Pre-treatment of raw material for reduction of kappa number ~ 50% after pulping (An alternative to O_2 delignification treatment)
- DEpD and other environment friendly bleaching processes
- Short sequence TCF bleaching


Ozone Reactor

For further information please contact

Central Pulp & Paper Research Institute

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PAPER RECYCLING

OBJECTIVE

Recycled fiber (RCF) has become a mainstay raw material furnish for Indian Paper Industry. With increased consumption, the quality of RCF furnish is also deteriorating due to presence of contaminants like adhesive tapes, wet strength resin, hot melts, ink, etc. which causes problem during papermaking thus affecting the quality and product. CPPRI has strengthened its capability through creation of state-of-art infrastructure and technical expertise to address the issues of RCF based industry.

TECHNICAL SERVICES OFFERED

- Unit Process optimisation for pulping, deinking and bleaching of recycled fibre.
- Evaluation of deinking chemicals and stickies control agent
- Cost effective deinking solution.
- Quantification of Macro/ Micro/ Colloidal stickies in process line and water recirculation loop through stickies audit/profiling across the process line.
- Bleaching and color stripping of RCF employing oxidative/reductive bleaching.
- Stickies balance across screens, cleaners and floatation cell to assess the removal efficiency.
- Paper machine deposit control.
- Evaluation of fibre quality of Market RCF pulp/ moulded trays.
- Evaluation of repulpability potential of FMCG and packaging products
- Enzymatic deinking, Mineral deinking & Neutral deinking
- Wet end Optimization based on electrokinetic properties (Zeta Potential, Cationic Demand/ Anionic Demand/ Streaming Potential)
- Training of mill Personnel / Scientists / Engineers in specified areas.

MAJOR FACILITES

- High Consistency Hydra Pulper for repulping
- Flotation Cell for deinking
- Pulmac Master Screen for Stickies Quantification
- TOC Analyser

TECHNICAL KNOW-HOW

Under "**Extended producer's responsibility (EPR)**" of MoEF Solid Waste Management Rule-2016, responsibility is fixed to the manufacturer of plastic, tins, glass, corrugated boxes, etc. for the environmentally sound management of the product until the end of its life. Looking into this CPPRI extended its activity to address the issue of repulpability and papermaking potential of Pre-consumer and Post-consumer FMCG consumer goods/waste paper.

Pulmac Master Screen

MAJOR SPONSORED PROJECTS

- Efficacy of flotation deinking technology for stickies removal from OCC & NCC furnish- Arab Paper Manufacturing Company, Dammam, Kingdom of Saudi Arabia.
- Comparison of properties of used beverage cartons (UBC)- Thailand, UBC India, AOCC and IOCC- Fiber Pattana Co. Ltd., Thailand
- Pre-feasibiilty studies on deinking of currency broke- SPM, Hoshangabad (M.P.)
- Stickies Audit-Emami Paper Mills Ltd., Shree Rama Newsprint Mills Ltd., ITC Kovai etc.
- Evaluation of deinking chemicals-Thermax India Pvt. Ltd., Pune; L.M.Industries, Balasore; EICL Ltd., Kerala
- Repulping study of the broke generated during manufacturing of bank note paper- Bank Note Paper Mill, Mysore
- Evaluation of papermaking potential of post consumer tetra pak waste- Tetra Pak, Gurgaon
- Repulpability and papermaking potential of paper & paperboard packaging products produced-Tetra Pak, Hindustan Unilever Ltd., ITC Ltd. etc.


High Consistency Hydra Pulper

Deinking Flotation Cell


TOC Analyser

For further information please contact

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CHEMICAL RECOVERY & 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

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 & 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

Advanced Rheometer

Rotary Evaporator

TRAINING OFFERED

- Onsite training to mill personnel in the area of Chemical Recovery and Biorefinery field
- Hands on training offered to graduate, post graduate, PhD students and other agencies in various topics related to Chemical Recovery and Biorefinery application in Pulp and Paper industries

PILOT PLANT

- Bagasse Depithing Pilot Plant
- Liquor Heat Treatment (LHT) Pilot Plant
- Desilication Pilot Plant
- Non-process element (NPE) Pilot Plant
- Colour Removal Pilot Plant

ACHIEVEMENTS

- Utilization of banana fibre for making of currency/security paper
- Reduction of chloride and potassium from chemical recovery cycle in pulp mill
- Production of lignin and lignin chemicals from coir pith
- Recovery of lignin & carbohydrate from spent pulping liquor and their utilization as source of clean energy
- Incremental capacity enhancement and improved efficiency of chemical recovery system in wood and non-wood based paper mills
- Utilization of lignin by-products from paper industry in rubber industry
- Heat treatment of bagasse black liquor to improve rheological properties and combustion behaviour
- Developed process for efficient depithing of bagasse

MAJOR FACILITIES

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

MAJOR PROJECTS

- Setting up of the state-of-the-art chemical recovery laboratory
- Setting up a pulp and paper mill based bio-refinery laboratory
- Development of lignosulphonate based chemical admixture for improved performance in mortar and concrete
- A synergistic and economical approach for treatment of pulp and paper mill effluent system using microbes and fly ash nanoparticle to achieve minimum/ zero waste discharge
- Studies on alternate auto-causticization process for conventional and non-conventional chemical recovery systems
- Utilization of lime sludge generated from paper industry in the manufacture of cement

For further information please contact

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Certificate No. TC-8658

ENVIRONMENTAL MANAGEMENT DIVISION

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

OBJECTIVE

Environmental Management Division of CPPRI has proved itself as a "Centre of Excellence" by getting NABL accredited for analysis of water , waste water ambient air and stack emissions , carrying out pioneer R&D to help the Indian Paper Industry in achieving environmental sustainability / compliance as well as rendering quality technical and consultancy services to pulp , paper and allied industries with focus on following thrust areas:

- 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

ACHIEVEMENTS

- Environmental Management Div is accredited by National Accreditation Board for Chemical & Testing Laboratories (NABL) in accordance with ISO / IEC 17025 : 2017 for :
- Water and waste water analysis for various pollution parameters (pH , TSS, TDS , COD , BOD, Color, Na, K, Ca, Mg, Hardness, Oil & Grease)
- Ambient air (PM 10, PM 2.5, NO_2 & SO_2) and Stack emissions (PM , SO_2, NO_x, CO, CO_2, O_2 & H_2S)

FACILITIES AVAILABLE

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


Stack Sampling Kit

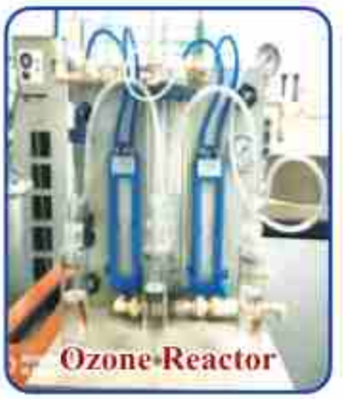

Membrane Filtration Unit


AOX Analyser

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, H_2S 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


Sampling of Stack Emission


Ozone Reactor


PM 2.5 Sampler

MAJOR ACTIVITIES

- Associated as a member of core group involving IIT Kanpur , IIT Roorkee, IIT New Delhi and CPCB, Delhi for preparation of Charter for Water Recycling and Pollution Prevention in Pulp and paper Industry for reduction in water consumption, waste water discharge, increased reuse and recycling of back water and reducing overall impact on receiving stream in mills located in River Ganga basin.
- Assistance to CPCB in successful implementation of CPCB Charter on Water Recycling & Pollution Prevention in Pulp & Paper Industry of Ganga River Basin in Pulp & Paper Mill of Uttar Pradesh and Uttarakhand
- Assistance to CPCB in Inspection of Grossly Polluting Industries (GPIs) located in Main Stem States of River Ganga & Yamuna including Pulp & Paper , Chemical ,Textile and Slaughter Houses etc.
- Working with UNIDO (IC-ISID) for evaluating feasibility of membrane filtration system for treatment of effluent in different pulp and paper mills.

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BIOTECHNOLOGY DIVISION
&
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

MAJOR THRUST AREA

Food Packaging Paper and Paperboard

- NABL accreditation for testing of Food Packaging paper and paperboard for enumeration of Microbial and Chemical contaminant load
- Determination of antifungal and antibacterial properties of paper and paperboard
- Development of barrier properties using bacterial cellulose
- Development of biopulping as a viable option for pulp and paper industry

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


Gas Chromatography


Atomic Absorption Spectroscopy


UV Visible Spectrophotometer


Mini Centrifuge

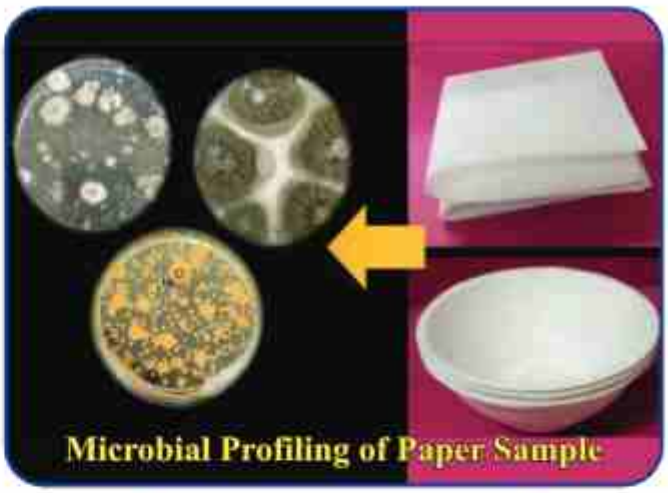
MAJOR FACILITIES AVAILABLE

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

ACHIEVEMENTS

- Isolation of microbes from waste biomass having efficacy for Co-fermentation of C5 & C6 Sugars into ethanol.
- Project dissertation and summer training courses have been completed for more than 100 graduate and postgraduate students in the area of Microbiology & Biotechnology.
- Development of methodology for evaluation of antifungal/antibacterial property of food packaging paper.
- Development of protocol for microbial load determination in pulp & paper samples.


Media Preparation


Microbial Profiling of Paper Sample

MAJOR PROJECTS

- Creation of facilities for testing of Food Packaging paper and paper board for enumeration of Microbial and Chemical contaminant load (RSC-DCPPAI project).
- Bacterial cellulose production for its diverse applications in pulp and paper sector RSC-DCPPAI project).
- Biopulping of lignocellulosic material using isolated lignin degrading fungal species to reduce energy loss in various pulping processes (PBS scheme).
- Microbial profiling in M/s Security Paper Mill, Hoshangabad

TRAINING OFFERED

- Hands on training offered to mill personnel, graduate and post graduate students in various topics related to application of Microbiology and Enzyme Technology in Pulp and Paper industry.

For further information please contact

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Certificate No. TC-8658

PAPER & PAPER BOARD TESTING DIVISION

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

INTRODUCTION

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 (75 Nos.) 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.

FIBRE ANALYSIS SERVICES

- Identification of fibre from wood and non-wood fibrous species and analysis of different elements like fibre, vessel, parenchyma tissue and epidermal tissue etc.
- Fibre characterization like Fibre length, Fibre width, Cell wall thickness, Coarseness etc. of wood & non-wood and pulp fibres (e.g. general fibre characterization, external fibrillation)
- Mechanical pulp content in paper and paper board samples.
- Qualitative and quantitative fibre furnish analysis in pulp, paper board samples.
- Surface micrograph of wood, non-wood and pulp fibres (e.g. general fibre characterization, external fibrillation)
- Scanning electron microscopy of pulp, paper and paper borad samples.

TECHNICAL SERVICES OFFERED

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

CALIBRATION SERVICES

Facilities are available for performing Inter Laboratory calibration services of paper testing equipment's for R&D laboratories of paper mills and equipment manufactures.

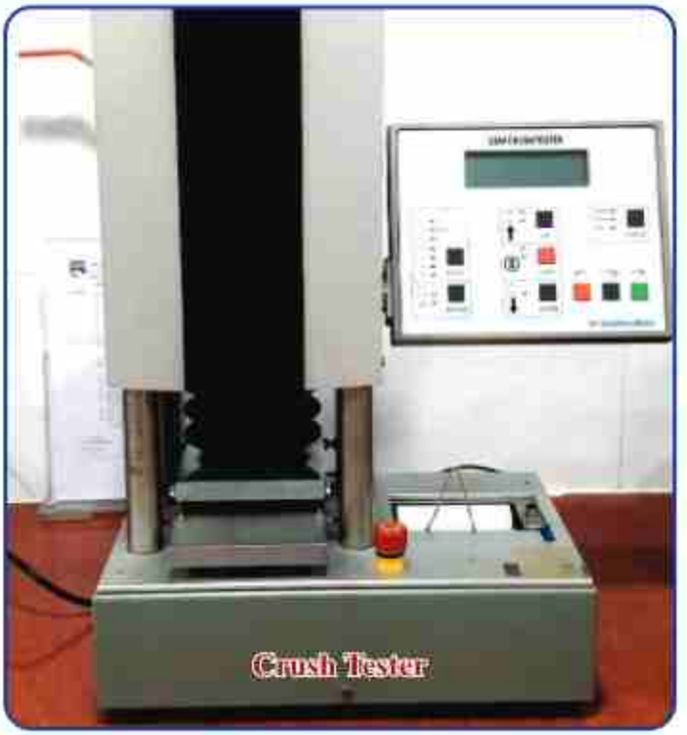
Tensile Tester

Microfluidizer LM20

PAPER AND PAPER BOARD TESTING SERVICE

Physical and Strength Properties	***For Paper :*** Grammage, Thickness, Bulk, Bursting Strength, Tearing Resistance, Tensile Strength, Zero Span Tensile Strength, Z-Direction Tensile Strength, Folding Endurance/ Double Fold No., Taber Stiffness, Bending Stiffness etc. ***For Paperboard :*** Compressive Strength (RCT, ECT, FCT, CMT, CLT, SQT, CCT), Puncture Resistance, Thickness, Bursting Strength, Tearing Tesistance etc.
Optical Properties	Brightness, Opacity, Yellowness, Fluorescence, Light Scattering and absorption co-efficient, Gloss, L*, a*, b* values.
Surface Properties	Bendtsen Smoothness/Roughness and Porosity, Gurley Smoothness and Porosity, Parket Print Surf (PPS) Roughness.
Compressive Strength Test	Short Span Compressive Strength (SCT), Ring Crush Test (RCT), Edge Crush test (ECT) of Corrugated Medium, Concora Crush Test (CCT), Concora Medium Test (CMT), Score Quality Test (SQT).
Co-efficient of Friction	Static and Kinetic
Water Absorption Test	Cobb Test, Contact Angle Test
Printability Test	• For Letter Press, Offset, Flexo and Gravure Printing using IGT Printability Test. • Print Density, Print Uniformity, Print Gloss, Picking Velocity. • Characterization of Paper and Board Surface by Surface Topography and PTS DOMAS analyser.
Surface Topography Analyser	Measures the Height Maps of Coated/Uncoated Surface, which are used to calculate the height variant in wave length clauses and height map to find the reasons for print defects using Opti Topo analyser.

Micrometer


Crush Tester

CONVERSION AND MOFIFICATION OF PAPER AND PAPER BOARD SERVICES

Application of Pigment Coating	• Pigment coating studies using DT Paper Sciences (Finland) pilot scale coater capable of running web in reel form equipped with application roll, blade/rod metering element, IR and Air Dryers with speed range of 0-30 mt/min & with reel deckle of 30 cms. • Laboratory Scale bar coater 'Zehntner' with variable speed and different profile of rods. • Static and dynamic coating slurry water absorption analysis.
Calendering	Pilot/laboratory scale calendar with both hard nip and soft nip facility, Equipped with facilities for varying pressure, Temperature and calendar speed.
Particle Size Analysis	Laser Scattering Technique (Horiba 910 LA) for determining the Particle Size of Coating Pigment, Fillers, Latexes, Dispersants etc. with range from 0.02 to 2000 microns.
Surface Sizing	• Pilot scale flooded Nip surface sizer (DT Paper Science) equipped with variable speed, temperature and coat weight. • Laboratory scale surface sizer by PTI with varying speed and roll nip pressure


Digital Puncture Tester


Concora Medium Tester

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National Accreditation Board for
Testing and Calibration Laboratories

NABL

CERTIFICATE OF ACCREDITATION

PAPER TESTING LABORATORY AND ENVIRONMENT MANAGEMENT DIVISION, CENTRAL PULP AND PAPER RESEARCH INSTITUTE

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR, UTTAR PRADESH, INDIA

in the field of

TESTING

Certificate Number: TC-8658

Issue Date: 19/09/2019 **Valid Until:** 18/09/2021*

*The validity is extended for one year up to 18.09.2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : CENTRAL PULP & PAPER RESEARCH INSTITUTE

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

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.
- These programmes have been conceptualized to update the knowledge and skill of the existing manpower of pulp and paper mills, facilitate improved interaction between Institute and industry as well as give an opportunity to the information personnel to obtain first hand information about the facilities and expertise of the Institute. These programmes also serve as a meeting ground to exchange varied practical experiences.

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. On confirmation requisite fee is required to be deposited in advance. 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 charges.

VENUE AND TIME

All STC, CTP & summer/ academic training courses will be held at CPPRI Saharanpur by way of lectures &practical exposures. OTPs involve the visit of CPPRI scientists to the mill site. All the programmes shall be organised on mutually convenient dates (as per the specific requirement of the individual/ sponsored organizations). Depending on the specific requirement of the individual/ organization / customer the duration of the programme / course contents/course fee may be amended.

INDUCTION TRAINING

Providing Mill specific tailor made process training to Graduate Engineer Trainee/Diploma Engineer Trainee/ITI Trainee of Mechanical/Chemical /Electrical /Pulp and Paper streams for their induction in pulp and paper mills.

SHORT TERM COURSES (STC)

TITLE OF COURSE	CODE	DURATION
Environmental management in pulp and Paper Industry	STC-1	One week
Black liquor testing	STC-2	One week
Biotechnology interventions in pulp & Paper Making Process - Bio-bleaching, Enzymatic Refining, Bio-deinking and Slime Control	STC-3	One week
Recycling of water, fiber (waste paper) and chemical etc.	STC-4	One week
Raw material handling, fiber morphology, pulping bleaching, optical properties	STC-5	One week
Quality evaluation & fiber analysis of pulps, different varieties of paper and paper board	STC-6	One week
Evaluation of pulp and properties of various grades of paper and paper board	STC-7	One week
Resources (Energy, Water and Fiber) conservation in pulp and paper industry	STC-8	One week
Recycled fiber processing for production of packaging, news print and writing / printing papers	STC-9	One week
Analysis of major pollution parameters in water & waste water	STC-10	One week

ONSITE TRAINING PROGRAMMES (OTP)

TITLE OF COURSE	CODE	DURATION
Training Programme on Raw Material handling, Fiber Morphology, pulping, Bleaching and Optical Properties	OTP-1	Two Days
Training Programme on laboratory evaluation of paper & paper board	OTP-2	Two Days
Training Programme on Wet End Chemistry & Refining	OTP-3	Two Days
Training Programme on Evaluation of pulp and Properties of Various Grades of Paper	OTP-4	Two Days
Training Programme on Chemical Recovery	OTP-5	Two Days
Training Programme on Steam & Condensate System	OTP-6	Two Days
Training Programme on Environmental Management in pulp and paper industry	OTP-7	Two Days
Training Programme on Energy Conservation	OTP-8	Two Days
Training Programme on Resource (Energy, Water and Fiber) Conservation in Pulp and Paper Industry	OTP-9	Two Days
Training Programme on Slime Control	OTP-10	Two Days
Training in RCF Processing, Deinking Operations and Bleaching of Recycled Fibre	OTP-11	Two Days
Training in Contaminants / Stickies Control & Paper Machine Deposit Control	OTP-12	Two Days
Training Programme on Potential of Biotechnological Intervention in Pulp & Paper Mill	OTP-13	Two Days

CONTACT TRAINING PROGRAMME (CTP)

TITLE OF COURSE	CODE	DURATION
Package course on identification of raw materials and fiber furnish and determination of fiber parameters (like length, width, diameter) in paper using projection/ optical scanning electron microscope	CTP-1	Four Days
Package course on chemical analysis of fibrous and non-fibrous raw materials, pulp viscosity and optical properties of pulp and paper	CTP-2	Four Days
Laboratory practices of pulping and bleaching for wood and non-wood fibrous materials	CTP-3	Four Days
Evaluation of pulps using different laboratory beaters/machines	CTP-4	Three Days
Quality assessment of different varieties of paper using different standard testing methods	CTP-5	Four Days
Evaluation of printing characteristics of paper and paper and paper board	CTP-6	Five Days
Spectrophotometric analysis of black liquor and calorific value estimation of black liquor, fuels and organic biomass	CTP-7	Three Days
Characterization and evaluation of sludge activity anaerobic bio-degradability of waste water and black liquor and characterization of effluent for pollution parameters	CTP-8	Four Days
Air pollution monitoring of particulate matter and gaseous emissions in stack and ambient air	CTP-9	Four Days
Operation of briquetting press and straw treatment plant (disk mill)	CTP-10	Two Days
Energy audit and energy management	CTP-11	Three Days
Chemical physical & thermal analysis of black liquor	CTP-12	Five Days
Estimation of elements in waste water using Flame photometer	CTP-13	Two Days
Estimation of various metal ions using Atomic Absorption Spectrophotometer	CTP-14	Three Days
Thermal Analysis of black liquoe using thermal analyser.	CTP-15	Two Days
Slime control programme in pulp & paper industry employing ecologically compatible slimicides.	CTP-16	Two Days
Evaluation of various lignolytic and xylancase enzymes for bio-pulping and bio-bleaching.	CTP-17	Two Days
Recycled fiber processing & deinking operation	CTP-18	Five Days
Stickies and paper machine deposit control.	CTP-19	Five Days
Contaminants and their control	CTP-20	Three Days
Wet end chemical additives and their application	CTP-21	Five Days
Bioethanol production from ligno cellulosic biomass	CTP-22	Three Days
Enzymatic Prebleaching of pulp	CTP-23	Three Days
Enzymatic Refining of pulp	CTP-24	Three Days
Microbiological analysis of paper and white water samples	CTP-25	Two Days

STC/CTP/OTP FEE

Course Code	Fee (in Rupees)	Fee (in US $)
All Short Term Courses (STC - 1 to STC - 10)	16,000/- per person	1600/- per person
All On Site Training Programmes* (OTP - 1 to OTP - 13)	30,000/- (One Day)	3000/- (One Day)
All Contact Training Programmes (CTP-1 to-CTP-25)	10,000/- per person for Two days	1000/- per person for Two days
	12,000/- per [erson for Three days	1200/- per person for three days
	14,000/- per person for Four days	1400/- per person for Four days
	16,000/- per person for Five days	1600/- per person for Five days

- ***GST will be charged @ 18.00% (or applicable) on Training fee for all the above training programmes***
- ****Travelling expenses of the faculty will be borne by the mills for On-site Training Programme (OTP).***
- ****Boarding & Lodging arrangement for the faculty will be borne by the mill.***


Certificate Distribution to Participant


Felicitation of Faculty

SUMMER/ACADEMIC TRAINING FEE

Academic Degree	Nature	Fee (in Rupees)					
		One Month	Two Month	Three Month	Four Month	Six Month	Twelve Month
B.Sc.	Individual	6,000/-	9,000/-	12,000/-	15,000/-	16,000/-	18,000/-
	Group (More than five students)	5,500/-	7,000/-	9,000/-	12,000/-	13,000/-	15,000/-
M.Sc./ B.Tech./ B.E.	Individual	7,500/-	11,000/-	15,000/-	18,000/-	19,000/-	20,000/-
	Group (More than five students)	6,500/-	8,000/-	11,000/-	15,000/-	16,000/-	18,000/-

GST will be charged @ 18.00% (or applicable) on Training fee for all the above training programmes


Feedback of Participant


Felicitation of Participant


Group Photograph


Faculty Delivering Lecture

ENROLMENT FORM

CENTRAL PULP & PAPER RESEARCH INSTITUTE, SAHARANPUR - 247001

TITLE OF THE COURSE _____

_____

COURSE CODE : _____

NAME OF PARTICIPANT : _____

POSITION / DESIGNATION : _____

QUALIFICATION : _____

MAILING ADDRESS : _____

_____

_____

NAME AND ADDRESS OF SPONSORING ORGANISATION : _____

_____

DETAILS OF THE PAYMENT : _____

_____

I agree to abide by the conditions of the course.

Signature of the Participant Date :

For further information please contact

Central Pulp & Paper Research Institute

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Ph. +91-132-2714059, 2714061, 2714062
Email id: director.cppri@gmail.com
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Base Office:
Officer-In-Charge
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Ph. +91-9910909169
Email id: cppri@yahoo.com

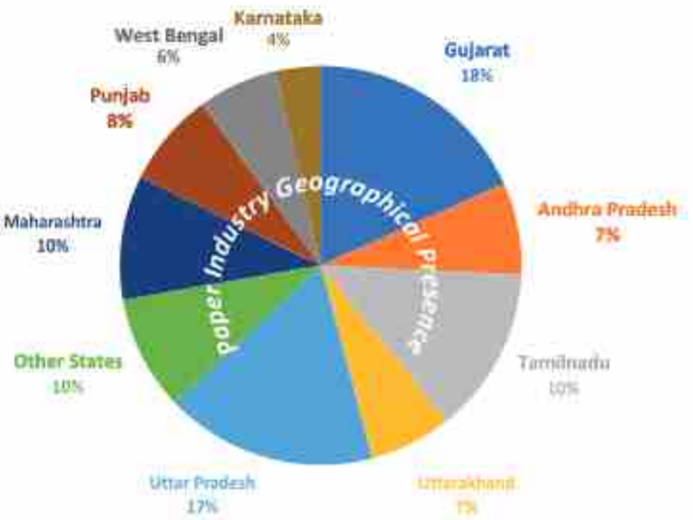
INDUSTRIAL COORDINATION, MARKETING, BUSINESS DEVELOPMENT & INTERNATIONAL COOPERATION (STATISTICAL CELL)

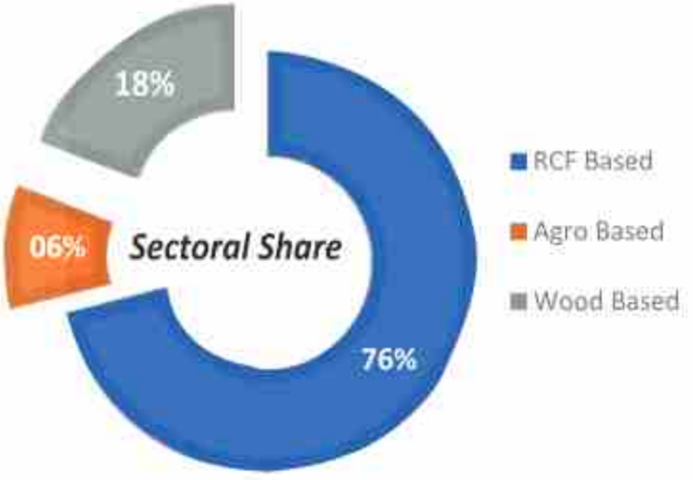
CORE SECRETARIAT

Core secretariat of Development Council for Pulp, Paper and Allied Industries (DCPPAI) functions out from the Base Office of CPPRI at New Delhi. The activities of the core secretariat are executed by the member secretary DCPPAI. The functionalities of the core secretariat are broadly classified as follows.

FUNCTIONALITIES

- Coordination of activities of DCPPAI by way of organizing meetings and management of grants.
- Coordination between DCPPAI and Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Paper Industry and other interest groups/ stakeholders.
- Dissemination of Statistical Data to DCPPAI and other stakeholders on need basis.
- Maintenance of a dedicated website of the Development Council covering information on the DCPPAI funded projects, RSC-DCPPAI committee meetings and other activities.
- Organization of interaction meets highlighting the achievements/outcome of the projects funded by Research Steering Committee of DCPPAI (RSC-DCPPAI).
- Maintenance of an online repository of final reports of the completed projects and its circulation to the members as well as the industry on need basis. this function is covered by placing the relevant information on the web site of DCPPAI.





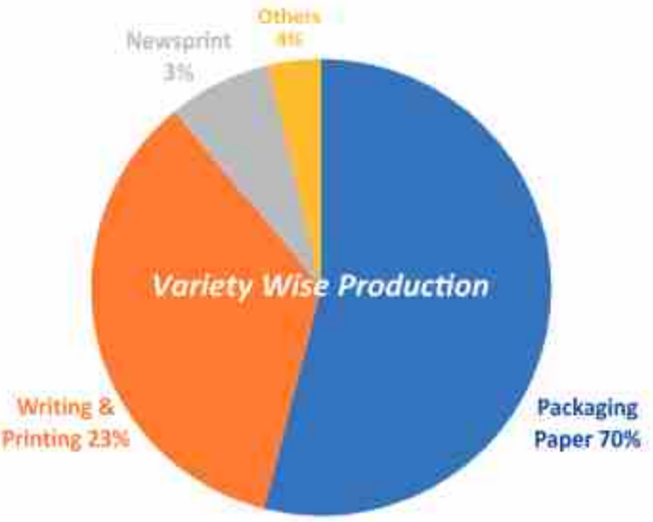
Major Clusters of Paper Making in India

Kashipur-UK | Muzaffarnagar-UP | Vapi & Morbi-Gujarat | Coimbatore - TN

STATISTICAL CELL

- A Statistical Cell has been set up which operates from funds allocated by DCPPAI under the Project "Census Survey of the Indian Paper Industry". The cell functions as a data collection and dissemination node for stakeholders.
- The Statistical Cell interacts with DPIIT, Industry Associations and other stakeholders by providing required data and interpretation inputs as required from time to time. The interactions involve providing inputs for trade negotiations, import/export appraisal and policy, input/output norms etc. The Cell also provide input for draft policy document on Allocation of Degraded Forests for Pulpwood Plantations as well as for PPO/QCO related to paper. Inputs are also provided for the study on import of stock lot under coated paper.
- The Statistical Cell has been actively involved with the Paper Industry Associations, Recyclers, Traders & Entrepreneurs and other stakeholders for establishment of Waste paper Recycling Program in India.

Production ~21.36 Million tons of Paper , Paperboard & Newsprint



ON GOING PROJECTS

- Census Survey of Indian Paper Industry
- Review of ITC HS codes for Printing & Writing papers (Awarded by DPIIT)
- Setting up of Waste Paper Recycling Promotion Centre (WPRPC)

CPPRI
e-Stat

e-Stat App Version 1.0

For further information please contact

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Azadi Ka Amrit Mahotsav

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An Autonomous Organisation under the Administrative Control of
Ministry of Commerce & Industry, Govt. of India

INFORMATION BROCHURE


LECTURE HALL
WOODY FIBROUS RAW MATERIAL
FOR PAPER MAKING

In Pursuit Of Cleaner Production, Resource Conversation & Quality Excellence In Pulp & Paper Industry

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