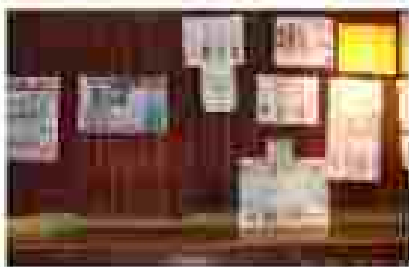
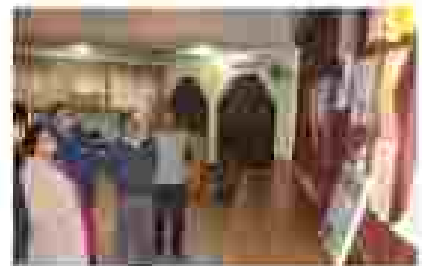
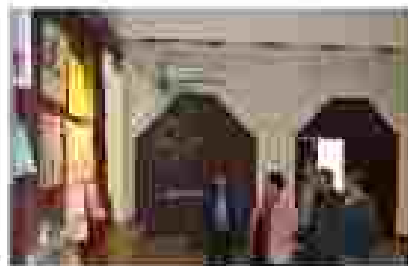
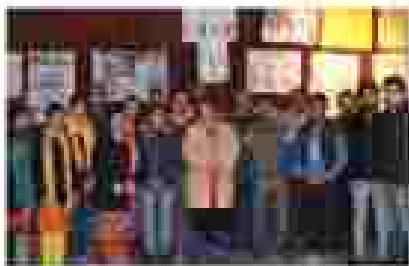
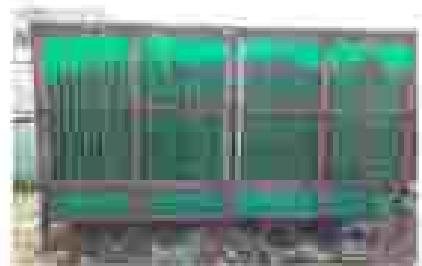
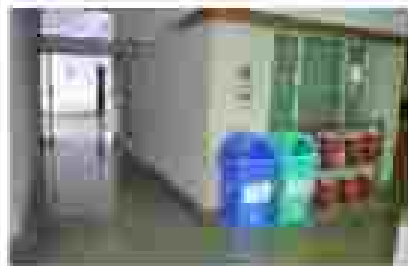
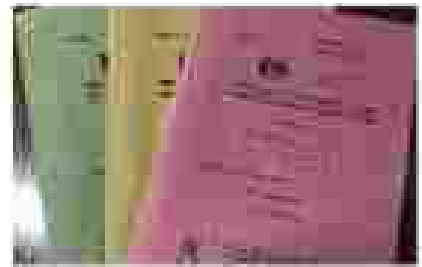
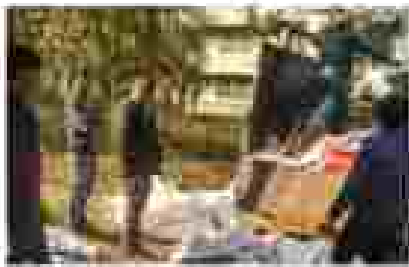
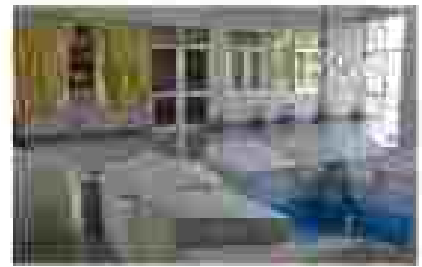
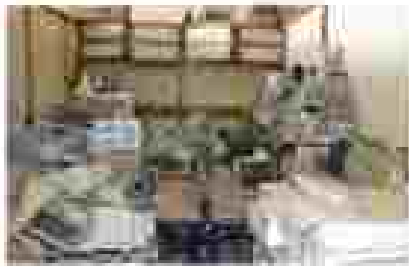


Central Pulp &
Paper Research Institute

Annual Report 
2016-17



ANNUAL REPORT

2016-17



Central Pulp & Paper Research Institute

An Autonomous Organisation registered under Societies Act under the Administrative Control of Ministry of Commerce & Industry, Department of Industrial Policy & Promotion, Government of India



CONTENTS

From Director In-charge's Desk	01
Status of Indian Paper Industry	04
Management	05
Major Achievements During 2016-17	12
R&D Activities	19
Swachh Bharat Mission - CPPRI Initiatives	35
Projects sponsored by Pulp, Paper & Allied Industries	37
Technical and Consultancy Services	40
Meetings During 2016-17	51
National and International Days observed by CPPRI	54
Training Programme Organized / Training Rendered	58
Participation in Seminar, Workshop & Training Programme	60
Papers Presented and Lectures Delivered	63
Representations in External Committees	65
Publications	67
Reports prepared	69
Overseas Visit	76
Visits to Pulp and Paper Mills & Other Organizations	78
Visitors to CPPRI	82
M.Sc (GPT)	86
Financial Report	89
Staff List	111



From the Director In-charge's Desk

It is my pleasure to present the progress and achievements of CPPRI during 2016-17 through this Annual report.

CPPRI felt blessed with the visit of **Shri Shailendra Singh, IAS, Joint Secretary (IPP)** in July 2016 followed by visit of **Dr. Vandana Kumar, IDAS, Joint Secretary (IPP), Ministry of Commerce & Industry, Govt. of India**. Both the dignitaries took keen interest in CPPRI activities and interacted with CPPRI staff.

I am pleased to inform that from this year, CPPRI proactively initiated process of implementation of various mechanism for **Management Information System (MIS)** and **e Governance**. To achieve this CPPRI is under process of implementing **Public Finance Mechanism System (PFMS)** to establish an efficient fund flow system and expenditure network. CPPRI has also enrolled on Government of India, e-procurement portal for publishing the tenders, enquiries, corrigendum and award of contract details. Further CPPRI has also started use of **e-granthalaya**, a web-based Library software developed by NIC to cater the users.

Under **UNIDO - ISID Project on Development and Adoption of Appropriate Technologies for Enhancing Productivity in the Paper and Pulp Sector**, the scientists of the institute visited prestigious research institutes of **Norway, Sweden and Belgium** to get exposure to latest trends in R&D specially in the area of nano cellulose, biorefinery, effluent treatment etc; management and working of research institutes, technological development in various areas of paper making adopted by pulp and paper industries in these countries.

I am pleased to inform that most of the XII plan projects have been successfully completed after achieving their objectives and quantified deliverables. The new project activities addressing the latest issues related to raw material upgradation, process operations, energy and environmental management have been formulated and submitted to Ministry for approval. The progress of Less Funded Projects has also been satisfactory.

CPPRI successfully assisted CPCH as third party in monitoring and implementation of the second phase of **Charter for Water Recycling and Pollution Prevention for Pulp and Paper Industries in**



Ganga River Basin. Further CPPRI has been awarded another study to monitor the environmental status of Grossly Polluting Industries in Ganga River Basin which include textile, chemical industries as well as slaughter houses.

A Memorandum of Understanding (MoU) between **CPPRI and Cochin Mineral & Rutile Limited** for joint collaborative studies was renewed for further 3 years as well as with **Forest Research Institute (Deemed University), Dehradun** for further 5 years for jointly conducting M.Sc (Cellulose & Paper Technology) course. CPPRI has also signed MoU with three other Universities namely **Banasthali, Amity and Uttarakhand** for academic and technical collaboration.

CPPRI successfully organised 16th Cess training programme on **Advances in Pulping, Bleaching and Paper Making** during 2016-17 as well as provided short term summer training to students from various universities/colleges.

Dedicated efforts made by the Institute in rendering technical, testing and consultancy services to various agencies has resulted in **Internal Revenue Generation (IRG)** of ₹ 230.52 Lacs during the year 2016-17.

With an objective to maintain corruption free and transparent work culture, CPPRI has been strictly complying with the directives of **Right to Information Act, Central Vigilance Commission and Ministry of Culture National Archives of India** etc. The **Hindi Cell** also continued its efforts for further increase in use of Hindi in official work. I am pleased to inform that in December 2016 CPPRI was chosen by **Ministry of Home Affairs, Government of India** to chair the **Nagar Raj Bhasha Karyanvan Samiti**. CPPRI shall soon be hosting the first meeting of this Samiti in April 2017.

Under **Swachh Bharat Programme** of Government of India, CPPRI is working proactively. CPPRI has collaborated with a NGO for conversion of the waste paper generated in the office into stationary for its office use. Further NGOs are being consulted to develop a sound garbage management system involving its recycling and reuse. Awareness drive on cleanliness was carried out in CPPRI residential colony. A poster competition was also organized for staff and students on management of various categories of solid waste. Separate colored bins for waste paper and other items have been provided at various locations in the institute and residential campus. Work is in progress for setting up a bio-composting plant in the institute for biocomposting of shed leaves and other degradable waste.

CPPRI as usual observed with great fervor national and other important days during the year like **Independence Day, Republic Day, World Environment Day, Hindi Diwas and Vigilance Awareness Week** etc., through organization of meetings and functions for creating awareness among the staff and their families on the related issues. In view of completing 70 years of Independence, the independence day was celebrated with lot of gaiety and enthusiasm. The institute was beautifully illuminated with electric lights in accordance with government directives.

CPPRI would like to place on record the guidance and encouragement extended by **Shri Amitabh Kant, IAS, Ex Secretary (IPP) and our present Secretary Shri Ramesh Abhishek, IAS, Ministry of Commerce & Industry, Govt. of India and President, Council of Association (CoA) of CPPRI.** The institute would also like to place on record the guidance and professional leadership provided by **Shri Shalendra Singh, IAS, Ex Joint Secretary (IPP) and our present Joint Secretary (IPP), Dr. Vandana Kumar IDAS, Ministry of Commerce & Industry, Govt. of India and Chairman, Cess Committee and Research Advisory Committee (RAC) of CPPRI.**

The valuable guidance and support extended by the Members of **Development Council for Pulp, Paper and Allied Industries (DCPPAI), Council of Association (CoA) of CPPRI and Research Advisory Committee (RAC) of CPPRI and Cess Committee** is also sincerely acknowledged.

CPPRI also thank **Indian Paper Manufacturers Association (IPMA), Indian Newsprint Manufacturers Association (INMA), Indian Agro and Recycled Paper Mills Association (IARPMA) and Indian Recycled Paper Mills Association (IRPMA), other regional mill associations** as well as all our valued clients from pulp, paper and allied industries for their continued support in various activities and projects being executed by CPPRI.

CPPRI strength lies in its experienced and dedicated scientific, technical and non technical staff who work as a team to serve the Pulp, Paper & Allied Industries. Their contribution in CPPRI progress is sincerely acknowledged.

Rita Tandon

STATUS OF INDIAN PULP & PAPER INDUSTRY

India continued to rein as one of the fastest growing paper market in the world. The growing knowledge base coupled with synergistic contributions from flagship schemes of the government, namely, Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Inclusive Education for the Disabled at Secondary School (IEDSS), Adult Education, Right to Education and Central Government Scholarship & Education Loan Scheme, assured a robust demand for paper and paper board. The industry was delicensed in July, 1997. As per the the present policy, FDI up to 100 per cent is allowed on the automatic route for the pulp and paper sector.

There are around 850(+) units which manufacture pulp, paper, paper board and newsprint with an installed capacity of nearly 25 million tonnes out of which 3.5 million tonnes are lying idle. The total operating capacity is around 21.50 million tonnes. In the year 2015-16 total capacity utilization stood at around 80 %. In 2015-16 total consumption of paper, paperboard and Newsprint stood at 19.35 million tons, which is 3% higher than 2014-15. The per capita consumption of paper in India is about 13 kg, which is much lower than world average (58 kg). The Indian paper industry is in a fragmented structure, consisting of small, medium and large paper mills having capacity ranging from 05 to 1500 tonnes per day. These units use wood and agro residues as well as recovered paper as raw material. The production share of these units is around 23%, 09% and 68% respectively.

Paper & Paperboard Segment: Indigenous paper and paper board segment produces all the main varieties of paper that are in demand in the market viz writing and printing (38%) packaging grade paper (53%), newsprint (0%) and speciality paper (<1 %). However, certain speciality paper such as coated paper, security papers and cheque paper, etc., are being imported in the country. The production of paper and paper board in the year 2015-16 stood at 17.33 million tonnes as compared to 17.03 million tonnes in the previous year (2014-15). During the year 2015-16, 1.48 million tons of paper and paper board was imported whereas in the previous year (2014-15) this figure stood at 1.36 million tons. On the other hand, about 0.97 million tons of paper and paper board was exported in the year 2015-16, up from a figure of 0.95 million tons in the year 2014-15.

Newsprint Segment: The newsprint sector in the country is governed by the Newsprint Control Order (NCO), 2004. The mills listed under the schedule of this order are exempt from excise duty, subject to actual user condition. At present, there are 123 mills registered under the Schedule to the NCO. However, only 64 are producing newsprint making the operating installed capacity 2.52 million tonnes per annum. 23 mills have closed operations since being listed in the NCO and 36 mills have discontinued the production of newsprint. The domestic production of newsprint fell from 1.24 million tons in 2014-15 to 1.02 million tons in year 2015-16. Nearly half of the newsprint demand in the country is met by imports. 1.50 million tons of newsprint was imported in 2015-16, which is higher from 1.33 million tons for the previous year. The export of newsprint from the country is negligible.

Note: The data indicated has been collected by CPPRI during the period April 2016 - March 2017.

MANAGEMENT

Council of Association (CoA)

- The Council of Association of Central Pulp & Paper Research Institute (CPPRI) is the supreme body consisting of 18 members having representation from Ministry of Commerce & Industry, Department of Science & Technology (DST), Council of Scientific and Industrial Research (CSIR), Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Technology (IIT), Roorkee etc. The President of Council of Association of CPPRI is appointed by Government of India. At present, Shri Ramesh Abhishek, IAS, Department of Industrial Policy and Promotion (IPP) is President CoA. Dr. Vandana Kumar IDAS, Joint Secretary, Ministry of Commerce and Industry (IPP) is also closely associated with the affairs of the Council.

Composition of the Council of Association	
President	Secretary to the Government of India, Ministry of Commerce & Industry (IPP)
Vice-President	Joint Secretary to the Government of India, Ministry of Commerce & Industry (IPP)
Member Secretary	Director, Central Pulp & Paper Research Institute
Members from Government	1
Members from Academic Institutions	1
Members from Scientific Institutions	2
Members from Paper Industry	10



MEMBERS OF COUNCIL OF ASSOCIATION OF CPPRI

PRESIDENT

1. **Shri Ramesh Abhishek, IAS**
Secretary,
Government of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
2. **Shri Shalendra Singh, IAS** (up to July 2016)
Dr. Vandana Kumar, IDAS (from July 2016 onwards)
Joint Secretary,
Government of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
3. **Director**
IF Wing - IPP
Govt of India
Ministry of Commerce & Industry,
Department of Industrial Policy & Promotion
4. **Chairman**
Development Council for Pulp, Paper and
Allied Industries
5. **Dr. G.S. Guraya**
Deputy Director General (Research)
Indian Council of Forestry Research and Education (ICFRE)
6. **Shri Ravinder Gaur**
Scientist D,
Department of Science & Technology
Ministry of Science & Technology
7. **Dr. S. Chandra Sekhar**
Director
Indian Institute of Chemical Technology
8. **Dr. V. S. Negi**
ICD
IFF Moolhosi (Saharanpur Campus)
9. **Dr. R. C. Rastogi**
President,
Indian Recycled Paper Mills Association (IRPMA)
and CMD- Khatima Fibres Limited

10. **Shri Pramod Agarwal**
President,
Indian Agro and Recycled Paper Mills Association (IARPMIA)
and CMD- Karna Paper Mills Limited
11. **Shri Satrajit Singh**
President,
Indian Paper Manufacturers Association (IPMA)
and Divisional Chief Executive, ITC Limited, PSPO
12. **Shri B. S. Patwari**
President,
Indian Newspaper Manufacturers Association (INMA)
and Executive Director - Emami Paper Mills Limited
13. **Shri Neehar Agarwal**
President,
Indian Pulp & Paper Technical Association (IIPTA) and
Senior Vice President Operations BILT
14. **Shri Kishan Khaitan**
Managing Director,
Wires & Fabrics (S.A.) Limited
15. **Shri S. K. Jain**
Chairman cum Managing Director,
Hindustan Paper Corporation Limited
16. **Shri Pradeep Dhotale**
ITC Limited - PSPO
17. **Shri Anil Kumar**
Executive Director and CEO,
Sreejans Industries Limited (Unit-Sirestans Papers)
18. **Dr R. K. Jain** (up to August 2016) **MEMBER SECRETARY**
Smt. Rita Tandon (From August 2016 onwards)
Director (In-charge),
Central Pulp & Paper Research Institute



Research Advisory Committee (RAC)

The Research Advisory Committee (RAC) of Central Pulp & Paper Research Institute (CPPRI) comprises of prominent scientists and technologists and also representatives from Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India, Deptt. of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Technology (IIT), Roorkee etc. The RAC monitors the progress of various Five Year Plan Projects of the Institute periodically. Dr. Vandana Kumar IDAS, Joint Secretary, Ministry of Commerce and Industry (IPP) is the Chairman of RAC at present.

Composition of the Research Advisory Committee	
Chairman	Joint Secretary (IP), Ministry of Commerce & Industry
Member Secretary	Director, Central Pulp & Paper Research Institute
Members from Government	3
Members from Academic Institutions	1
Members from Scientific Institutions	3
Members from Paper Industry and other organizations	10
Consultant / Technologists	1

MEMBERS OF RESEARCH ADVISORY COMMITTEE OF CPPRI

1. **Shri Shalendra Singh, IAS (up to July 2016) & Dr. Vandana Kumar, IAS (from July 2016 onwards)** **CHAIRMAN**
Joint Secretary,
Government of India, Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
2. **Ms. Sunita Yadav**
Director
IF Wing (IPP)
Government of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
3. **Mohd. Zakaria Khan Younsai**
Senior Development Officer (Egg)
Govt of India
Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
4. **Shri K.K.Sinha**
Industrial Advisor (IPP)
Government of India, Ministry of Commerce & Industry
Department of Industrial Policy & Promotion
5. **Shri S. K. Jain**
Chairman-cum- Managing Director
Hindustan Paper Corporation Ltd.
6. **Dr. V. S. Negi**
(OD)
IT – Bioshces (Sahasrabudh Campus)
7. **Shri P. S. Patwardi**
President,
Indian Newsprint Manufacturers Association (INMA)
and Executive Director - Eminent Paper Mills Limited
8. **Dr. R. C. Rautogi**
President,
Indian Recycled Paper Mills Association (IRPMA)
and CMD- Khaterma Papers Limited
9. **Dr. N.V. Satyanarayana**
Chief Scientist, and Head, Business Development
Indian Institute of Chemical Technology
10. **Shri R. Vardhan**
Consultant



11. **Shri Sandeep Bhatta**
General Manager (Development)
JK Papers Ltd.
12. **Dr. Sanjay Nathani**
Head (C and P Division)
Indian Institute of Wood Science & Technology
13. **Dr. A. B. Akolkar**
Member Secretary
Central Pollution Control Board
14. **Shri N.K. Jain**
Director
Valmet Technologies Co. Pvt. Limited
15. **Shri Neehar Agarwal**
President - Indian Pulp & Paper Technical Association (IPPTA) and
Senior Vice President Operations BILT
16. **Shri Pawan Agarwal**
Chairman Kosiass Gujarat Chamber of Commerce
and Industry (KGCCI - Paper Unit Chapter) and
IIM - Noida Group of Industries
17. **Dr. H.D. Kulkarni**
Vice President (Plantations)
TTC Ltd - PSPD
18. **Shri Tushar Shah**
Director
Damodar Ganga Group
19. **Shri Anil Kumar**
Executive Director and CEO
Shreeyam Industries Limited (Unit: Shreeyam Papers)
20. **Shri Pavan Khaitan**
Managing Director
Kosaitan Papers Limited
21. **Shri Arun G. Bijur**
Managing Director
SRMPC Limited
22. **Dr. R. K. Jain** (up to August 2016)
Smt. Rita Tandon (From August 2016 onwards)
Director (in-charge)
Central Pulp & Paper Research Institute

MEMBER SECRETARY

STAFF

- As on April 1, 2016, CPPRI's core team includes **Scientists (16), Technical Staff (23) and Administrative and Finance Staff (15)**. CPPRI staff is dedicatedly engaged in providing quality services, support and assistance to Pulp, Paper & Allied Industries. The scientific staff is highly qualified and have vast experience in various areas of paper making like **Raw Material Preparation, Pulping and Bleaching, Stock Preparation and Paper Making, Paper Testing, Chemical Recovery, Energy Conservation, Environmental Management, Biotechnology, Product Development, Quality Control etc.** The list of staff along with qualification is annexed with this report. In addition to permanent staff, Research Associates, Senior / Junior Research Fellows, Computer Assistants & Field Assistants are also recruited periodically on temporary basis under various projects.



MAJOR ACHIEVEMENTS DURING 2016-17

The major achievements of CPPRI during 2016-17 are summarised as under:

Implementation of Various Mechanism for Management Information System (MIS) and e Governance

- Implementation of **Public Finance Mechanism System (PFMS)** in the institute to establish an efficient fund flow system and expenditure network.
- Enrollment on Government of India, **e-procurement portal** for publishing the Tender, Enquiries, Corrigendum and Award of Contract details.
- The **e-granthalaya** is being used by CPPRI which is web based Library software, developed by NIC to cater service to the users.

Evaluation of Paper Making Potential of Alternate Fibrous Raw Materials

- Preliminary studies carried out with various non conventional / alternate raw materials like lantana camara, pine needle hard wood, melia dubia etc. have indicated good paper making potential of these raw materials.

Pulping and Bleaching

- Successful pilot scale trials on selective oxygen bleaching were conducted at Seshasayee Paper & Boards Limited, Erode.

Setting up of Paper Board & Special Paper Testing Facilities

- Creation of data base on characteristic of different commercial samples of liners and mediums.
- Installation of new equipments - Burst tester, Micrometer and Concora medium tester.

Paper making

- Concept of charge measurement was developed to assess the performance of wet end with respect to First Pass Retention of fiber, filler & fines.
- Successfully conducted studies profiling in a large integrated pulp and paper mill.

Environmental Management

- Assistance to pulp & paper mills in Ganga River Basin in implementation of Charter for Water Recycling & Pollution Prevention in Pulp & Paper Industries of Ganga River Basin.

- Assisting CPCB in verifying the progress of implementation of Charter for Water Recycling & Pollution Prevention in Pulp and Paper Industries of Ganga River Basin in various mills on regular basis.
- Feasibility study of zero liquid discharge in a RCF based pulp and paper mill producing kraft paper.

Chemical Recovery

- Successful pilot scale trials on improving chemical recovery and energy efficiency through liquor heat treatment and desilication of agro based liquor were carried out at KR Pulp & Papers Limited, Shahjahanpur, Uttar Pradesh and Century Pulp & Paper, Loham, Uttarakhand.



Pilot scale Trials of Liquor Heat Treatment at Mill Site

Training / Skill Development

- 16th Cess training Programme on **Advances in Pulping, Bleaching and Papermaking** was organised at CPPRI from February 21-22, 2017.
- 6 CPPRI scientists / technical officers attended a training programme on **e-procurement** at National Institute of Finance Management, Faridabad.

Biotechnology Applications

Successful mill scale trials were conducted on:

- Enzymatic refining of currency waste at Rama Shyama Paper Mills Limited, Bareilly, Uttar Pradesh.

- Enzymatic refining on imported waste paper at Tirupati Balaji Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.

Statistical Cell

- The Statistical Cell housed in the base office has emerged as a prominent resource of data pertaining to the Pulp & Paper sector. In line of requirement from various stake holders and interest groups, data was provided with the requisite formatting and compilation.
- In this reference, core analysis of trade was performed and provided to DIPP/DoC. In order to contribute to trade negotiation being carried out by India under various free trade agreements. Significant inputs were provided under RCEP negotiations, India-EFTA, India - Korea, India - Singapore, India -Mauritius, India -ASEAN to name a few.

Technical and Consultancy Services

- Technical and consultancy services were rendered to various pulp and paper mills and allied industries, technology and chemical suppliers by way of evaluation of raw materials, pulp and paper samples, pulping additives, deinking chemicals, sizing chemicals, stickies control agents, evaluation of suitability of newer grades of imported waste paper, characterization and analysis of various fibrous and non-fibrous raw materials, environmental samples as well as providing assistance in trouble shooting, adequacy assessment, performance evaluation of various process operations, effluent treatment plant and pollution control equipments leading to internal revenue generation of around ₹ 230.52 Lacs.

Contract Agreement / MoU Signed

- A MoU was renewed between CPPRI and Cochin Minerals & Rutile Limited for joint collaborative technical and consultancy services.



Signing of MoU between CPPRI and Cochin Minerals & Rutile Limited

- A MoU was further renewed between **Forest Research Institute (Deemed University)** and **CPRI** for conducting M.Sc (Cellulose & Paper Technology) course jointly .
- A MoU was signed with **Banasthali University, Rajasthan** for academic interaction and training of students .
- A MoU with was signed with **Uttaranchal University, Dehradun** for collaboration in the area of Chemistry, Environment, Biotechnology and Biofuels
- A MoU with was signed **Amity University, Uttar Pradesh** to facilitate advancement of knowledge on the basis reciprocity, utilization of the resources, mutual benefits and purposeful interactions

Research Papers Published

- 21 research papers were published in various journals during 2016-17.

Reports Prepared

- 183 Technical / Consultancy reports were prepared during 2016 -17.

Infrastructure Development / Capacity Building

- Upgradation of infrastructure and facilities through purchase of :



RCL Type Automated Sheet Former



AOX Analyzer



Double Distillation Unit



PFI Mill



Kjeldahl Steam Distillation Unit



Sheet Press



COD Digester



Bursting Strength Tester for Board



Pilot Scale Centrifugal Washer



Thickness Tester for Board



Tear Tester for Board



Fume Hood

RECEIPTS & EXPENDITURE

During the year 2016-17, total receipts of the Institute were ₹ 1954.97 Lacs and total expenditure was ₹ 1356.99 Lacs (i.e. revenue expenditure ₹ 1282.70 Lacs + capital expenditure ₹ 104.29 Lacs).

Following are the broad heading of income & expenditure of the Institute during the year under review:

S. No.	INCOME	₹ in Lacs	S. No.	EXPENDITURE	₹ in Lacs
1.	Balance as on 1.4.2016	666.75	A.	REVENUE EXPENDITURE	
2.a.	Grants from Ministry of Commerce & Industry, DIPR, Govt. of India.	250.00	1.	Salary & Allowances	902.08
b.	Base level support through Development Council for pulp, paper & allied industries.	690.00	2.	Plant & Lab Maintenance	46.07
c.	Grants received from Development Council for pulp, paper & allied industries for Cost funded projects/Coord Secretariat.	117.70			
d.	Sponsored project from Principal Scientific Advisor Govt.	25.00			
3.	Testing fees	104.08	3.	Electricity charges	78.72
4.	Consultancy fees / Membership fee	44.70	4.	Repair of Assets	61.15
5.	Training Fees/M.Sc. Fees	10.75	5.	Miscellaneous	164.68
6.	Miscellaneous receipts	46.59	B.	CAPITAL EXPENDITURE	104.29
	TOTAL	1954.97	C.	BALANCE WITH CPPRI	597.98
				TOTAL	1954.97

Internal Revenue Generation

CPPRI in its endeavour to become self-reliant continued to make concerted efforts to generate internal revenue through rendering of technical and consultancy services to pulp, paper and allied industries. The efforts have translated into generation of internal revenue worth ₹ 230.52 Lacs during the financial year 2016 - 17.

R&D ACTIVITIES

(A) 12th Five Year Plan Research Schemes

(a) Raw Material and Product Development

L Utilization of Rice Straw and other Non Conventional Raw Materials for Production of Various Grades of Pulp

Objective

- Identification of papermaking potential of cellulosic raw materials viz. rice straw, jute, banana fiber, coconut fiber, areca nut husk and other locally available grasses and production of different grades of pulp to supplement shortage of raw material in Indian paper industry.

Highlights

Studies on evaluation of paper making potential of various cellulosic raw material like *Rice Straw, Lantana Camara, Mella dubia, Pine Needle and Coir Fibers* were carried out as under:

Utilization of Rice Straw for Paper Making

- Two stage pulping of rice straw was carried out to obtain low kappa number with improved pulp yield.
- Pulping of rice straw was also carried out by mixing rice straw with wheat straw and bagasse in different ratios to facilitate utilization of rice straw in existing process conditions without altering the routine pulping and bleaching operations.
- High yield pulping of rice straw with low chemical cooking and mild mechanical treatment and blending of the pulp with recycled fiber pulp was also carried out.
- Utilization of rice straw as an alternate fibrous source will help in saving of chemicals, wood based fibrous raw material, cost involved in procurement of wood with additional advantages of saving of forest based raw material.
- The findings on utilization of rice straw for value addition will support the farmers to sell rice straw instead of burning in the field, which now a days is a serious environmental issue.

Evaluation of Alternate Raw Materials for Paper Making

- Lab scale studies carried out on paper making potential of palm oil empty fruit bunches, coconut coir and jute core were upscaled to pilot scale. The studies indicate that Coconut

coir pulp) can be used as reinforced fiber along with recycled fiber in different ratios for production of packaging grade paper or fiber board.

- Availability of technology for utilization of alternate raw materials viz jute core, tobacco stem, coconut coir, Melia dubia, palm oil empty fruit bunches, lantana, pine, needle etc. will help in supplementing the fibrous raw material requirement for paper making.
- Other products like bio-char and dietary fibers were also prepared from different raw materials.
- The project is complete and report preparation is under progress.

II. New Approaches in Processing and Paper Making of Recycled Fibre to Improve the Quality of End Product

Objective

- To improve the quality of recycled paper products such as packaging paper, newsprint and tissue paper employing selective approach i.e. dry and wet strength improvement of packaging paper, brightness and yield improvement of newsprint and softness improvement of tissue paper.

Highlights

Development of Concept based on Charge Measurement for Wet End Optimization

- The concept of charge measurement was developed to assess the performance of wet end with respect to First Pass Retention of fiber, filler and fines. The concept was based on measurement of electrokinetic properties of the wet end chemicals and the pulp stock and sequence of addition to characterize and optimize the wet end papermaking. Industrial application of the concept was carried out at four integrated pulp and paper mills to improve the retention efficiency of wet end chemicals, fillers and fines so as to achieve the desired paper properties in terms of Cobb, scattering coefficient, opacity and formation.

Stickies Profiling in a Paperboard Mill

- As a part of project activity, stickies profiling was carried out in a paperboard mill. Samples were collected from various locations to conduct the stickies profiling across the process line. Pulp samples were collected in two fractions i.e. +100 μ fraction and -100 μ fraction after being sieved through a 100 μ sieve. The +100 μ fraction was fibrous fraction whereas -100 μ fraction contained water filtrate inclusive of fibre fines, fillers and dissolved colloidal matter. The results shows an overall reduction of around 87% in

terms of both macrostickies counts and area from H.C pulper to head box. However, there has been fluctuating trend in macrostickies counts which shows the tendency of agglomeration within the system. Although part of the macrostickies are out of the system through reject stream, still there is a scope for reduction. The turbidity, microstickies (<100µm - >10µm) and colloidal stickies (<10µm) concentration in the process back water was estimated through solvent extraction method. The results reveal that there has been an overall increase in concentration of Macro/ Micro/ Colloidal stickies within the system which is exceptionally high. This is a clear indication that the system is plagued with stickies accumulation.

Repulpability and Papermaking Potential of Used Beverage Carton (Thailand) in Comparison to Ban OCC and American OCC.

- The studies conducted to establish the feasibility of repulping and papermaking potential of Used Beverage Cartons (UBC) received from Thailand has revealed that the raw material is suitable for recycling and is a good source of recycled fibre.
- The UBC is easily slushable at ambient temperature with medium (8-10%) & high consistency (15-18%) hydrapulper. No chemical is required during repulping. The recovered fibre yield is around 60% as against >90% for AOCC and IOCC which is mainly due to presence of plastic and aluminum lamination. Despite of its low yield, the fibre quality is better than IOCC and at par with AOCC. There is a potential to use this raw material in blended raw material furnish to manufacture packaging grades of paper and boards. The fibre in its present form is well suited to manufacture media kraft, liner kraft and liner boards.

(b) Energy Conservation and Environmental Management

L. Incremental Capacity Enhancement and Improved Efficiency of Conventional Chemical Recovery System in Wood and Non-Wood Based Paper Mills

Objective

- Marginal expansion of existing chemical recovery system with minimum capital cost involvement to assist mills in handling excess black liquor generated due to adoption of oxygen delignification or marginal expansion in pulp mill capacity.

Highlights

- Chemical recovery adequacy studies were conducted for agro-based and wood based chemical recovery systems.
- Studies carried out on liquor heat treatment to improve rheological and combustion

behavior of black liquor were conducted at lab scale and pilot plant scale at various mills.

- Studies conducted on lignin separation from black liquor for marginal capacity expansion of existing recovery boiler capacity.
- Blending of black liquor with lignin removal process filtrate was carried out to optimize black liquor and filtrate ratio for maximum capacity expansion of recovery boiler.
- The project is now complete and report preparation is under progress.

II. Implementation of Enzyme Applications in Pulp and Paper Industry

Objective

- To implement the biotechnological applications in Pulp and Paper Industry to pursue the clean and green technology and address the issues related to energy conservation, quality up-gradation and environmental improvement.

Highlights

Development of Indigenous Capabilities for Production of Various Enzymes and Implementation of these Enzymes in Indian Paper Industry.

- In connection with development of indigenous enzymes, optimization of fungal isolate for production of enzyme of high titer via Solid State Fermentation (SSF) was carried out. Laccase enzyme having 1100 - 1150 IU/ml was produced under optimized conditions of pH 5.5, temperature 30 °C & wheat bran as carbon source. Under optimized conditions, mass production of fungal Laccase by SSF was done and used as biotechnological tool in bio-bleaching of mixed hard-wood pulp. Brightness gain was achieved by Laccase enzyme upto 1-1.5 unit. Reduction in bleached chemicals in the range of 15-20% was achieved.

Bioremediation of Pulp and Paper Mill Effluent

- Seven new bacterial isolates were isolated from secondary sludge of different pulp and paper mill. Two bacterial isolates indicated better reduction efficiency in terms of pollution parameters viz; COD 65-75%, Colour 35-40%, Lignin 30-35% and BOD 90-95%. Acclimatization work of selected isolates is under process for pilot scale trial of bioremediation studies.

Bio-ethanol Production from Ligno-Cellulosic Biomass

- Preliminary studies on isolation and identification of bacterial strains for glucose fermentation with the objective of bio-ethanol production from ligno-cellulosic biomass

were carried out. Two thermophilic bacteria were isolated and their optimization work in terms of sugar concentration, temperature, pH and retention time is under progress.

III. **Water Conservation through Application of Kidney Technologies in Indian Pulp and Paper Industry**

Objective

- To reduce fresh water consumption in pulp and paper mills by increased reuse and recycling of back water / treated effluent through application of kidney technologies.

Highlights

- ETP adequacy assessment of 5 & ETP performance evaluation of 7 agro / RCF based Pulp and Paper mills were carried out. Detailed reports with recommendations and suggestions for improving the performance of ETP was submitted to the mill.
- Feasibility of ZLD status studied at 3 RCF based mills producing kraft paper.
- Experimental studies on color removal in pulp and paper mill effluent using bench top hollow membrane filtration unit were carried out by employing ultra & nano membranes with different molecular cut off limits.
- Water audit of one integrated Pulp & Paper Mill was carried out.

C. **Infrastructure Development and Capacity Building Activities**

L. **Setting up of Paper Board and Speciality Paper Testing Facilities at CPPRI**

Objective

- To develop complete facilities of the testing of paper board and speciality paper for benefit of manufacturers of paper board / corrugated board cartons and speciality paper.

Highlights

- New instruments like burst tester, micrometer and concave medium tester were installed and commissioned in newly established paper board and speciality paper testing laboratory of CPPRI.
- Procurement process for other instruments like micrometer, box compression tester etc is under progress.
- Testing of different commercial samples of liner and medium kraft for various properties is under progress.

II. Modernisation of CPPRI Library

Objective

- Modernization of library by initiating application of ICT (Information Communication and Technology) in the library, strengthening of library to provide good quality services to user community, digital preservation of past records for future use and to develop an effective information network between CPPRI and Indian Paper Industry.

Highlights

Library Management

- CPPRI Library adopted new Library Management Software e-Granthalaya: A Digital Agenda for Library Automation and Networking developed by National Informatics Centre (NIC), Ministry of Electronics and Information Technology, Government of India.

Compilation

- Three issues of Current Awareness Services (CAS) and Table of Content (TOC) for the period of 2016-2017 compiled.

New Arrivals

- 83 (Eighty three) new books on different subject areas of pulp & paper and 60 (Sixty) BIS standards.
- Two new periodicals Nordic Pulp & Paper Research Journal (NPPR) and Pulp and Paper Times are subscribed in CPPRI Library.

Infrastructure Up gradation

- Two barcode scanners were purchased for issue and return of books.

Printing coordination

- English and Hindi versions of Annual Report 2015-2016 and quarterly News Bulletin.

III. Strengthening of Training and Human Resource Development (HRD) Infrastructure in Pulp, Paper & Allied Industries

Objective

- To create infrastructure facilities for imparting training to the technical manpower of pulp, paper and allied industries across the country on sustainable basis.

Highlights

- Provided logistic support in organisation of Cess training programme on Advances in Pulping, Bleaching and Paper Making
- Facilitation of audio - visual aid for conducting M.Sc (Cellulose and Paper Technology) classes at CPPRI.

IV. Infrastructure and Capacity Building (Infrastructure for Civil / Electrical / Mechanical / Information Technology and Maintenance of R&D Facilities at CPPRI)

Objective

To upgrade the infrastructure and support systems (Electrical / Mechanical / Civil / Information Technology) in the Institute in order to ensure smooth functioning of the R&D activities and support services.

Highlights

- Provided logistic support in facilitating pilot plant trials at CPPRI under various sponsored projects
- Repairing and maintenance of lab equipments, pilot plant equipments, boiler, horticulture, DG sets, Institute infrastructure etc.
- Laying of new pipe lines for water supply to residential colony from institute's borewell.
- Coordination of transportation services and communication services
- Horticulture and plantation activities
- Purchase of RO based water cooler and AMC for EPBAX system 3 water purification units

(B) Cess Funded Projects

I. Census Survey of the Indian Paper Industry

Objective of the Project:

- To enumerate the basic primary data of the Indian paper Industry, such as consumption pattern, installed capacity, number of pulp and paper mills, imports and exports, demand and supply gap etc.
- The data base generated will form the basis for future planning and in policy framework pattern of the government.

Highlights

- CPPRI has been executing the above project, funded by the Cess grants of the DCPPAL. A comprehensive exercise was carried out in collection of data of varied enumerations covering the operating environment of the sector. The findings of the project were published in the form of a report in 2015, under the title "Compendium of Census Survey of the Indian Paper Industry".
- As per the original mandate of the project, after the main Census exercise, CPPRI was required to update the data base on a continuous basis, for which dedicated allocations were made under the Cess funds. At the time of publishing of the above said compendium, CPPRI had a list of 178 mills, for which data was not available/not verified. Under the period of reporting, this list was reduced to 99, as data could be authenticated/verified for 79 units, which were then classified as per their present status. Further, the exercise of collection of primary data from mills via survey tours by staff and interaction with regional associations/identified mills was continued for the purpose of data updation. Likewise, continuous secondary data mining was carried out using varied sources such as company annual reports, company web sites, financial websites (stock portals), survey of relevant publications, database/data sets of DICE, DoC(DGFT), MoSPI, FAO etc.
- The data so collected was processed to understand the market dynamics, update unit based information and enumerate the key statistical parameters. Based on the work carried out, a brief of the sector was made for the period under reporting, which has been published elsewhere in the annual report.
- This work is of a continuous nature and hence, the updation process is on at present also. A reference document will be drawn up in the near future for ready reference of the stakeholders and interest groups.

II Improvement in Selectivity of Oxygen Bleaching (Joint Project of IPMA-SPH-ACIRD-CPPRI)

Objective of the Project

- To optimise the conditions and explore additives for oxygen delignification of different indigenous raw materials with the objective to reduce cellulose degradation, pulp shrinkage during oxygen delignification stage and to perform plant scale trial using optimized conditions with identified additive.

Highlights

- Based on the laboratory results, pilot scale trial using commercial grade magnesium hydroxide in BSW-3 repulper conveyer (oxygen bleaching stage inlet) was carried out at Seshayee Paper and Boards Limited, Erode, Tamil Nadu.
- DlpiD bleaching sequence was followed after ODI. Comparative trials indicated gain of 1 point in final pulp brightness and viscosity by 1 sp after addition of $Mg(OH)_2$ in comparison to controlled one.



Pilot Scale Trials at Seshayee Paper & Boards Limited, Tamil Nadu.

III Pilot Scale Studies on Efficient Depithing of Bagasse: A Process Developed by CPPRI (Joint Project CPPRI-IARPMA)

Objective of the Project

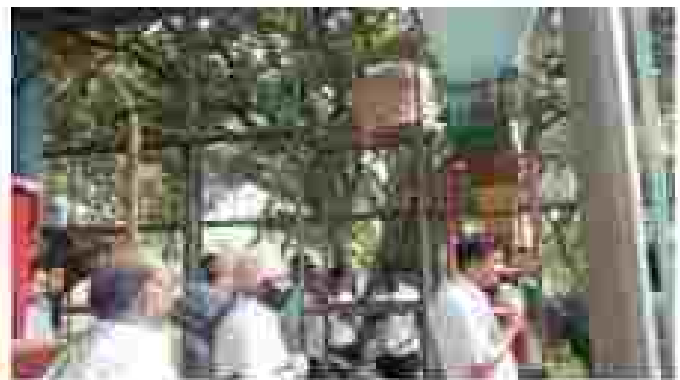
- To develop and design depithing equipment for efficient depithing of bagasse based on technology developed by CPPRI in order to help the paper industry to get high fibre content and to enhance the paper quality from bagasse.

Highlights

- A pre bid meeting was organised in CPPRI to discuss design, drawing, fabrication and complete installation (including all mechanical, electrical and control system) of pilot scale depitching plant.
- Operation of the existing depitching pilot plant was demonstrated before various bidders.
- A tender has been floated to upgrade the existing experimental depitching unit available at CPPRI by redesigning and fabrication of feeding and separation system of the existing depitching unit at CPPRI.



Pre bid meeting under Progress



Demonstration of depitching pilot plant in CPPRI

IV. Achievement of Highest Brightness and Whiteness in Paper in a Cost Effective Manner through Selective Addition of OWA at Wet-end and Size Press (Joint Project of IPMA - TNPL - ACIRD - CPPRI)

Objective of the Project

To provide a scientific base for understanding the interaction chemistry of OWA with different types of cellulosic fibers and wet-end chemicals, and to help paper industry in selection of appropriate OWA for wet-end and size press with an added advantage of improvement in optical properties and reduction in cost.

Highlights

- Preliminary lab studies for the plant scale trials for wood based and agro based paper mills were completed.
- Plant scale trials were conducted in BILT (Unit Shree Gopal), Yamuna Nagar for wood based paper mill and in Satia Industries Limited, Muktsar for agro based paper mill.
- Project is now complete

V. Increase in Brightness Ceiling of Agro Residue Pulps in Cost Effective Manner Specifically for Wheat Straw (Joint Project of IAR/PMA-ACIRD-CPPRI)

Objective of the Project

- To study the reasons for low brightness development in agro residue pulp and carry out research on producing + 85 % ISO brightness pulp from Indian agro residues specifically wheat straw in a cost effective manner.

Highlights

- Successful Plant Scale Trials were carried out under optimized conditions with identified hydrogen based activators at Shreyans Industries Limited (Unit: Shree Rishabh Papers) at Batah, Nawanshahar (Punjab).
- The project is now complete.

VI. Bio-chemical Abatement of Pollution Load in Waste Water to Meet the Future Stringent Norms for Agro based Pulp and Paper Mills. (Joint Project of IAR/PMA-ACIRD-CPPRI)

Objective of the Project

- Improvement in the biological treatment by augmentation of attached growth of organisms and/or dispersed nature of efficient organisms and development of techno-economical process for removal of ROM with coagulants and flocculants.

Highlights

- Studies were carried out for sludge activation required for biological treatment in continuous laboratory reactor.
- Collection of the wastewater from sectional streams and effluent treatment plant of agro based pulp and paper mills and characterisation for different parameters.
- Time to time, the effluent is being collected from an agro based pulp & paper mill and is being characterized after each collection.
- Studies on chemical treatment with coagulant and flocculent of treated effluent as well as selected streams.
- Studies on biological treatment with pre and post chemical treatment (efficient coagulant/ flocculant).
- The treatment with ozone and hydrogen peroxide are under progress.

VII. Continuing Education (Training Programme) for Technical Personnel in Pulp and Paper Industry (CPPRI)

Objective

- To update the knowledge of technical personnel of Indian Paper Industry which will enable them to utilize the resources, equipment and unit processes to the optimum level.

Highlights

- Under the Project 16th CESS training programme on "Advances in Pulping, Bleaching and Paper Making" was conducted at CPPRI Saharanpur on February 21-22, 2017. Around 42 participants from 25 Pulp and Paper Mills attended the training programme.



Group of 16th CESS training programme

VIII. Development of Protocol for Deposit Control in RCF Based Mills for Better Machine Runnability (Joint Project of INMA and CPPRI)

Objective

- To develop/ establish a methodology for measurement of Dissolved Colloidal Matters (DCM) to control deposition on paper machine and to study the affect of variation such as water hardness, furnish blends, paper making chemistry, white water clarity etc. on paper machine deposition.

Highlights

- Total Organic Carbon (TOC) Analyser was purchased & installed successfully and laboratory studies were conducted on head box and machine back water samples collected from a pulp and paper mill for development of correlation between TOC and COD in relation to machine runnability issues.

- Samples were collected and characterized for different parameters viz. COD, TOC, charge, charge demand, TDS, turbidity, conductivity.
- Computations of results are under progress.
- Studies on validation of methodology for prediction of pitch and deposit control is under progress.

New Cess Projects

IX. Capacity Building and Upgradation of Infra-structure for Inter Laboratory Comparison / Calibration of Paper Testing facilities (CPPRI)

Objective

- Inter laboratory comparison of paper testing facilities for pulp and paper mills to avoid quality related problems.
- Upgradation of CPPRI testing facilities in the field of paper testing to match international norms.

Highlights

- Under the project, CPPRI with its state of art paper testing laboratory, with calibrated and standardised equipment to test the paper samples under reliable standard conditions has initiated a comparative calibration and inter laboratory comparison program for Indian Paper Industry to evaluate the reliability of paper testing equipment at quality control laboratories at different paper mills vis-a vis the CPPRI paper testing laboratory.
- This exercise will help to build up and maintain mutual confidence between the laboratories and ascertain the efficiency and sufficiency of testing equipment and test methods used by different laboratories.

X. Study on Preparation of Cellulose Micro/ Nano Fibrils and their Potential in Paper Making (Joint Project of IPMA-ACIRD-CPPRI)

Objective

- Infrastructure development for nano cellulose (MFC / NFC) preparation.
- Lab scale production of cellulose micro / nano fibrils through Homogenization Process.
- Characterization of prepared cellulose micro / nano fibrils.
- Evaluation of their potential for various application in paper making such as increased

filler content, improvement in strength, refining energy reduction, improved paper quality etc.

Highlights

- Literature review on the subject matter.
- Point of addition of MEC/NFC and filler was optimized.
- Experiments with MEC/NFC for ash improvement at 15, 20, 25% level using PCC as filler are under progress.

XI. Research on Wood Quality and Physical Properties of Pulp Wood Fibres as the basis for Development on Eucalyptus and Subabul Plantations (Joint Project of CPPRI and PAPRI)

Objective of the Project

- To establish optimum harvesting age of plantation and assess wood quality & fibre quality of 25 promising eucalyptus and 2 subabul clones through detailed proximate analysis and chemical requirement in pulping process.

Highlight

- Proximate analysis of 25 nos. of wood samples (eucalyptus and subabul) were received from Pulp and Paper Research Institute (PAPRI) (Jajkaypur Dist. Rayagada, Odisha) is under progress at CPPRI while their analysis for pulping, bleaching, pulp yield and pulp viscosity is under progress at PAPRI.

XII. Utilization of Lignin By-Product from Paper Industry in Rubber Industry (Joint Project of CPPRI & IRMBA)

Objective

- To explore the utilization of lignin obtained as a byproduct from the paper industry from different sources like agro and wood based mills for conversion into value added product for rubber industry.
- To improve the environmental status by way of providing a green product as well as to improve the economics of the paper and rubber industry.

Highlights

- Collection of black liquor and lignin samples from mill.
- Separation of lignin from collected black liquor samples.
- Physico-chemical characterization of black liquor and lignin samples.

- Evaluation of potential of utilization of lignin in Styrene butadiene Rubber by IRMRA

Other Projects

I. Implementation of CPCB Charter for Water Recycling and Pollution Prevention in Pulp & Paper Industries of Ganga River Basin

Objective

- To reduce water consumption and waste water discharge from pulp and paper mills located in Ganga river basin through implementation of water conservation measures, process upgradation and ETP upgradation and ultimately reducing the over all impact on Ganga river quality.

Highlights

- CPPRI as third party continued to play an active role through verification of action plan for Charter compliance submitted by mills, quarterly Charter implementation progress verification, ETP adequacy assessment, etc. in over 100 pulp and paper mill of Uttar Pradesh & Uttarakhand as well as West Bengal and Madhya Pradesh.
- CPPRI also provided assistance to mills in technology identification, water conservation and ETP upgradation to achieve Charter norms.

II. Development and Adoption of Appropriate Technologies for Enhancing Productivity in Pulp & Paper Sector (UNIDO project)

Objective

- The objective of the project is to strengthen the global competitive position of the Indian Pulp & Paper Sector and to facilitate development and adoption of technologies for waste management and improving energy efficiency in the Pulp & Paper Sector.

Highlights

- Under the project a UNIDO Workshop on Key Performance Indicators (KPI) for Indian Pulp & Paper Industry organised by UNIDO was attended by CPPRI scientists.
- Under the project one delegation comprising of Mrs Rita Tandon & Dr S. Panwar (CPPRI), Dr. R. C. Rastogi (IRPMA) Shri PG. Mukundan , Shri Rohit Pandit (IPMA) Shri R. Vijay Kumar (INMA), Shri Mohd. Zakaria Khan Yusufzai (DIPP) and Shri Vikas Kumar (UNIDO) went on a study tour to Norway, Sweden & Belgium to Paper & Fiber Institute, Trondheim, Norway, Biorefinery facility at Sparsborg, Norway, Norske Skog Paper Mill, Halden, Norway, Inaventia, Stockholm, Sweden and Confederation of European Paper Industries, Brussels, Belgium.



- The second delegation comprising of CPPRI scientists Dr M.K. Gupta, Dr. R.D Godiyal, Dr A.K. Dixit & Dr.Nitin Endlay (CPPRI) and Dr R.K. Jain (UNIDO) visited Norway and Sweden and interacted with scientists, academicians and researcher of leading institutes like PFI, KTH, Mid Sweden University, Inventia, Processum to get exposure to latest R&D trends and activities related to pulp and paper making, biorefinery and environmental management, nano cellulose etc. They also visited Domsjo and NorskeSkogn Skog Paper mills to see the latest technological development and state of art technologies adopted by them.



SWACHH BHARAT MISSION – CPPRI INITIATIVES

The Swachh Bharat Mission has been initiated by the Hon'ble Prime Minister, Shri Narendra Modi. It was launched on 2nd October 2014, throughout length and breadth of the country as a national movement to fulfil Mahatma Gandhi's dream of a clean and hygienic India. The Mission aims to motivate and galvanize Indian citizens from all walks of life to achieve this goal by 2019 to commemorate Mahatma Gandhi's 150th birth anniversary.

As a part of this 'Swachh Bharat Mission' Central Pulp and Paper Research Institute, has also initiated several activities in its campus as well as in residential colony.

SWACHH BHARAT MISSION INITIATIVES

Central Pulp and Paper Research Institute has initiated following activities under "Swachh Bharat Mission" in its premises.

Constitution of Swachh Bharat Abhiyan Committee

A Swachh Bharat Abhiyan Committee comprising of scientific and administrative staff has been constituted to identify the areas for implementation of cleanliness drive and monitor the progress of Swachhta Abhiyan in the Institute premises.

Segregation of wastes

All divisions of Institute have been advised to segregate E-waste (old computers/printers/cartridge/UPS etc.)/non-working Equipment's/ scrap in the laboratory/ old files/ waste paper/ documents etc. to facilitate their auction/ safe disposal.

Talks with NGO

Several NGOs are being approached/consulted to assist in formulation of a scientific approach for garbage collection and its further processing/ recycling. In this context a meeting with a NGO was also organised and administrative measures in this regard has been initiated.

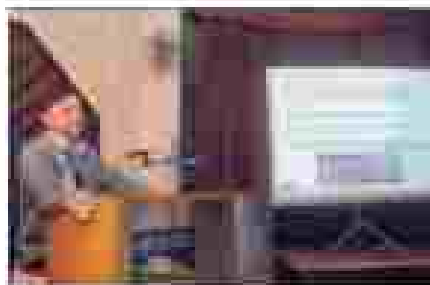
Cleanliness drive

A dedicated horticulture division is already set up by institute to maintain the landscape lawn and plants in institute and residential colony premises. A cleanliness drive is being carried out in the institute's campus and residential colony on the regular basis.



Glimpses of Awareness and Cleanliness Drive in CPRI Office and Residential Colony

CPRI organised an awareness programme on **Waste Management** on December 14, 2016. Shri Sunil Trivedi, Sr. Programme Manager, Muskan jioti (a NGO) delivered a lecture on Solid Waste Management. Dr. Shwaker Mishra, informed the audience about the initiatives being taken by CPRI under Swachh Bharat Abhiyan. Mrs. Rita Tandon, Director Incharge in her address emphasized on the need of Swachh Bharat Abhiyan and called for the active participation of each employee in making Swachh Bharat Abhiyan successful.



Glimpses of Awareness Programme on Waste Management

CPRI also organised a **Poster Competition** on January 1, 2017 to create an awareness among the staff members and their children on various issues related to Swachh Bharat Abhiyan activities. Topics for different categories of participants were: Swachh Bharat Abhiyan (Students from Class I to Class V); Disposal and Management of Municipal Waste (Students from Class VI to Class XII); Disposal and Management of Bio-Medical Waste (Field Assistant/ Project Assistant/ MSc Students/ JRF/ SRF/ PhD Scholars/ RA); Disposal and Management of E-Waste (CPRI Staff). The winners were felicitated on Republic day.



Poster Competition

PROJECTS SPONSORED BY PULP, PAPER AND ALLIED INDUSTRIES

International Sponsored Projects

Pilot Plant trial of KOH-AQ Pulping of Bagasse

ECF + TCF Bleaching Hand Sheets Preparation of Bagasse Pulp

- Queensland University of Technology, Australia.

Raw Material Preparation, Evaluation, Pulping and Bleaching

Pilot Plant Extraction and Pulping Trial of Mixed Hardwood Chips

- ITC-Life Sciences and Technology Centre, Bangalore, Karnataka

Laboratory and Pilot Plant Extraction of Pulping Trials of Hardwood

- ITC Life Sciences and Technology Centre, Bangalore, Karnataka

Ozone Bleaching of Unbleached Hardwood Pulp

- ITC-Life Sciences and Technology Centre, Bangalore, Karnataka

Oxygen Delignification Trials of Unbleached Thickener Pulp

- Grasim Industries Limited (Unit: Harihar Polyfibers, Ramarapuram, Karnataka)

Evaluation of Additive Pulping of Mix Hard Wood Sample

- Paras Bio Sciences Private Limited, Bangalore, Karnataka

Additive Pulping of Hardwood Sample

- Novocare India Technical Specialty-IF Business, Thane (W), Maharashtra

ECF Bleaching of Hardwood Pulp

- BITS- Pilani- Hyderabad Campus, Telangana

Production of CTMP Unbleached and Bleached Pulp from Mix Hard Wood Chips Sample

- ITC Limited -PSPD Unit, Bhadrachalam, Andhra Pradesh

Production of CTMP Unbleached and Bleached Pulp from Eucalyptus Hard Wood Chips Sample



- ITC Limited -PSPD Unit, Bhadrachalam, Andhra Pradesh

Evaluation of Efficacy of Cooking Additive (Boester 55) on Eucalyptus Hardwood Chips

- Nipuna International Private Limited, Kochi, Kerala

Laboratory Studies for Evaluation of Empty Fruit Bunches Sample

- 3 E Oil Palm Agrotech Private Limited, Hyderabad Telangana

Pulp / Chemical Evaluation , Waste Paper Recycling and Paper Making

Certification for pH and Sulfur Content in Corrugated Box

- Kocher Packaging Industries, Haridwar

Troubleshooting and Evaluation of Wet End Chemistry

- Satia Industries Limited, Muktsar (Punjab)

Repulpability of Waste Paper / Paper Adhesive Tape

- Solis Global Solution, Dehradun
- Tradecom International Private Ltd, New Delhi
- Pratik Ved, Belgaum, Karnataka

Stickies profiling of Top Liner Fiber Line

- ITC Limited, PSPD, Unit: Kovai

Environmental Management

Adequacy Assessment / Performance Evaluation of ETP

- NS Paper Limited, Muzaffarnagar, Uttar Pradesh
- Rajlakshmi Paper and Board Pvt Limited , U.S. Nagar Uttarakhand
- Sugar Paper Mills Private Limited, Roorkee, Uttarakhand
- Fibremark Papers Limited, Shivrajpur, Uttar Pradesh
- Ramaa Shyama Paper Limited, Bareilly, Uttar Pradesh
- Quantum Paper Limited, Hoshiyarpur, Punjab
- Teli Pulp and Paper Limited, Muzaffarnagar, Uttar Pradesh

- Siddharth Paper Private Limited, Unit-I, Kashipur, Uttarakhand
- Siddharth Paper Private Limited, Unit-II, Kashipur, Uttarakhand
- Siddhewari Paper Udyog Limited, Kashipur, Uttarakhand
- Bahl Paper Mills Limited, Kashipur, Uttarakhand
- Shree Sidhball Paper Mills Limited, Muzaffarnagar, Uttar Pradesh

Evaluation of Zero Liquid Discharge (ZLD) Status

- Anandeshwar Industries (P) Limited, Kanpur, Uttar Pradesh
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh

Audit Assessment of Hazardous Waste

- Century Pulp and Paper Limited, Lalkuan, Uttarakhand

Chemical Recovery Trouble Shooting

Improved Chemical Recovery and Energy Efficiency through Liquor Heat Treatment

- KR Pulp and Papers Limited, Shahjahanpur, Uttar Pradesh
- Century Pulp & Paper, Lalkuan, Uttarakhand

Adequacy Assessment of ETI Based Chemical Recovery System

- Garg Duplex Private Limited, Muzaffarnagar, Uttar Pradesh
- Star paper Mills Limited, Saharanpur, Uttar Pradesh
- Tibri Paper Mill Limited, Muzaffarnagar, Uttar Pradesh
- Trident Limited, Barnala, Punjab

TECHNICAL & CONSULTANCY SERVICES

Technical services were rendered to the following mills and organisations by analyzing various samples of fibrous and non fibrous raw materials, pulp, paper, black liquor, lime, lime sludge, rice husk, green liquor, white liquor, effluents, ground water, solid waste etc.

- Acro Ventures Private Limited, Meerut, Uttar Pradesh
- Agarwal Duplex Board Mills Limited, Muzaffarnagar, Uttar Pradesh
- Agarwal Zarda Factory Private Limited, Saharanpur, Uttar Pradesh
- Alak Printers, Agra, Uttar Pradesh
- Anand Duplex Limited, Meerut, Uttar Pradesh
- Anand Triplex Board Limited, Meerut, Uttar Pradesh
- Anandeshwar Industries Private Limited, Kanpur, Uttar Pradesh
- Anna University, Chennai, Tamilnadu
- Antardeshiye Container Depot, New Delhi
- Anupam Prakashan, Mathura, Uttar Pradesh
- Archamps Traders, Chennai, Uttar Pradesh
- Arcos Biorefinery Private Limited, Gujarat
- Arham Technochem, Sahibabad, Uttar Pradesh
- Asad Rehman, Saharanpur, Uttar Pradesh
- Avantha Centre for Industrial Research and Development, Yamunanagar, Haryana
- Axom Sarbha Siksha Abhiyan Mission, Guwahati
- Baba Saheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh
- Bahal Paper Mills Limited, Kashipur, Uttarakhand
- Ballarpur Industries Limited, Yamunanagar, Haryana
- Bank Note Paper Mills India Private Limited, Bangalore, Karnataka
- Bank Note Paper Mills India Private Limited, Mysore, Karnataka
- Banwari Paper Mills Limited, Kashipur, Uttarakhand
- Batra Art Press, New Delhi
- Bennett Coleman and Company Limited, New Delhi
- Bhagwati Printing Press, Mathura, Uttar Pradesh
- Bhagwati Kripa Paper Mills Private Limited, Jaipur, Rajasthan
- Bhupendra Narayan Mandal Vishwavidyalaya, Bilur

- Bihar Lok Prashashan Aayam Gramin Vikas, Patna, Bihar
- Bihar Sanskrit Shiksha Board, Patna, Bihar
- Bihar State Text Book Publishing Corporation Limited, Patna, Bihar
- Bihar Vidhyalaya Parilaha Samiti, Patna, Bihar
- Bindal Papers Limited, Muzaffarnagar, Uttar Pradesh
- Bindals Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- BITS Pilani, Hyderabad, Telangana
- Board of School Education Haryana, Bhiwani, Haryana
- Brown Group, Mumbai, Maharashtra
- Burda Druck India Private Limited, Greater Noida, Uttar Pradesh
- CBSE, New Delhi
- C.C.S. University, Meerut, Uttar Pradesh
- Central Excise, New Delhi
- Central Pollution Control Board, Delhi
- Centre for Environmental Studies, Chennai
- Century Pulp and Paper, Nainital, Uttarakhand
- Century Pulp and Paper, New Delhi
- Century Royon, Thane, Maharashtra
- Chacha Printers and Publisher, Lucknow, Uttar Pradesh
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh
- Chandpur Enterprises Limited, Chandpur, Uttar Pradesh
- Cheema Papers Limited, Kasbipur, Uttarakhand
- Chhattisgarh Madhyamic Shiksha Mandal, Raipur, Chhattisgarh
- Chhattisgarh Pathya Pustak Nigam, Raipur, Chhattisgarh
- Commissioner of Customs (Import), Chennai, Tamilnadu
- Commissioner of Customs, Erode, Tamilnadu
- Coral News Prints Limited, Gazroula, Uttar Pradesh
- Currency Note Press, Nashik, Maharashtra
- Deepak Printers and Publishers, Haldwani, Uttarakhand
- Delhi Bureau of Text Books, New Delhi
- Delta Paper Mills Limited, Venidra, West Godavari, Karnataka

- Dooria Paper Mills Limited, Dooria, Uttar Pradesh
- Dev Priya Fibres Private Limited, Meerut, Uttar Pradesh
- Dev Priya Ind. Private Limited, Unit I, Meerut, Uttar Pradesh
- Dev Priya Ind. Private Limited, Unit II, Meerut, Uttar Pradesh
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh
- Dev Priya Papers Private Limited, Meerut, Uttar Pradesh
- Dev Priya Products Limited, Meerut, Uttar Pradesh
- Devrishi Papers Private Limited, Kashipur, Uttarakhand
- Directorate of Printing Stationery and Publication, Odisha
- Directorate of Publicity and Public Relation, New Delhi
- Directorate of Revenue Intelligence, Surat, Gujrat
- Disha Industries Limited, Muzaffarnagar, Uttar Pradesh
- Dr. Hari Singh Gauri Vishwavidyalaya, Sagar, Madhya Pradesh
- Durga Brick Field, Sahibabad, Uttar Pradesh
- Durgesh Printing Press, Mathura, Uttar Pradesh
- Dynamic Text Books Printers Private Limited, Jhansi, Uttar Pradesh
- Electropulse, Roorkee, Uttarakhand
- Elementary Education Haryana, Panchkula, Haryana
- Enkay Enterprises, New Delhi
- Employment News, New Delhi
- Enmas Andritz Private Limited, Chennai, Tamilnada
- Everest Industries Limited, Bhagwanpur, Uttarakhand
- Fibrumax Papers Limited, Jaspur, Uttarakhand
- Galaxy Papers Private Limited, Muzaffarnagar, Uttar Pradesh
- Ganga Pulp and Papers Private Limited, Chandauli, Uttar Pradesh
- Gangotri Paper Mills Private Limited, Haridwar, Uttarakhand
- Gangotri Paper Mills Private Limited, Muzaffarnagar, Uttar Pradesh
- Garg Duplex and Paper Mills (P) Limited, Muzaffarnagar, Uttar Pradesh
- Gayatri Paper and Boards Limited, Unit-II, Mumbai, Maharashtra
- Genus Paper and Boards Limited, Moradabad, Uttar Pradesh
- Genus Paper Products Limited, Moradabad, Uttar Pradesh

- Godawari Biorefinery Limited, Mumbai, Maharashtra
- Good Luck Publisher Limited, Saharanpur, Uttar Pradesh
- Government Printing and Stationery, Gandhinagar, Gujrat
- Grasim Industries Limited, Karnataka
- Grippo Solutions India Private Limited, Mumbai, Maharashtra
- Gujarat Offset Private Limited, Ahmedabad, Gujrat
- Gujarat State Board of School Text Book, Gandhinagar, Gujrat
- Guru Gobind Singh Indraprastha University, New Delhi
- Hariom Industries Limited, Kanpur, Uttar Pradesh
- Harsh Enterprises, Kanpur, Uttar Pradesh
- Harsh Enterprises, New Delhi
- Haryana School Shiksha Pariyojna Parishad, Panchkoula, Haryana
- Himalaya Bricks Field, Saharanpur, Uttar Pradesh
- Hindustan Paper Corporation Limited, Delhi
- Hi-Tech Printers and Publishers, Mathura, Uttar Pradesh
- Holy Faith International Private Limited, Ghaziabad, Uttar Pradesh
- Holy Faith International Private Limited, New Delhi
- Habitatati FPI Limited, Thane, Maharashtra
- ICAI, Noida, Uttar Pradesh
- IGNOU, New Delhi
- International Paper India Private Limited, Hyderabad, Telangana
- Intertek India Private Limited, Mumbai, Maharashtra
- ITC Life Sciences, Bangalore, Karnataka
- ITC Limited, Coimbatore, Tamilnadu
- ITC Limited, Bangalore, Karnataka
- ITC Limited, Bhadrachalam, Andhra Pradesh
- ITC Limited, Khammam, Andhra Pradesh
- J.B. Daruka Papers Limited, Sitapur, Uttar Pradesh
- J.K. Paper Limited, New Delhi



- J.K. Paper Limited, Rayagada, Odisha
- J.K. Paper Limited, Tapi
- Janak Education, Bhatkpur, Nepal
- Janki Newsprint Limited, Meerut, Uttar Pradesh
- Jawahar Navodaya Vidyalaya, Saharanpur, Uttar Pradesh
- [M] Paper Products, Roorkee, Uttarakhand
- K.R. Pulp and Papers Limited, Delhi
- KC Printing and Allied Works, Mathura, Uttar Pradesh
- K.R. Pulp and Paper Limited, Unit I, Shahjahanpur, Uttar Pradesh
- K.R. Pulp and Paper Limited, Unit II, Shahjahanpur, Uttar Pradesh
- Kallshi Printing Press, Bhopal, Madhya Pradesh
- Kamakshi Paper Private Limited, J.P. Nagar, Uttar Pradesh
- Kamakshi Papers Private Limited, Gazeula, Uttar Pradesh
- Kangaroo Industries, Ludhiana, Panjab
- Karaliya Collector Avam Zila Nirvachan Adhikari, Indore, Madhya Pradesh
- Karaliya Collector Avam Zila Nirvachan Adhikari, Jabalpur, Madhya Pradesh
- Karaliya Madhyamic Shiksha Mandal, Bhopal, Madhya Pradesh
- Katiyayini Paper Mills Private Limited, Kashipur, Uttarakhand
- Kawatra Papers Private Limited, Dadri, Uttar Pradesh
- Kazmi and Associates, Allahabad, Uttar Pradesh
- Khanna Paper Mills Limited, Gurgaon, Haryana
- Khatema Fibers Limited, Khatema, Uttarakhand
- Kota University, Kota, Rajasthan
- Kuantum Papers Limited, Hoshiarpur, Panjab
- Lalji Board India Private Limited, Firozabad, Uttar Pradesh
- LIC Zonal Office, Kanpur, Uttar Pradesh
- Lovely Professional University, Phagwara, Panjab
- Lucknow Printers and Publishers, Lucknow, Uttar Pradesh
- M.P. Textbook Corporation, Bhopal, Madhya Pradesh
- Madhya Pradesh Pathya Pustak Nigam, Bhopal, Madhya Pradesh
- Madhya Pradesh Shram Kalyan Mandal, Bhopal, Madhya Pradesh



- Madhyamic Shiksha Board Rajasthan, Ajmer, Rajasthan
- Madhyamic Shiksha Mandal Madhya Pradesh, Bhopal, Madhya Pradesh
- Magnum Ventures Limited, Sahibabad, Uttar Pradesh
- Mahadev Pulp Products Private Limited, Kanpur, Uttar Pradesh
- Mahalaxmi Kraft and Tissue Private Limited, Muzaffarnagar, Uttar Pradesh
- Mahesh Pusticalaya, Mathura, Uttar Pradesh
- Manohar Printing Press, Mathura, Uttar Pradesh
- Maruti Papers Limited, Shamli, Uttar Pradesh
- MCNIJC, Bhopal, Madhya Pradesh
- Meenu Paper Mills Private Limited, Muzaffarnagar, Uttar Pradesh
- Mehra Paper Private Limited, Dahod, Gujarat
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh
- Mudran Avam Lekhan Samagri Vibhag, New Raipur, Chattisgarh
- Mudran Mahal Printers and Publisher, Agra, Uttar Pradesh
- Multiwal Duplex Private Limited, Kashipur, Uttarakhand
- Multiwal Pulp and Board Mills Private Limited, Kashipur, Uttarakhand
- MWV India Paper Board, Pune, Maharashtra
- N P Enterprises, Meerut, Uttar Pradesh
- N R Agarwal Industries Limited, Unit-5, Vapi, Gujarat
- Nagaon Paper Mills, Nagaon, Assam
- Naini Papers Limited, Kashipur, Uttarakhand
- Naini Tissues Limited, Kashipur, Uttarakhand
- National Book Trust of India, New Delhi
- National Health Mission, Panchkula, Haryana
- National Institute of Open Schooling, Noida, Uttar Pradesh
- National Insurance Company Limited, Chandigarh
- National Printers, Ranchi, Jharkhand
- Navodaya Vidyalaya Samithi, Bhopal, Madhya Pradesh
- Nehru Yuva Kendra Sangathan, Lucknow, Uttar Pradesh

- New Bonanza India Limited, Meerut, Uttar Pradesh
- Nilota Papers Limited, Shamli, Uttar Pradesh
- National Institute of Open Schooling, Noida, Uttar Pradesh
- North Bihar Power Distribution Company Limited, Patna, Bihar
- Nove Care India, Thane, Maharashtra
- Office of The additional Commissioner of Customs, Bangalore, Karnataka
- Office of the Assistant, Commissioner of Customs, Ahmedabad, Gujarat
- Office of the Assistant Commissioner of Customs, Chennai, Tamilnadu
- Office of the Assistant Commissioner of Customs, Gandhinagar, Gujarat
- Office of the Assistant Commissioner of Customs, Gurugram, Haryana
- Office of the Commissioner of Customs, Cochin, Kerala
- Office of the Commissioner of Customs, Gautam Budh Nagar, Uttar Pradesh
- Office of the Deputy Commissioner of Customs, Surat, Gujarat
- Orient Packaging Limited, Saharanpur, Uttar Pradesh
- Orient Paper Industries Limited, Shahdol, Madhya Pradesh
- Oyster Printers and Publishers Private Limited, Mathura, Uttar Pradesh
- Parul Biosciences Private Limited, Bangalore, Karnataka
- Parjat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Paswara Paper Limited, Meerut, Uttar Pradesh
- Pathya Pustak Adhikari, Lucknow, Uttar Pradesh
- Pallet Energy Systems Pvt. Limited, Bhagwanpur, Uttarakhand
- Pioneer Printers and Publishers, Kanta, Uttar Pradesh
- Pitambra Books Private Limited, Jhansi, Uttar Pradesh
- Pragati Papers Industries Limited, Delhi
- Pragy Publication Private Limited, Mathura, Uttar Pradesh
- Pratibha Printing Press, Mathura, Uttar Pradesh
- Premier International, Saharanpur, Uttar Pradesh
- Prime Pulp and Paper Private Limited, Muzaffarnagar, Uttar Pradesh
- Principle DITE, Bharatpur, Rajasthan
- Printex India Printers and Publisher, Allahabad, Uttar Pradesh
- Printing and Stationery Department Haryana, Chandigarh

- Prolific Papers Private Limited, Kashipur, Uttarakhand
- PSB Papers Limited, Bajpur, Uttarakhand
- Punjab National Bank, Noida, Uttarakhand
- Punjab State Lotteries, Chandigarh
- Queensland University of Technology, Australia
- R.P. Printers, Noida, Uttar Pradesh
- R.D. Papers Limited, Kanpur, Uttar Pradesh
- Raj Chemicals Limited, Ahmedabad, Gujrat
- Raj Enterprises, Haldwani, Uttarakhand
- Rajasthan Rajya Pathya Pustak Mandal, Jaipur, Rajasthan
- Rajasthan State Open School, Jaipur, Rajasthan
- Rajasthan State Road Transport Corporation, Jaipur, Rajasthan
- Rajya Swasthya Avani Parivar Kalyan, Lucknow, Uttar Pradesh
- Rajeiv Prakashan, Allahabad, Uttar Pradesh
- Rajlakshmi Paper and Board Limited, U.S. Nagar, Uttarakhand
- Rajya Kendriya Mudranalaya, Jaipur, Rajasthan
- Rama Shyam Paper Limited, Bareilly, Uttar Pradesh
- Ramesh Publishing House, Mathura, Uttar Pradesh
- Ranraja Printers and Publisher, Jhansi, Uttar Pradesh
- Rayi Offset Printers and Publisher Private Limited, Agra, Uttar Pradesh
- Rowat Prakashan Mandir, Harra, Uttar Pradesh
- Rayana Paper Board Industries Limited, Unit II, Sant Kabir Nagar, Uttar Pradesh
- Rayana Paper Board Industries Limited, Sant Kabir Nagar, Uttar Pradesh
- Regent Exim International Limited, Delhi
- Rohida Speciality Chemicals India Limited, Thane, Maharashtra
- RPEE Industries (India), Meerut, Uttar Pradesh
- Ruchira Papers Limited, Sirmour, Himachal Pradesh
- S.G. Technologies, Roorkee, Uttarakhand
- Sabota Papers Limited, Jaspur, Uttarakhand
- Sainsons Paper Industries Limited, Krukibetra, Haryana
- Sakshar Bharat Mission, Lucknow, Uttar Pradesh

- Sandeep Paper Mills Private Limited, Noida, Uttar Pradesh
- Sangal Papers Limited, Mawana, Uttar Pradesh
- Sangal Papers Limited, Meerut, Uttar Pradesh
- Sarawati Press, Mathura, Uttar Pradesh
- Satia Industries Limited, Muktsar, Panjab
- Sechasa Business Forms Private Limited, Mumbai, Maharashtra
- Sh. L. Muthupalaniappan, Chennai, Tamilnadu
- Sh. R. S. Shah, Surat, Gujrat
- Shah Devji Shivji and Company, Mumbai, Maharashtra
- Shakti Kraft and Tissues, Muzaffarnagar, Uttar Pradesh
- Shakambhari Pulp and Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Shasidya Mudran Avam Lekhan Samigri Vibhag, Bhopal, Madhya Pradesh
- Shasidya Mudran Avam Stationery, Bhopal, Madhya Pradesh
- Sheel Printers, Mathura, Uttar Pradesh
- Shree Badri Kedar Private Limited, Najibabad, Uttar Pradesh
- Shree Luxmi Exports, Chennai, Tamilnadu
- Shree Mahaveer Straw Board Private Limited, Mainpuri, Uttar Pradesh
- Shree Nageshwar Papers Limited, Kanpur, Uttar Pradesh
- Shree Sidhanti Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Shree Venkatesh Paper Mills Limited, Meerut, Uttar Pradesh
- Shreyans Industries Limited, Ahmednagar, Panjab
- Shreyans Industries Limited, New Delhi
- Shri Bhageshwari Papers Limited, Muzaffarnagar, Uttar Pradesh
- Shri Bhageshwari Papers Limited, Unit-I, Muzaffarnagar, Uttar Pradesh
- Shri Bhageshwari Papers Limited, Unit-II, Muzaffarnagar, Uttar Pradesh
- Shri Kela Gee Books Private Limited, Agra, Uttar Pradesh
- Shriram Institute for Industrial Research, Delhi
- Shyam Paper Mart, Kanpur, Uttar Pradesh
- Siddheshwari Industries Private Limited, Muzaffarnagar, Uttar Pradesh
- Siddheshwar Paper Udyog Limited, Kashipur, Uttarakhand
- Siddharth Papers Limited, Kashipur, Uttarakhand

- Sidharth Papers Limited, Meerut, Uttar Pradesh
- Sidharth Papers Limited, Unit II, Kashipur, Uttarakhand
- Silverton Pulp and Paper Private Limited, Muzaffarnagar, Uttar Pradesh
- Singhal Agencies, Lucknow, Uttar Pradesh
- Skylark Printers and Publishers Private Limited, Mathura, Uttar Pradesh
- Solenis Chemicals India Private Limited, Pune, Maharashtra
- Sonex Print Pack Private Limited, New Delhi
- South Bihar Power Distribution Company Limited, Patna, Bihar
- South Eastern Railway, Kolkata
- Sripathi Paper and Boards Private Limited, Sivakashi, Tamilnadu
- SSUPSW, Rampur, Uttar Pradesh
- Sripathi Paper and Boards Private Limited, Sivakashi, Tamilnadu
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh
- Sripathi Paper and Boards Private Limited, Shivalkashi, Tamilnadu
- Sripathi Paper and Boards Private Limited, Shivalkashi, Tamilnadu
- Star Paper Mill Limited, Saharanpur, Uttar Pradesh
- State Bank of Patiala, Patiala, Punjab
- State Educational and Training Center Chhatisgarh, Raipur, Chhatisgarh
- State Election Commission Haryana, Panchkula, Haryana
- State Health Society Bihar, Patna, Bihar
- State Society for Ultra Poor and Social Welfare, Patna, Bihar
- Suchi Paper Mills Limited, Noida, Uttar Pradesh
- Suchra Avam Jan Sampark Vibhag, Patna, Bihar
- Suyash Kraft and Paper Limited, Muzaffarnagar, Uttar Pradesh
- Suyash Paper Mills, Basti, Uttar Pradesh
- Suyash Paper Mills, Ganeshpur, Uttar Pradesh
- Swaroop Papers Private Limited, Saharanpur, Uttar Pradesh
- Tamilnadu News Print and Papers Limited, Kanchipuram, Tamilnadu
- Tamilnadu Text Book and Educational Corporation Chennai, Tamilnadu
- Tehri Pulp and Paper Limited, Unit-I, Muzaffarnagar, Uttar Pradesh
- Tehri Pulp and Paper Limited, Unit-II, Muzaffarnagar, Uttar Pradesh



- Tenny Jose and Associates Limited, Chennai, Tamilnadu
- Tetra Pack India Private Limited, Gurugram, Haryana
- The Oriental Insurance Company Limited, Chandigarh
- The Sandesh Limited, Ahmedabad, Uttar Pradesh
- The Tribune Trust, Chandigarh
- The West Coast Paper Mills Limited, Dandeli, Karnataka
- The West Coast Paper Mills Limited, New Delhi
- Tirupati Balaji Fibers Limited, Muzaffarnagar, Uttar Pradesh
- Tirupati Stationery (P) Limited, Kanpur, Uttar Pradesh
- Tradecom International Limited, Maharashtra
- Trident Limited, Barnala, Punjab
- Universal Engineering Corporation, Saharanpur, Uttar Pradesh
- Up Zila Nirvaehan Adhikari, Sahajahanpur, Uttar Pradesh
- Uplkar Printers and Publishers, Agra, Uttar Pradesh
- Vardhman Industries, Meerut, Uttar Pradesh
- Ved Cellulose Limited, Hapur, Uttar Pradesh
- Veer Bahadur Singh Purvanchal University, Jounpur, Uttar Pradesh
- Veer Bundelkhand Press, Jhansi, Uttar Pradesh
- Vikram Vishwavidyalaya, Ujjain, Madhya Pradesh
- Visaka Industries Limited, Nalgonda, Telangana
- Vishvakarma Paper and Boards Limited, Kashipur, Uttarakhand
- Vishwa Pariwar, Raipur, Chattisgarh
- Vishwanath Paper and Boards Limited, Kashipur, Uttarakhand
- Yash Paper Limited, Fatehabad, Uttar Pradesh
- Yojana Avam Vikas Vibhag, Patna, Bihar
- Zila Gramin Vikas Abhikaran, Bakisar, Bihar
- Zila Gramin Vikas Abhikaran, Muzaffarpur, Bihar
- Zila Gramin Vikas Abhikaran, Sitamarhi, Bihar
- Zila Gramin Vikas Abhikaran, Supol, Bihar
- Zila Swasthya Samiti, Betia, Bihar

MEETINGS ORGANISED / ATTENDED

Meeting of Development Council for Pulp, Paper and Allied Industries (DCPPAI)

- A meeting of the Development Council for Pulp, Paper and Allied Industries (DCPPAI) was held under Chairmanship of Shri Pradeep Dhobale, Director, ITC Limited on June 1, 2016 at Udyog Bhawan, New Delhi. The meeting was attended by Shri Shailendra Singh, Joint Secretary, DCPPAI, members of the Council as well as special invitees from DIPP, IARPMA, INMA, AIFMP, JK Paper Ltd., Trident Ltd. and CPPRI. The agenda of the meeting was presented by Dr. R.K. Jain, Director, CPPRI and Member Secretary DCPPAI. During the meeting various issues related to Indian pulp and paper industry, follow up action on the decisions of the last meeting:



Meeting of DCPPAI under progress

Meeting of Cess Committee

- The meeting of the Cess Committee under Development Council for Pulp, Paper & Allied Industries (DCPPAI) was held on October 27, 2016 in the Conference Room No 152 at Udyog Bhawan, New Delhi. The meeting was chaired by Dr. Vandana Kumar, Joint Secretary, DIPP, Ministry of Commerce & Industry, Government of India. The agenda of the meeting included review of the progress of on-going projects and new project proposals for approval of the Cess Committee. A technical sub-committee was constituted to review the new project proposals as well as progress of on-going projects.

Other meetings Attended by CPPRI Scientists during 2016-17

Tender Opening and Evaluation Committee at IGNOU, New Delhi

- Dr. R. K. Jain and Dr. R. D. Godiyal on April 07, 2016
- Dr. R. K. Jain and Dr. R. D. Godiyal on July 22, 2016

Meetings at Bureau of Energy Efficiency, New Delhi

- Dr. B.P. Thapliyal attended a meeting of ESCO's at BEE, New Delhi on April 12, 2016.
- Dr. B.P. Thapliyal and Mr. Alok Kumar Goel on September 15, 2016.
- Shri Alok Kumar Goel on October 14, 2016.

BIS Meeting on CHD- 15 for Pulp, Paper & Allied Product at Manak Bhawan

- Dr. B.P. Thapliyal and Dr. R. D. Godiyal on May 9, 2016.
- Smt. Rita Tandon and Shri Alok Goyal on June 10, 2016.
- Smt. Rita Tandon, Dr. B.P. Thapliyal, Dr. R.D. Godiyal, Dr. Sanjay Tyagi and Shri Alok Kumar Goel on September 15, 2016.
- Dr. Sanjay Tyagi attended meetings of technical committee for framing up of new specifications of postage stamp at Indian Security Press, Nashik, on June 27, 2016 and July 19, 2016.
- Dr. B.P. Thapliyal attended a meeting of IPMA, New Delhi for discussion the PAT-2 targets and their impact on pulp and paper mills on May 5, 2016.
- Dr. R. D. Godiyal, Dr. Nitin Endray and Dr. Sanjay Tyagi, attended a meeting on progress of joint collaborative Cass Funded Projects and NABL accreditation on at ACIRD, Yamuna Nagar October 04, 2016.
- Dr. Nitin Endray attended a meeting on Advanced Technologies & Sustainable Solution organized by Paques, BV and hosted by the Hon'ble Ambassador of the Netherland at Embassy of the Netherland, New Delhi on October 17, 2016.



Glimpses of Meeting on Advanced Technologies & Sustainable Solution, Embassy of the Netherland.

- Dr. R.P.Thapliyal attended a meeting of EESL, New Delhi for discussing various activities under NMIEE on October 18, 2016.
- Dr. Sanjay Tyagi attended a meeting at Printing and Stationary Department, Chandigarh as a member of Technical committee for purchase of paper on December 16, 2016 & January 4 2017.
- Dr. B.P.Thapliyal attended a meeting on Green Chemistry held at Vigyan Bhawan, New Delhi, December 18-21,2016.
- Dr. R. D. Godiyal and Dr. S. Tyagi attended a meeting at Printing and Stationary Department, Chandigarh as a member of Technical committee for purchase of paper on January 19, 2017.
- Dr. R. D. Godiyal and Dr. S. Tyagi visited Indian Herbs, Nalagarh (HP) for taking the demo of box compressing tester on January 20, 2017.
- Dr. R. D. Godiyal attended a meeting at IIS, New Delhi on June 18, 2016.

NATIONAL DAYS AND OTHER IMPORTANT DAYS OBSERVED BY CPPRI

Independence Day

CPPRI observed the Independence Day on August 15, 2016 with great fanfare and gaiety. After the guard of honour from CPPRI security staff, the Director Incharge Dr. R.K.Jain unfurled the national flag followed by signing of national anthem. He addressed the staff and their family remembering the sacrifices of our national leaders, highlighting the activities of achievement of CPPRI and unveiling the future plans for growth of CPPRI. Meritorious students of CPPRI staff were rewarded for their excellent performance in the class X & XII examinations. On the directives of Government of India the Institute displayed the boards of 'आजादी के 70 साल का करी कर्मचारी' as well as Institute's building was illuminated for three days as per instruction of the Government of India.



Glimpses of Independence Day Celebration

Republic Day

CPPRI observed the Republic day on January 26, 2017. After the guard of honour from CPPRI security staff, the Director In-charge Smt. Rita Tandon unfurled the national flag followed by singing of national anthem. Greeting the staff and their family on this auspicious occasion Smt. Rita Tandon paid homage to the freedom fighters and the makers/architects of the Constitution of India. She highlighted the achievement being made by CPPRI in addressing the technological and environment issues of Indian Paper Industry.



Glimpses of Republic Day Celebration

Rajbhasa Hindi Divas

Rajbhasi Hindi Pakhwada was observed at CPPRI from September 01 to 14, 2016 to promote the use of Hindi in day-to-day work as well as Scientific & Technical work. To mark the occasion a meeting chaired by Smt. Rita Tandon, Director was convened on September 14, 2016. Senior scientists and officials of Administration and Finance & Accounts Division attended the meeting. The progress made by the Institute in increasing use of Hindi was reviewed as well as strategies to further promote use of Hindi in CPPRI were deliberated upon. To promote use of Hindi, Easy competition and poster competition was organized for staff members of CPPRI as well as for their wards in different categories. Staff members as well as their wards participated in both of the competition. A panel of judges evaluated the essay and poster of the competition and declared 1st, 2nd and 3rd in each category. Prize and consolation prize as well certificate distributed to all the participants.



Glimpses of Rajbhasha Hindi Divas Celebration

Vigilance Awareness Week

As per the directives of Central Vigilance Commission, the Institute observed Vigilance Awareness Week from October 31, 2016 to November 5, 2016 with the theme '**Public participation in promoting Integrity and Eradicating Corruption**'. To mark the occasion a vigilance pledge was administered to the employees and students of the Institute by Dr. M. K. Gupta to fight against corruption and bring about integrity and transparency in all the spheres of their activities. The messages of Hon'ble President of India, Shri Pranab Mukherjee and Hon'ble Prime Minister, Shri Narendra Modi for this occasion were also read out. The flex banners depicting the observance of Vigilance Awareness Week-2016 were displayed at all prime locations in the office premises. Banners indicating anti corruption slogans were also displayed at various strategic points/places in the Institute. The programme was coordinated by Shri M. P. Sharma.



Glimpses of Vigilance Awareness Week Celebration



TRAINING PROGRAMME ORGANISED/TRANING RENDERED

16th Cess Training Programme on "Advances in Pulping, Bleaching and Papermaking" at CPPRI Saharanpur on February 21-22, 2017.

The objective of the training programme was to train the technical manpower of the Indian Paper Industry to equip them to cope with new technological developments taking place.

The training programme was attended by 42 personnel from 25 Indian Paper Mills. During 16th Cess training programme 13 lectures were delivered by scientists of CPPRI and renowned experts from industries and IITR, Saharanpur Campus such as Prof. Dharam Dutt and Prof. S.P. Singh, IITR, Roorkee; Sh. N. K. Jain, Valmet, Gurgaon; Mr. D.K. Singhal, Director, Chandpur Enterprises; Sh. Sanjay Yadav, Century Pulp and Paper, Lakhnau; Sh. Magesh Kumar, MK Process Technologies Limited, New Delhi and Sh. C.S. Kashikar, BGPPL, Ballarpur, Maharashtra delivered guest lectures.

Different topics covered under this training programme included: Present status of Indian Paper Industry, advances in pulping, wet end operation and control of variables, Improved profitability with advance technology, Case study related to paper machine operation, role of wet end chemicals, their selection and application point, practical methods of optimizing the paper machine vacuum system and modernization of pulp mill at BGPPL, Ballarpur- A Case Study.

Inhouse Training

In addition to the above, in-house training of one to twelve months duration was provided to various students from following universities/organisations, in the area of Raw material, Pulping, Bleaching & Chemical recovery.

- Shobhit University, Gangoh, Uttar Pradesh
- Banasthali University, Rajasthan
- Forest Research Institute, Dehradun, Uttarakhand
- Century Rayon, Maharashtra
- IIT Roorkee, Uttarakhand

Glimpses of 16th Cess training Programme on "Advances in Pulping, Bleaching and Papermaking" at CPPRI Saharanpur on February 21-22, 2017

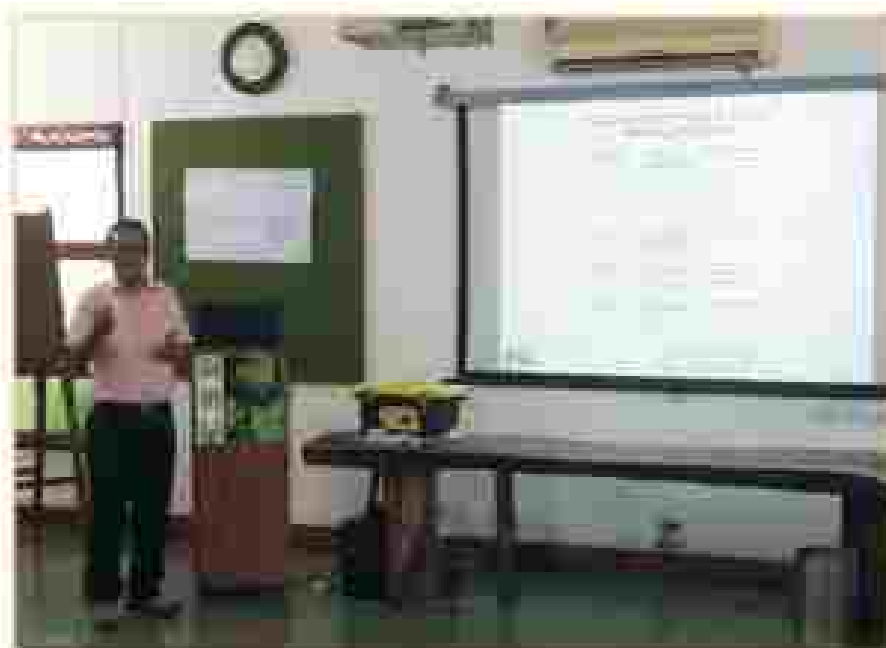


PARTICIPATION IN SEMINAR , WORKSHOP AND TRAINING PROGRAMME

CPPRI scientists attended various seminars , workshop and training programme during 2016-17 to disseminate the information about the findings of various projects being executed by CPPRI as well as to update the knowledge about the latest developments on various aspects of pulp and paper technology. A brief summary of the seminar / workshop / training programme attended during 2016-17 is as under:

As Guest Faculty / Invited Speaker

- Best Practices in Environmental Governance organized by Centre for Science & Environment, New Delhi for officials from State & Central Pollution Control Board, October 15-16, 2016 - Dr. Nitin Endrey



CPPRI Faculty at Centre for Science & Environment

- Paperex South India: The Road Ahead for Paper and Packaging, Chennai November 11-13, 2016
- Dr. B. F. Thapliyal, Dr. A. K. Dixit and Dr. Nitin Endlay



Glimpses of Paperex South India 2016

As Participants

- Training Programme on e- Procurement at National Institute of Finance Management (NIFM) , Faridabad , September 2016 -> Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. Nitin Endlay, Shri Alok Goyal & Shri N. K. Nalk



Participation of CPPII in Training Programme on E- Procurement organised by NIFM, Faridabad

- **UNIDO Workshop on Key Performance Indicators (KPI) for Indian Pulp & Paper Industry**, May 2-3, 2016 New Delhi - Dr. R.K. Jain, Smt. Rita Tandon, Dr. S. Panwar, Dr. K. Singh, Dr. A. K. Dixit, Dr. Priti S. Lal & Dr. Nitin Endlay



Participants in KPI Workshop

- **Workshop on Ground Water Recharge Opportunities to River Rejuvenation**, July 13, 2016, IIT Roorkee (Saharanpur Campus) - Dr. Shivaker Mishra & Dr. Nitin Endlay
- **First Consultative Round Table on Fostering Partnerships for Tackling the Declining Air Quality in Indian Cities- Opportunities for Energy Management** United Nations Environment Programme (UNEP) & International Institute for Energy Conservation. - Dr. K. Singh & Dr. Nitin Endlay
- **IPPTA Seminar on Technological Developments in Packaging Grade of Paper & Paper Board**, Vapi, November 26-27 2016 - Dr. Shivaker Mishra
- **Training Programme for Nodal Officers** RTI, CSIO, New Delhi, December 7, 2016 - Dr. M. K. Gupta
- **Workshop on DELNET : Resources, Services & Facilities and Open Source Software for Libraries**, Dev Sankriti Vishwavidyalaya, Haridwar - Smt. Sarita Sharma
- **IPPTA Seminar on Green & Clean Best Practises and Technologies in Papermaking** March 3-4, 2017 Chennai - Dr. Priti S. Lal and Smt. Anuradha Vipul Janbade.



GPRRI Scientists at IPPTA Seminar, Chennai

PAPERS PRESENTED AND LECTURES DELIVERED

IPPTA Zonal Seminar - 2016 held at Chandigarh on August 4- 5, 2016.

- An Innovative Approach to Debottleneck Pulp Mill and Chemical Recovery in Agro Based Paper Mill - Dr. A. K. Dhot

IPPTA Zonal Seminar on Green and Clean Best Practices and Technologies in Paper Manufacturing - 2017 held at Chennai on March 3 -4, 2017.

- An Integration Approach for Utilization of Rice Straw for Production of Various Grades of Paper - Dr. Priti S Lal
- Production of Fungal Xylanase and Laccase Enzymes for Enzymatic Pre-Bleaching Application - Smt. Anuradha V. Janbade

National Conference on Current Trends in Applied Sciences at J.V. Jain College, Saharanpur on March 18-19, 2017.

- Effect of Digester Additives on the Physical Properties of Kraft Pulp Produced from Eucalyptus Tereticornis - Dr. Arvind Sharma
- Evaluation of Lantana camara as a raw material for pulp and paper - Shri Kumar Anupam

National Conference on Inclusive Growth for Financial Inclusion and Social Development at Govt. Girls Degree College, Behat, Saharanpur on March 26-27, 2017.

- Potential use of Kari Grass for Paper Making to Improve Rural Life - Dr. Arvind Sharma
- Biomass Based Renewable Energy Opportunities from Pulp and Paper Mills - Shri Kumar Anupam

16th Cess Training Programme on "Advances in Pulping, Bleaching and Papermaking" at CPPRI Saharanpur on February 21-22, 2017.

- Antagonistic Effects and Remedial Measures for Hexenaromic Acid for High Quality Hard Wood Kraft Pulp - Dr. Arvind Sharma
- Individual and Interactive Effects of Process Parameters on the Properties of Oxygen Delignified Pulp - Shri Kumar Anupam

Invited Lecture at Govt. Sr. Sec. School, Harnaul, Haryana

- Interdependence of Pulp and Paper Industry on Agriculture - Shri Kumar Anupam



Training Programme on Best Practices in Environmental Governance , Centre for Science & Environment, New Delhi , October 15-16, 2016

- Environmental Management in Pulp & Paper Industry — Dr Nitin Endlay

Paperex South India- The Road Ahead for Paper and Packaging, Chennai November 11-13, 2016

- Biomethanation Technology In RCF based Paper Mills — Potential & Possibilities To Achieve Environmental Sustainability - Dr Nitin Endlay
- Three Stage Screw Press Washing of Unbleached Pulp- A Potential Option for Packaging Grade Agro-Based Paper Mill — Dr A.K.Dixit
- Laboratory & Pilot plant trials of Cris-Fibre for Producing High Alpha Cellulose Pulp - Dr. A. K. Dixit
- Development of Enzymatic Retining Process — A Green Technological Option for Efficient Processing of Recycled Waste Paper - Dr Nitin Endlay

REPRESENTATION IN EXTERNAL COMMITTEES

Ministry of Environment and Forests, New Delhi

- Expert member Committee for Import Policy for Waste Paper, Ministry of Environment & Forests, New Delhi – Mrs. Rita Tandon

Bureau of Indian Standards (BIS), New Delhi

- Member Sectional Committee CHD 15 of Bureau of Indian Standards (BIS), New Delhi for Development of Standards of different paper & its products- Mrs. Rita Tandon
- Member of BIS CHD-15 Committee of BIS, New Delhi – Dr. B.P.Thapliyal
- Convener of Alert Group of the CHD 15 committee of BIS – Dr. B.P.Thapliyal
- Convener of various panels constituted under CHD 15 of BIS – Dr. B.P.Thapliyal
- Member Alert panel of CHD 15 of Bureau of Indian Standards (BIS), New Delhi for Development of Standards of different paper & its products- Shri Anil Goel
- Alternate member of Paper and its Product Sectional Committee CHD15, Bureau of Indian Standard – Dr. Sanjay Tyagi
- Member of Alert group of Paper and its Product Sectional Committee CHD 15, Bureau of Indian Standard - Dr. Sanjay Tyagi
- Member of various panels constituted under CHD 15 of BIS – Dr. Sanjay Tyagi

Bureau of Energy Efficiency, New Delhi

- Expert member of committee of BEE for “Normalization of specific energy consumption in pulp and paper sector” – Dr. B.P.Thapliyal

Avantha Centre for Industrial Research and Development, Yamunanagar, Haryana

- Member Research Advisory Committee (RAC) of Avantha Centre for Industrial Research & Development Yamuna Nagar (Haryana) – Smt. Rita Tandon

Indian Pulp and Paper Technical Association

- Member Technical Committee – Smt. Rita Tandon



External Examiner

- M.Tech. (Pulp & Paper) course under IIT Roorkee – Smt. Rita Tandon
- External Examiner for DPT, IIT Roorkee – Dr. B.P.Thapliyal
- As an Examiner for evaluation of dissertations/ viva- voce exam of M.Tech and B.Tech students of department of paper technology, IIT Roorkee (SRE Campus) – Dr. Sanjay Tyagi

Others

- Technical committee to decide technical parameters of Sensitized All Over Ashoka Pillar Watermarked Gummed and Supercalendered Security Paper constituted by Indian Security Press, Nashik Road, (Maharashtra) – Dr. Sanjay Tyagi
- Field visit team formed under Central Capital Investment Subsidy Scheme (CCISS), 2007 for the inspection of M/s. Ashoka Kraft Paper Mills LLP, Dist. Kamrup, Assam- Dr. M. K. Gupta and Dr. Sanjay Tyagi
- Technical Committee for purchase of paper for printing and stationary department, UP Govt, Lucknow – Dr. R. D. Godiyal and Dr. Sanjay Tyagi
- Technical committee for purchase paper, Haryana- Govt, Chandigarh - Dr. R. D. Godiyal and Dr. Sanjay Tyagi

PUBLICATIONS

- Sharma, Abhilasha; Dixit, A.K. and Jain, R.K. **An innovative approach to debottleneck pulp mill and chemical recovery in agro based paper mill**; IPPTA, 20 (3), 187-191, 2016
- Sharma, Abhilasha; Dixit, A. K. and Jain, R.K. **Incremental capacity expansion of conventional chemical recovery system in an agro based paper mill**; Delta Journal of Environmental Research, 4(2), 110-116, 2016
- Roy, Amiya Kumar; Mondal, Prasenjit and Kumar Anupam. **Sustainability issues in the twenty-first century and Introduction to sustainable ways for utilization of natural resources**; Sustainable Utilization of Natural Resources, 1-17, 2017, CRC Press, United States
- Palodkar, Avinash V; Kumar Anupam; Banerjee, Saunhya and Halder, Gopinath, **Insight into preparation of activated carbon towards defluoridation of waste water: Optimization, kinetics, equilibrium, and cost estimation**; Environmental Progress & Sustainable Energy, 1-15, 2017.
- Mukherjee, Aparna; Halder, Seema; Datta, Deepshikha; Kumar Anupam, Hazra, Biren; Mandal, Mrinal Kanti and Halder, Gopinath **Free radical induced grafting of acrylonitrile on pre-treated rice straw for enhancing its durability and flame retardancy**; Journal of Advanced Research, 8 (1), 73-86, 2017.
- Dixit, A. K; Sharma, Abhilasha; Tarun and Thapliyal, B.P. **Three stage screw press washing of unbleached pulp- a potential option for packaging grade agro based paper mill**; Proceedings of Paperex South India International Technical Conference, 4 (4), 103-109, 2016.
- Gunja, Gupta, V; Jain, P; Sharma, C. K; Dixit, A. K. and Jain, R. K. **Production of bioethanol from water hyacinth by isolated thermotolerant bacteria**, International Journal of Current Science and Technology, 4 (5), 219-223, 2016.
- Janbade, A. V; Kumar, D; Joshi, N; and Tandon, R. **Selectivity of commercial biomass on control of microbial contamination**, IPPTA, 29 (1), 223-226, 2017
- Jain, R.K; Janbade, A.V; Kumar, D; & Gupta, V. **Development of enzyme assisted eco-friendly process for re-pulping of wet strength papers**, Paperex South India, 11-12 November, 2016.
- Kumar Anupam; Sharma, Arvind Kumar; Lal, Prithi Shrivhare and Bist, Vinlesh. **Physicochemical, morphological, and anatomical properties of plant fibers used for pulp and papermaking**; Fiber Plants: Biology, Biotechnology and Applications, 235-248, 2016-235-248, 2016, Springer, Switzerland.
- Kumar Anupam: **Finding eco-friendly ways of making paper**; Chemical Today Magazine, 1 (4), 68-70, 2016.

- Heinemann, Maria; Ray, A. K.; Tyagi, Sanjay; Kaushik, Prachi and H. Grubmann, "Surface Topological Analysis of coated and calendered paper for improved properties", 2/2016, Professional Papermaking, pp. 55 - 59.
- Sharma, Nidhi; Godiyal, R. D; Bhawani; Thapliyal, B. P and Kumar Anupam. **Pulping and bleaching of hydro distillation waste of citronella grass (*Cymbopogon winterianus* Jowitt) for papermaking**; Waste and Biomass Valorization, 1-11, 2017.
- Lal, Priti Shivhare; Dixit, A. K.; Kumar Anupam, Sharma, Arvind; Taron Kumar and Vinay Kumar. **Utilization of coir fibre for producing high alpha cellulosic quality paper manufacturing**; Proceedings of Paperex South India International Technical Conference, 4 (4), November 2016.
- Endlay, Nrin, Mishra; Shiyaker, Salim; Mohd., Panwar; Suresh **Biomethanation Technology in RCF based Paper Mills - Potential & Possibilities To Achieve Environmental Sustainability** Proceedings of Paperex South India International Technical Conference, November 2016.
- Lal, Priti S; Kumar Anupam, Sharma, Arvind; Panwar, Suresh and Tandon, Rita. **An integrated approach for utilization of rice straw for production of various grades of paper**; IPPTA Journal, 29(1), 175-179, 2017.
- Sreerava, N; Ganja, Jala, P; Kumar, D; Sharma, C. K; Janbade, A and Jain, R. K. **Characterization of pulp and paper mill effluent and its biological treatment by isolated bacterial consortia**, International Journal of Current Research, 8 (07), 33855-33858, 2016.
- Monga, Sourabh; Thapliyal, B. P; Tyagi, Sanjay and Naithani, Sanjay " **Relationship between strength properties and fiber morphological characteristics of *S. officinarum*- Part I: Regression and artificial neural network analysis**" International Journal of Science and Research (IJSR), 6 (1), pp. 1549 - 1556, 2017.
- Monga, Sourabh; Thapliyal, B. P; Tyagi, Sanjay and Sanjay Naithani, " **Relationship between strength properties and fiber morphological characteristics of *E. tereticornis* - Part II: Regression and artificial neural network analysis**" International Journal of Science and Research (IJSR), 6 (1), pp. 1557 - 1564, 2017.
- Pathak, Shallesh; Roy, A K; Tyagi, Sanjay; Thapliyal, B. P and Godiyal, R. D. " **Potential of high energy electron beam treatment for the higher pulp yield and energy savings**", IPPTA, 28 (2), April - June 2016.
- Tandon, R; Janbade, A V; and Gupta, V. **Production of fungal xylanase and laccase enzymes for enzymatic pre-bleaching application**, IPPTA, 29 (1), 188-191, 2017.

REPORTS PREPARED

During the year 2016-2017 various reports related to pulping bleaching, waste paper processing, Environmental management etc. were prepared. The details are as under :-

Pulping and Bleaching

- **Laboratory studies for evaluation of empty fruit bunches sample** submitted to 3 F Oil Palm Agrotech Private Limited, Hyderabad, Telangana
- **Pilot plant trial of ROH-AQ pulping of bagasse** submitted to Queensland University of Technology, Australia
- **Laboratory and Pilot Plant trials of Coir Fibers** submitted to Indian Institute of Carpet Technology, Bhadohi, U.P.
- **Evaluation of efficacy of cooling additive i.e. booster 55 on eucalyptus hardwood chips** submitted to Nipuna International Pvt. Ltd. Kochi, Kerala
- **Oxygen pretreatment followed by CEopHEpD and DEopHEpD bleaching of hardwood pulp** submitted to Grasim Industries Ltd Unit Harihar Polyfibers Kumarapatnam, Karnataka.
- **Evaluation of additive pulping of mix hard wood sample** submitted to Paras Bio Sciences Pvt. Ltd., J.P.Nagar, Bengaluru, Karnataka.
- **Additive pulping of hardwood sample** submitted to Novocare India Technical Specialty-IF Business, Titane, Maharashtra
- **ECF Bleaching of Hardwood Pulp** submitted to BITS Pilani- Hyderabad Campus, Telangana.
- **Laboratory and pilot plant extraction of pulping trials of hardwood** submitted to ITC Life Sciences & Technology Centre, Bengaluru, Karnataka

Wet End Chemistry and Waste Paper Processing

- **Stickies profiling of top liner fibre line** submitted to ITC Limited, PSPD Unit, Koval, Tamilnadu.
- **Troubleshooting and evaluation of wet end chemistry** submitted to Satia Industries Ltd., Muktsar (Punjab)



Environment Management

Verification Report of Action Plan for Charter Compliance

- Bilt (Unit Shree Gopal), Yamunanagar
- RD Papers Limited, Kanpur, Uttar Pradesh
- Kaushambi Paper Mills Limited, Gajraula, Uttar Pradesh
- Shri Krishna Board Mill Limited, Saharanpur Uttar Pradesh
- DLS Paper Pvt Limited, Muzaffarnagar, Uttar Pradesh
- Orient Paper Mill, Shahdol, Madhya Pradesh
- Newal Calcutta Private Limited, Chandauli, Uttar Pradesh
- JB Daruka Paper Limited, Uttar Pradesh

Charter Progress Verification Quarterly Report

- Bindias Duplex Limited, Muzaffarnagar, Uttar Pradesh
- Disha Industries Private Limited, Muzaffarnagar, Uttar Pradesh
- Bilt (Unit Shree Gopal), Yamunanagar, Haryana
- Manvi Papers Limited, Shamli, Uttar Pradesh
- Parwari Papers Limited, Meerut, Uttar Pradesh
- Nidita Paper Limited, Shamli, Uttar Pradesh
- Tanki Newsprint Limited, Meerut, Uttar Pradesh
- Sangal Paper Limited, Mayama, Uttar Pradesh
- Shri Ramchander Straw Products Limited, Moradabad Uttar Pradesh
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh
- Chandpur Enterprises Limited, Bijnor, Uttar Pradesh
- Dev Priya Product Pvt. Limited, Meerut, Uttarakhand
- Shri Venkatesh Paper Mill Limited, Meerut, Uttar Pradesh

- Kanav Papers Private Limited, Meerut, Uttar Pradesh
- Ved Cellulose Limited, Hapur, Uttar Pradesh
- Sandeep Paper Mills Pvt Limited, Noida, Uttar Pradesh
- New Bananza India Limited, Meerut, Uttar Pradesh
- Dev Priya Papers Private Limited, Meerut, Uttar Pradesh
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh
- Magnum Ventures Limited, Sahibabad, Uttar Pradesh
- Mahalaxmi Craft and Tissues Private Limited, Muzaffarnagar, Uttar Pradesh
- Disha Industries Limited, Muzaffarnagar, Uttar Pradesh
- Agarwal Duplex Boards Mills Limited, Muzaffarnagar, Uttar Pradesh
- NS Paper Limited, Muzaffarnagar, Uttar Pradesh
- Shalumbhari Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Cheema Papers Limited, Kashipur, Uttarakhand
- Bahi Paper Mills Limited, Kashipur, Uttarakhand
- Modinagar Paper Mills Limited, Ghaziabad, Uttar Pradesh
- Prolific Papers (P) Ltd, Kashipur, Uttarakhand
- Soyash Kraft and Paper Limited, Muzaffarnagar, Uttar Pradesh
- Sochi Paper Mills Limited, Gautam Buddh Nagar, Uttar Pradesh
- Vishwanath Paper & Boards Limited, Jaspur, Uttarakhand
- Deviishi Papers Private Limited, Jaspur, Uttarakhand
- Filremark Papers Limited, Shivrajpur, Uttar Pradesh
- Sahota Papers Limited, Jaspur, Uttar Pradesh
- Tirupati Balaji Fibers Limited, Muzaffarnagar, Uttar Pradesh
- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Meenu Paper Mills Limited, Muzaffarnagar, Uttar Pradesh



- [Silverton Pulp & Paper Private Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Genua Paper & Boards Limited, Moradabad, Uttar Pradesh](#)
- [Arvno Craft and Tissues \(P\) Limited, Roorkee, Uttarakhand](#)
- [Sagar Paper Mills Private Limited, Roorkee, Uttarakhand](#)
- [Sagar Pulp and Paper Mills Private Limited, Roorkee, Uttarakhand](#)
- [Uttaranchal Pulp & Papers Limited, Roorkee, Uttarakhand](#)
- [Shree Bhageshwari Paper Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Bindlas Duplex Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Rama Paper Mills Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Shree Baderi Kedar Paper Limited, Najibabad, Uttar Pradesh](#)
- [Shakti Kraft & Tissues Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Lalji Board Industries Private Limited, Faizabad, Uttar Pradesh](#)
- [SR Mittal Paper Limited, Sitababad, Uttar Pradesh](#)
- [Shree Siddhahi Paper Mills Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Garg Duplex & Paper Mills Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Shree Bhageshwari Paper Mills Limited, Muzaffarnagar, Uttar Pradesh](#)
- [DLS Paper Mills Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Tehri Pulp and Paper Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Kamaeshi Papers \(P\) Limited, JP Nagar, Uttar Pradesh](#)
- [Shakti Krafts and Tissue Paper Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Galaxy Papers Pvt. Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Aristocraft Papers Pvt. Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Anand Duplex Limited, Muzaffarnagar, Uttar Pradesh](#)
- [Anand Triplex Board Limited, Muzaffarnagar, Uttar Pradesh](#)
- [PSB Papers Limited, Kashipur, Uttarakhand](#)

- Rajlaxshmi Paper & Board Limited, Buxpur, Uttarakhand
- Guraya Straw Board Limited, Kashipur, Uttarakhand
- Banwari Paper Mill Limited, Kashipur, Uttarakhand
- Katyayini Paper Mill Limited, Kashipur, Uttarakhand
- Silverton Papers Limited, Muzaffarnagar, Uttar Pradesh
- Nav Bharat Duplex Limited, Hapur, Uttar Pradesh
- Bindals Duplex Limited, Muzaffarnagar, Uttar Pradesh
- Vishvakarma Paper and Boards Limited, Kashipur, Uttarakhand
- Ganga Pulp & Papers Limited, Chandauli, Uttar Pradesh
- Naini Papers Limited, Kashipur, Uttarakhand
- Naini Tissues Limited, Kashipur, Uttarakhand
- Mohit Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- Deoria Paper Mills Limited, Deoria, Uttar Pradesh
- Rayana Paper Boards Industries Limited, Unit-I Sant Kabir Nagar, Uttar Pradesh
- Rayana Paper Boards Industries Limited, Unit-II Sant Kabir Nagar, Uttar Pradesh
- KR Pulp and Papers Limited, Unit-I Shahjahanpur, Uttar Pradesh
- KR Pulp and Papers Limited, Unit-II Shahjahanpur, Uttar Pradesh
- Ramnaa Shyama Paper Limited, Bareilly, Uttar Pradesh
- Maziti Papers Limited, Shamli, Uttar Pradesh
- Nikita Paper Limited, Shamli, Uttar Pradesh
- Magnum Ventures Limited, Ghazipur, Uttar Pradesh
- Sandeep Paper Mills Limited, Gautambuddh Nagar, Uttar Pradesh
- Galaxy Paper Mills Limited, Muzaffarnagar, Uttar Pradesh
- K.M. Papers Limited, Kichha, Uttarakhand
- Sahota Paper Limited Kashipur, Uttarakhand



- Goraya Straw Board Mills Private Limited, Kashipur, Uttarakhand
- Siddharth Paper Private Limited Unit-I, Kashipur, Uttarakhand
- Siddharth Paper Private Limited Unit-II, Kashipur, Uttarakhand
- Siddheswari Paper Udyog Limited, Kashipur, Uttarakhand
- Vishwanath Paper & Boards Limited, Jaspur, Uttarakhand
- Prolific Papers (P) Limited, Kashipur, Uttarakhand
- Katyayani Paper Mill Limited, Kashipur, Uttarakhand
- Fibremark Papers Limited, Shivrajpur, Uttar Pradesh
- Bahl Paper Mills Limited, Kashipur, Uttarakhand
- KR Pulp and Papers Limited, Unit-I Shahjahanpur, Uttar Pradesh
- KR Pulp and Papers Limited, Unit-II Shahjahanpur, Uttar Pradesh

ETP Adequacy

1. NS Paper Limited, Muzaffarnagar, Uttar Pradesh
2. Bajlakshmi Paper and Board Pvt. Limited, U.S. Nagar, Uttarakhand
3. Sagar Paper Mills Private Limited, Roorkee, Uttarakhand
4. Fibremark Papers Limited, Shivrajpur, Uttar Pradesh
5. Ramna Shyama Paper Limited, Bareilly, Uttar Pradesh

ZLD Report

- Anandeshwar Industries (P) Limited, Kanpur, Uttar Pradesh
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh

ETP Performance Evaluation

- Kuntum Paper Limited, Hoshiyarpur, Punjab
- Tahiri Pulp and Paper Limited, Muzaffarnagar, Uttar Pradesh

- Siddharth Paper Private Limited, Unit-I, Kashipur, Uttarakhand
- Siddharth Paper Private Limited, Unit-II, Kashipur, Uttarakhand
- Siddhewari Paper Udyog Limited, Kashipur, Uttarakhand
- Bahl Paper Mills Limited, Kashipur, Uttarakhand
- Shree Sidhahi Paper Mills Limited, Motafarnagar, Uttar Pradesh

Improved chemical Recovery and Energy Efficiency through Liquor Heat Treatment in combination of Desilication

- Liquor Heat Treatment followed by Desilication of Agro-Based Black Liquor submitted to Trident Limited, Barnala, Punjab
- Liquor Heat Treatment of Bagasse Black Liquor (submitted to KR Pulp and Papers Limited, Shahjahanpur, Uttar Pradesh)
- Black Liquor Heat Treatment submitted to Century Pulp & Paper, Lalkuan, Uttarakhand)

Biotechnological Applications

- Evaluation of enzyme – Enzymatic refining submitted to Noor Enzyme Private Limited, Kolkata, W.B.
- Microbial study at Security Paper Mill, Hoshangabad submitted to Security Paper Mill, Hoshangabad, M.P.

Process Evaluation

- Inspection/Assessment Report of Field Visit Team (FVT) on Central Capital Investment Subsidy Claim of Ashoka Kraft Paper Mill LLP, Assam

Energy Management

- Paperboard and Specialty Paper Division- Unit JTC Triveni submitted to Sectoral Task Force Committee – Paper Sector, BEE, New Delhi.

OVERSEAS VISIT

Under the UNIDO project **Development & Adoption of Appropriate Technologies for Enhancing Productivity in the Paper and Pulp Sector** following overseas visit were undertaken by CPPRI Scientists during 2016-17 to get exposure / ideas on latest R&D trends and activities related to pulp and paper making, new technological advancement, biorefinery, nano cellulose applications and environmental management etc. in the visiting countries, which are either ready for adoption or could be developed indigenously for improving competitiveness & sustainability of Indian paper industry:

CPPRI Scientists Smt. Rita Tandon & Dr. S. Panwar along with Shri R.C. Rastogi (IRPMA), Shri PG. Mukundan, Shri Rohit Paudil (IPMA), Shri R. Vijay Kumar (INMA), Shri Mohd. Zakaria Khan Yusufi (DIPP) and Shri Vikas Kumar (UNIDO) Paper & Fiber Institute, Trondheim, Norway, Biorefinery facility at Sparborg, Norway, Norske Skog Paper Mill, Halden, Norway, Inventa, Stockholm, Sweden and Confederation of European Paper Industries, Brussels, Belgium under a 10 days study tour Norway, Sweden & Belgium from November 2-11, 2016.

The second delegation comprising of CPPRI scientists Dr. M.K. Gupta, Dr. R.D. Godiyal, Dr. A.K. Dhot & Dr. Nitin Endley and Dr. R.K. Jain (UNIDO) visited R&D institutes like PFI, KTH, Mid Sweden University, Inventa, Processum during a 10 days study tour to Norway and Sweden from February 14-23, 2017. They also visited Domsjo and Norske Skog Skog Paper mills to see the latest technological development and state of art technologies adopted by the mills.







VISITS TO PULP AND PAPER MILLS & OTHER ORGANISATIONS

During the year 2016-2017 CPPRI Scientist visited many pulp and paper mills to provide technical and consultancy services. The scientist also visited various academic and scientific institutes and organisations, regulatory bodies, ministries etc. in connection with various collaborative activities, meetings and discussions. The summary of visits undertaken by the CPPRI scientist is as under:-

Raw Material Collection/ Evaluation, Pulping and bleaching Trials and Project Studies

- Shreyans Industries Limited, Ropar, Punjab - Dr. Rajnish Tandon, Dr. Arvind Sharma and Shri Vinay Swaroop
- Ayantha Centre for Industrial Research & Development (ACIRD), Yamunanagar, Haryana - Dr. R. D. Godiyal, Dr. Nitin Endlay and Dr. Sanjay Tyagi
- Bindals Papers Mills Limited, Muzaffarnagar, Uttar Pradesh - Dr. Priti Shivhare Lal, Dr. Arvind Kumar Sharma and Shri Vinay Swaroop
- Bachira Papers Limited, Kalaamb, Himachal Pradesh - Shri Anik Kumar Goel and Shri Sandeep Kumar
- Seshasayee Paper and Boards Limited, Erode, Tamil Nadu - Dr. Arvind Sharma

Implementation of CPCB Charter for Water Recycling and Pollution Prevention in Pulp and Paper Industries of Ganga River Basin

- Quarterly Charter Progress Verification of over 100 Pulp & Paper Mills of Uttar Pradesh & Uttarakhand - Dr. S. Panwar, Dr. M.K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Mohd. Salim, Shri Raj Pal Singh, Shri Abhishek Tyagi & Shri Amitabh Raj

ETP Adequacy Assessment - Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim

- NS Paper Limited, Muzaffarnagar, Uttar Pradesh
- Rajlakshmi Paper & Board Pvt. Ltd. U.S. Nagar Uttarakhand
- Sagar Paper Mills Private Limited, Roorkee, Uttarakhand
- Fibremark Papers Limited, Shivrappur, Uttar Pradesh
- Rama Shyama Paper Limited, Bareilly, Uttar Pradesh

Evaluation of Zero Liquid Discharge Feasibility - Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim

- Anandeshwar Industries (P) Limited, Kanpur, Uttar Pradesh
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh

ETP Performance Evaluation - Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim

- Tehri Pulp and Paper Limited, Muzaffarnagar, Uttar Pradesh
- Siddharth Paper Private Limited Unit-I, Kashipur, Uttarakhand
- Siddharth Paper Private Limited Unit-II, Kashipur, Uttarakhand
- Siddheswari Paper Udyog Limited, Kashipur, Uttarakhand
- Bahl Paper Mills Limited, Kashipur, Uttarakhand
- Shree Sidhbal Paper Mills Limited, Muzaffarnagar, Uttar Pradesh

Environmental Monitoring / Technical Services

- Century Pulp and Paper Limited, Lalkuan, Uttarakhand - Dr. Nitin Endlay, Shri R. P. Singh, Mohd. Salim
- Bilt (Unit Shree Gopal) Yamuna Nagar, Haryana - Dr. Nitin Endlay & Mohd Salim
- Shreyana Industries Limited, Ahmedgarh, Punjab - Shri Raj Pal Singh and Mohd. Farid
- International Papers Limited, Rajahmundry, Andhra Pradesh - Dr.M.K. gupta, Shri Raj Pal Singh and Mohd. Salim
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh - Shri Raj Pal Singh, Shri M.S. Bhandari and Shri Mohd Salim
- Sandeep Paper Mills Limited, Noida, Uttar Pradesh - Dr. Nitin Endlay and Mohd. Salim

Hazardous Waste Audit

- Century Pulp and Paper Limited, Lalkuan, Uttarakhand - Dr. Nitin Endlay and Mohd. Salim

Water Audit / Calibration of Flow Meter

- The West Coast Paper Mills Limited, Dandell, Karnataka - Dr. S. Mishra and Mohd. Salim



- ITC Tirburi, West Bengal - Dr. M. K. Gupta and Mohd. Salim

Process Evaluation

- Satya Paper Mill, Muktsar, Punjab - Shri. Alak Kumar Goel, Shri Satya Dev Negi and Shri Kuldeep Sharma
- ITC Limited - Paperboards & Specialty Papers Division, Koyal - Shri Satya Dev Negi, Shri Kuldeep Sharma and Shri Vinay Kumar
- Century Pulp and Paper, Lalkua Uttarakhand - Shri Satya Dev Negi, Shri Mayank Thapliyal and Shri Vinay Kumar

Energy Audit/ Assistance to BEE/ Collection of Energy Consumption Data

- Bureau of Energy Efficiency (BEE), New Delhi - Dr. B.P. Thapliyal
- ITC Limited - Paperboards & Specialty Papers Division, Tirburi - Dr. B.P. Thapliyal and Sh. A.K. Goel

Chemical recovery - Troubleshooting/ Adequacy assessment Consultancy/ Mill Trials/ Project Studies

- Brahmaputra Paper Pvt. Limited, Tirmile, Assam - Dr. R.K. Jain
- Gorg Duplex & Paper Mills Pvt. Limited, Muzaffarnagar, Uttar Pradesh - Dr. R.K. Jain and Dr. A.K. Dixit
- Tehri Pulp & Paper Limited, Muzaffarnagar, Uttar Pradesh - Dr. R.K. Jain and Dr. A.K. Dixit
- Trident Limited, Barnala, Punjab - Dr. R.K. Jain, Dr. A. K. Dixit, Shri Kumar Anupam and Dr. Tarun
- Century Pulp and Paper, Lalkua, Uttarakhand - Dr. B. P. Thapliyal and Dr. R. D. Godiyal
- KR Pulp and Papers Limited, Shahjahanpur, Uttar Pradesh - Dr. A.K. Dixit, Shri Kumar Anupam and Dr. Tarun
- Century Pulp and Paper, Lalkua, Uttarakhand - Dr. A.K. Dixit, Shri Kumar Anupam, Dr. Tarun and Shri Harshit Divesh
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh - Dr. A. K. Dixit and Dr. Tarun

Biotechnological Applications

- Ramna Shyama Papers Limited, Haridwar, Uttar Pradesh - Dr. R. K. Jain and Shri Dharmender Kumar

- Star Paper Mills Limited, Saharanpur, Uttar Pradesh - Smt. Anuradha Janbade, Shri Dhermander Kumar and Shri Vipin Gupta
- Security Paper Mill, Hoshangabad, Madhya Pradesh - Smt. Anuradha Janbade, Shri Dhermander Kumar and Shri Vipin Gupta
- Tirupati Balaji Paper Mill, Muzaffarnagar, Uttar Pradesh - Smt. Anuradha Janbade and Shri Dhermander Kumar

Library Management

- Jawahar Navodaya Vidyalaya, Ambedka Chand, Saharanpur, Uttar Pradesh - Smt. Sarita Sharma and Km. Ravita Saini

Scientific / Academic Institutes & Other Organizations

- Forest Research Institute, Dehradun - Dr. R. K. Jain, Dr. A. K. Dixit and Shri A. S. Negi
- United Nations Industrial Development Organization (UNIDO), New Delhi - Dr. R.K. Jain and Dr. A.K. Dixit
- United Nations Industrial Development Organization (UNIDO), New Delhi - Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A.K. Dixit and Dr. Nitin Endray
- Indira Gandhi National Open University (IGNOU) New Delhi - Dr. R. K. Jain and Dr. R. D. Godiyal
- Ashoka Kraft Paper Mills Ltd., Dist. Kamrup, Assam - Dr. M. K. Gupta and Dr. Sanjay Tyagi
- Printing and Stationary Department, Chandigarh - Dr. R. D. Godiyal and Dr. Sanjay Tyagi



VISITORS TO CPPRI

During 2016-17 CPPRI was visited by various international / national technocrats, scientists, academicians, officials from various pulp, paper and allied industries for consultation, technical services and training. Some of them are mentioned as under:

International

- Mr. Ander Isaksson, UNIDO Expert
- Mr. Jari Mannikko, UNIDO Expert
- Mr. Harri Onal, Department of Forest Sciences, University of Helsinki, Finland
- Mr. Jan Håraldsen, UNIDO Expert

National

- Shri Shailendra Singh, Joint Secretary, DIPP, Ministry of Commerce & Industry, Government of India, New Delhi
- Dr. Vandana Kumar, Joint Secretary, DIPP, Ministry of Commerce & Industry, New Delhi
- Shri Arvind Kumar, Secretary, Jute Commission of India, Kolkata
- Shri Gokul Chand, Under Secretary, DoIPP, Government of India
- Shri. A.Pabuja, Director General, NCBM, Ballabgarh, Haryana
- Sh. Vikas Kumar, Dr. R.K. Jain, Ms Ashima Marwah, UNIDO IC- ISID, New Delhi
- Shri Sandeep Bhalla and Shri Mayank Jindal, JK Paper Limited, New Delhi
- Sh.S.N. Bhattacharyya, Director (Operations), Hindustan Paper Corporation Limited, Kolkata
- Smt Rama Devi and Shri T Anantha Nag, Assistant Scientist, ITC-Life Sciences and Technology Centre, Bangalore
- Dr. Nishikant Bharadwaj, Director, Dr. Sunil Kumar and Shri Sandeep Tripathi, Scientist, Avantha Centre for Industrial Research and Development, Yamuna Nagar
- Dr.HS Guwal, Dr.A.K.Tripathi, Dr. Sanjay Nathani, FRI (Deemed University), Dehradun
- Shri Shalabh Agarwal, Consultant.

- Dr. Shri Ashok Kumar, Scientist., Division of Genetics and Tree Propagation, Forest Research Institute, Dehradun
- Mr. Laxmi Prasad & Mr. Piyosh Shah, International Paper
- Shri Aligeri, ITC Bhadarchalam, Hyderabad
- Shri H.K. Madan, BILT (Unit Shri Gopal) Yamunanagar
- Shri Arun Tyagi, Hari Om Industries, Kanpur
- Shri Amit Chakravorty, Consultant, Kolkata
- Shri H.K. Madan, BILT (Unit Shree Gopal), Yamunanagar
- Shri Suresh Kumar, Cochin Minerals & Rutile Ltd, Kerala
- Mr. Naresh Kumar, Century Pulp & Paper, Lalnan
- Dr. Mohan Lal, Khatema Fibers Ltd, Khatima, Uttarakhand
- Shri D.K. Singhal, Chandpur Enterprises Ltd, Noorpur, Uttar Pradesh
- Shri. Manoj Pundit, Hindal Papers Limited, Mozaffarnagar
- Shri Himanshu Marwal, Sidharth Paper Mills Ltd, Kashipur
- Shri P.N. Tailor, Pragati Papers Limited
- Shri Mahesh Bagro, Century Rayon
- Shri B. Pal, HPCL, New Delhi

Visit of Shri Shailendra Singh, IAS, Joint Secretary DIPP



Visit of Dr. Vandana Kumar, IDAS, Joint Secretary DIPP



Visit of UNIDO Experts





M.Sc. (Cellulose & Paper Technology)

(A Joint Collaborative Course of PRI (Deemed University), Dehradun & CPPRI, Saharanpur.)

Activities

The final year classes of the students of the fourth batch (2015-17.) of **M.Sc. (Cellulose and Paper Technology)** were conducted at CPPRI. Both theoretical and practical knowledge on various aspects of pulp and paper making, i.e. raw material handling and preservation, pulping and bleaching, stock preparation and paper making, paper recycling, chemical recovery, environmental management and biotechnological applications were imparted to the students by CPPRI scientists and guest faculty.

The students of M.Sc. (Cellulose & Paper Technology) went on an industrial tour along with Dr. Nitin Endley & Shri Mohd Salim to Century Pulp & Paper, Lalkuan and Derrishi Papers Limited, Kashipur to get conversant about the technologies and process adopted by wood based, agro based and waste paper based pulp and paper mills for paper making as well as effluent treatment systems adopted by the mill.

The students also undertook a two month compulsory industrial training at Century Pulp & Paper, Shreyans Paper industries & Star Paper Mills Limited as a part of curriculum.

A guest lecture by Shri Naresh Kumar of Century Pulp & Paper was delivered on latest trends in Paper making & Environmental Management.

The students observed **Teachers Day** on September 5, 2016 and organised a cultural programme in honour of CPPRI faculty.

The students also participated in the debate and poster competition organised to commemorate **Vigilance Awareness Week 2016**.

List of Students

Akshay Dhiman, Amrag Pandey, Aakansha, Gargi Thakur, Kanishka Salwan, Nishigandha Walker, Namita Singh, Saurabh Kumar, Shraddha Chaudhary, Shobhar Kumar, Sanchit Vishwakarma, Talim Hasan Shaan



An interactive session of Shri Naresh Kumar, Century Pulp & Paper with MSc (CPT) Students)



Glimpses of Industrial tours

FINANCIAL REPORT

2016-17



SANJAY MISRA & CO.
Chartered Accountants

116, New Arav Vihar Colony,
Delhi Road, Saharanpur
Phone: (0132) 2760642

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An autonomous organisation registered under societies Act under the administrative control of the
Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

AUDITOR'S REPORT TO THE MEMBER OF THE CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR

We have audited the attached Balance Sheet of CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR (U.P.) as on 31.3.2017 and Income and Expenditure account & Receipt & Payment Account for the year ended on that date, which is in agreement with the books of accounts maintained by the Institute. These financial statements are the responsibility of the auditees management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit include examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of audit. In our opinion proper books of accounts have been kept/maintained by the Institute.

In our opinion and to the best of our information and according to the explanation given to us, the said account reads with notes thereon, give a true and fair view in conformity with the accounting principles generally accepted in India:

- (i) In case of Balance Sheet, of the state of affairs of the Institute as at 31.03.2017, and
- (ii) In the case of Income & Expenditure Account, of the deficit for the year ended on 31.03.2017.

For SANJAY MISRA & CO.
Chartered Accountants

Date: 14/09/17
Place: Saharanpur

(SANJAY MISRA)
F.C.A., ISA (DISA)



SANJAY MISRA & CO.
Chartered Accountant

116, New Azad Vikas Colony,
Delhi Road, Saharanpur
Phone (0132) 2760642

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BALANCE SHEET AS AT 31.3.2017

PARTICULARS	Schedule	Amount (Rs.)	
		Current Year 2016-17	Previous year 2015-16
CAPITAL FUND AND LIABILITIES			
CAPITAL FUND	1	130485890.62	120950688.74
UN-UTILISED SP. PROJECT & CONSULTANCY	2	14148.51	14148.51
UNUTILISED GRANTS	3	21789645.56	25069753.64
CURRENT LIABILITIES AND PROVISIONS	4	71038781.15	77370734.90
TOTAL		223328465.84	223405325.79
ASSETS			
FIXED ASSETS	5	98403410.20	101779252.97
CURRENT ASSETS, LOANS, ADVANCES, ETC.	6	120925055.64	121626072.82
TOTAL		223328465.84	223405325.79

The Schedules referred above form an integral part of the Balance Sheet.

As per our separate report of even date:
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

116, New Avas Vikas Colony,
Delhi Road, Saharanpur
Phone (0132) 2760642

CENTRAL PULP & PAPER RESEARCH INSTITUTE

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.3.2017

Amount (Rs.)

PARTICULARS	SCHEDULE	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
A: INCOME			
Income from Institutional & Consultancy fee	7	15207030.00	22687949.00
Grants from Govt. of India	8	101120963.08	76370109.00
Fees/Subscription	9	377000.00	534973.00
Interest earned	10	6524783.00	5159446.00
Other income	11	716127.28	743811.00
TOTAL (A)		123945903.36	105496288.00
B: EXPENDITURE			
Establishment expenses	12	83499852.87	77595687.80
Administrative Expenses etc.	13	28215308.81	26930077.84
Depreciation for current year	5	13124684.80	13887134.08
TOTAL (B)		124839846.48	118412899.52
Excess of Expenditure over Income (B-A)		892943.12	12916811.52
Excess of Income over Expenditure(A-B)		0.00	0.00

The Schedules referred above form an integral part of the Income and Expenditure Account.

As per our separate report of own date:
For SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
FCA, ISA (USA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



CENTRAL PULP & PAPER RESEARCH INSTITUTE

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(POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (UP))

RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31.3.2017

Amount (Rs.)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
Opening Balance			By Grant Refunded to Ministry	0.00	1000000.00
To Cash Balance	28877.34	18882.34	By Interest on Grant refunded to Ministry	0.00	21433.00
To Bank Balance in current account	2465173.04	3614934.23	Establishment Expenses		
To Deposit Accounts/Savings money	802101.00		By Salary & Allowances	2196647.47	2492210.00
Against letter of Credit		2008419.00	By CIP Contribution	3000407.00	3003721.00
To Deposit Accounts	3768116.00	3481431.00	By Encashment of Loans	3376562.00	3614934.00
Grant Received			By Grants paid	12293761.00	9949337.00
To Grant in Aid/MOJ GOI	27000000.00	27000000.00	By Reimbursement of Medical Exp.	2471984.00	2479980.00
To Grant in Aid/Development account	87270000.00	87251000.00	Other Administrative Expenses		
Grant Finance/Agriwise GOI	2500000.00	0.00	By Lab & Plant Maintenance	419388.00	821001.13
Interest Received			By Garage & Fuel	3031.00	8894.00
To Int. from Staff Co. Society, etc. (BANK)	288761.00	418753.00	By Electricity and water	787720.00	7002250.00
To Interest received on MDR	1349192.00	126287.00	By Insurance	0.00	142.00
Other Income			By Repair & Maintenance of Assets	4156488.23	6877188.57
To Sale of Publication	10842.00	73003.00	By Rent & Taxes	54900.00	623400.00
To Printing fee	15488012.00	15584185.00	By Postage & Teleposts & communication	365643.25	600121.00
To Consultancy fees	4588836.00	3874017.00	By Printing & Stationery	1238879.36	1378229.00
To Training fees	287388.00	304073.00	By Travelling & Conveyance Exp.	1459058.00	1386857.00
To Membership fee	48100.00	89500.00	By Testing fee	38573.00	61238.00
To Loans paid	10000.00	25000.00	By Hospitality Expenses	254760.00	105100.00
To Medical aid	134700.00	182175.00	By Legal & Professional Exp.	82200.00	148854.00
To Miscellaneous Receipt	1067594.00	118233.00	By Audit fees	8755.00	9999.00
To License fee	34000.00	36821.00	By Training Expenses	183007.00	84825.00
To Festival Advances	10000.00	88100.00	By Water & Wash	3100719.00	2677038.00
To House Building Advances	340728.00	355660.00	By Bunk charges	18948.00	36290.00
To Computer Advances	180000.00	222660.00	By Advertisement	664101.00	307940.70
To Computer Advances	205700.00	252025.00	By Exp. on Seminar & Workshop	480.00	3970.00
To Service Tax	224885.00	1781800.00	By Manpower subscription	50088.00	10080.00
To Education case	0.00	49704.00	By News Paper	13586.00	32150.00
To H Education case	0.00	104.00	By Staff Car Maintenance	179257.00	304123.00
To Search Sheet Case	8104.00	21717.00	By Hotel Dinner Exp.	1300.00	0.00
To K.K. Case	8888.00	347.00	Search Sheet Advance Exp.	89136.00	0.00
To TDS Refund	0.00	1148801.00	By Loans	8889.00	0.00
To Security from Staff	0.00	0.00	By PND Falcoville	0.00	307000.00
To Security from contracts	180.00	200.00	By Front Asset Capital work in Progress	6223444.00	1121733.78
To Security from Student	24000.00	34000.00	Other Payments		
To Misc. Charge Fee	100000.00	68000.00	By Adv. for Assets	6000.00	6300.00
To Laboratory Fee	18000.00	10000.00	By L.O.S.	4821211.00	4821440.00
To Library Fee	10000.00	4000.00	By Interest on TMS	0.00	3273.00
To Sale of Assets	95000.00	0.00	By Amount Recoverable	0.00	00.00
To Current Ministry received	48866.00	0.00	By Service Tax	187499.00	3883070.00
To Refunded from UNICO	110084.00	0.00	By Education Case	0.00	12001.00
To amount recoverable	1782.00	0.00	By H. Education Case	0.00	8028.00
			By Search Sheet Case	74388.00	8043.00
			By K.K. Case	4888.00	0.00
			By Interest on Service Tax	0.00	8070.00

			By Penalty on Service Tax	0.00	19447.00
			By Governmental Service Tax	420004.00	916423.00
			By Governmental Education Cess	0.00	2700.00
			By Governmental H. Education Cess	0.00	1350.00
			By Governmental S.A. Cess	12018.00	0.00
			By Festival Advance	72000.00	90000.00
			By Corporate Advance	100000.00	100000.00
			By Corporate Advance	140000.00	220000.00
			By Security Deposit	22000.00	801700.00
			By Trade Tax	0.00	111375.00
			By Security provided to student	10000.00	20500.00
			By SECURITY PROGRAM TO STAFF	0.00	3000.00
			By CPRI Training	0.00	100000.00
			By UNICEF Project	0.00	1140000.00
			By CPRI ECFT Trust	651002.70	0.00
			Closing Balance:		
			By Cash Balance	10000.00	20000.00
			By Bank Balance on current account	-121700.00	2880400.00
			By Deposit A/c(Margin money against L.C.)	1054000.00	8154000.00
			By Deposit Accounts	6000000.00	2700000.00
TOTAL	DEBITORS	CREDITORS	TOTAL	28600000.00	28600000.00

As per our separate report of even date.
For SANJAY MISRA & CO.
 CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
 FCA, ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

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Delhi Road, Saharanpur
Phone (0132) 2760642

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P)

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE 1 - CAPITAL FUND

Amount (Rs.)

PARTICULARS	CURRENT YEAR 2016-17		PREVIOUS YEAR 2015-16	
	CAPITAL FUND			
Balance Rs. at the beginning of the year	120950688.74		123648944.40	
Add:-				
1. Grants towards Capital Fund	8617097.00		9112789.00	
2. Less project(Capital purpose)	1812048.00		1105868.86	
	101079833.74		133867300.26	
less:-				
Balance of net expenditure transferred from the income & expenditure account	893943.12	130485890.82	12816611.52	120950688.74
BALANCE AS AT THE YEAR - END		130485890.82		120950688.74

As per our separate report of even date,
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
E.C.A. ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.04.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

**SCHEDULE - 2- DETAILS OF UN-UTILIZED AMOUNT
SPONSORED PROJECT/ CONSULTANCY**

Amount (Rs.)

Sl. No.	NAME OF PROJECT	CURRENT YEAR	PREVIOUS YEAR
		2016-17	2015-16
		AMOUNT	AMOUNT
1	CPCB	13024.26	13024.26
2	DBT-Technological improvement of Process	1124.25	1124.25
		14148.51	14148.51

As per our separate report of even date:
For SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
FCA, ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14/09/17

Place: Saharanpur

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 4- CURRENT LIABILITIES AND PROVISIONS

Amount (Rs.)

S. No.	PARTICULARS	CURRENT YEAR 2016-17		PREVIOUS YEAR 2015-16	
A.	CURRENT LIABILITIES AND PROVISIONS				
	CURRENT LIABILITIES:				
	Other Liabilities				
1.	Retention Money received	32792.00		32792.00	
2.	Security Received from Contractors	105312.00		107625.00	
3.	Retainment money retained	210000.00		113000.00	
4.	Advance received for services	214855.00		214855.00	
5.	Security received from students	45530.00		37500.00	
6.	Security Received from Staff	20000.00		20000.00	
			632359.00		522670.00
	TOTAL (A)		632359.00		522670.00
B.	PROVISIONS:				
1.	Expenses payable	545171.00		538347.75	
2.	Amount Payable (Others)	138500.10		163904.15	
3.	Pro for gratuity & encashment of leave	(17201967.00)		76013228.00	
4.	Audit fee payable	38605.00		28756.00	
5.	Performance Bank Guarantee	40057.00		50529.00	
6.	Fellow ship payable	10000.00		10000.00	
7.	Provision for C/P/S	37300.00		37300.00	
8.	Provision for Salary & Wages	2000421.00	70400422.15		76848058.80
			70400422.15		76848058.80
	TOTAL (B)		70400422.15		76848058.80
	TOTAL (A+B)		71038781.15		77370734.90

As per our separate report of even date.

For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
FCA, ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur

CENTRAL PULP & PAPER RESEARCH INSTITUTE

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 5 - FIXED ASSETS

Sl. No.	PARTICULARS	ACQUISITION		DEPRECIATION		COST AT THE YEAR-END	GAIN OR LOSS	REMARKS	NET VALUE
		Year	Value	Year	Value				
1	Land	1972/73	1000000			1000000			1000000
2	Buildings	1972/73	1000000			1000000			1000000
3	Plant & Machinery	1972/73	1000000			1000000			1000000
4	Office Equipment	1972/73	1000000			1000000			1000000
5	Motor Vehicle	1972/73	1000000			1000000			1000000
6	Investment	1972/73	1000000			1000000			1000000
7	Other Assets	1972/73	1000000			1000000			1000000
8	Goodwill	1972/73	1000000			1000000			1000000
9	Patent Rights	1972/73	1000000			1000000			1000000
10	Prepaid Expenses	1972/73	1000000			1000000			1000000
11	Other Intangible Assets	1972/73	1000000			1000000			1000000
12	Investment in Other Companies	1972/73	1000000			1000000			1000000
13	Investment in Government Securities	1972/73	1000000			1000000			1000000
14	Investment in Bonds	1972/73	1000000			1000000			1000000
15	Investment in Shares	1972/73	1000000			1000000			1000000
16	Investment in Mutual Funds	1972/73	1000000			1000000			1000000
17	Investment in Other Financial Instruments	1972/73	1000000			1000000			1000000
18	Investment in Real Estate	1972/73	1000000			1000000			1000000
19	Investment in Infrastructure	1972/73	1000000			1000000			1000000
20	Investment in Other Assets	1972/73	1000000			1000000			1000000
21	Investment in Other Assets	1972/73	1000000			1000000			1000000
	TOTAL OF CURRENT YEAR								
	TOTAL OF PREVIOUS YEAR								

As per the separate report of audit date:
For SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
ET.A. ICAI (DISA)

Date: 14-09-17
Place: Saharanpur

DIRECTOR

ADMINISTRATIVE OFFICER

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



SANJAY MISRA & CO.
Chartered Accountant

116, New Azad Vikas Colony,
Delhi Road, Saharanpur
Phone (0132) 2760642

CENTRAL PULP & PAPER RESEARCH INSTITUTE

(An autonomous organisation registered under societies Act under the administrative control of the
Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P)

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE -7-INCOME FROM INSTITUTIONAL AND CONSULTANCY FEE

S.No.	PARTICULARS	Amount (Rs.)	
		CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
1	Testing fee:	9619834.00	18611529.00
2	Consultancy fee.	4833896.00	3662920.00
3	Laboratory Fee	15000.00	10000.00
4	Library Fee	10000.00	4000.00
5	M.Sc. Course Fee	725500.00	395500.00
	TOTAL	15207030.00	22687949.00

As per our separate report of even date.
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ICAI (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE -B - GOVERNMENT GRANT RECEIVED

		Amount (Rs.)	
S.No.	PARTICULARS	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
1	Government of India - Plan	25786952.00	16213048.00
2(a)	Government of India through Development Council for Pulp Paper & Allied Industries-Non Plan	69000000.00	52500000.00
(b)	Core Secretariate for Development Council PP&A Industry	1300000.00	1300000.00
3	Government of India through Development Council for Pulp Paper & Allied Industries for Cess Projects		
(a)	Continuous Education Training of Tech Personal	352301.00	2909547.00
(b)	Development of Protocols	1405769.00	667407.00
(c)	Improvement in Selectivity of Oxygen Bleaching	616861.00	242584.00
(d)	An Integrated approach for utilization of Bagasse Pith	0.00	283200.00
(e)	Statistical Data collection Cell for Indian Pulp & Paper Industry	1672881.08	2159714.00
(f)	Ozone Treatment on Indigenous Paper	317310.50	0.00
(g)	Achievement of Highest Brightness & Whiteness	544088.50	0.00
(h)	Increase in Brightness	125000.00	84608.00
	TOTAL	101120963.08	76370109.00

As per our separate report of even date.

For SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
B.C.A., BSA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 9- FEES / SUBSCRIPTION'S

Amount (Rs.)

Sl. No.	PARTICULARS	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
1	Membership fees	80000.00	85500.00
2	Training fees / Registration fees	297000.00	449473.00
	TOTAL	377000.00	534973.00

As per our separate report of verification

For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



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Chartered Accountant

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 10- INTEREST EARNED

		Amount (Rs.)	
Sl. No.	PARTICULARS	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
	INTEREST EARNED		
1	On Term Deposite with schedule Bank	3687996.00	4911759.00
2	On Sweep Account with Bank	2650677.00	0.00
3	On Loan to staff	186110.00	247687.00
	TOTAL	6524783.00	5159446.00

As per our separate report of even date.
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS:

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
FCA, ISA (UISA)

DIRECTOR

ADMINISTRATIVE OFFICER:

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 11- OTHER INCOME

		Amount (Rs.)	
Sl. No.	PARTICULARS	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
	OTHER INCOME		
1	Hostel rent	134700.00	162175.00
2	Lease rent	50000.00	25000.00
3	Licence fee	346285.00	368321.00
4	Miscellaneous income	166299.28	115223.00
5	Sale of Publications	18843.00	73092.00
	TOTAL	716127.28	743811.00

As per our separate report of even date,
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
F.C.A., ICAI (U.S.A)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14/09/17

Place: Saharanpur

CENTRAL PULP & PAPER RESEARCH INSTITUTE

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE - 12- ESTABLISHMENT EXPENSES

Amount (Rs.)

S.No.	PARTICULARS	CURRENT YEAR 2016-17	PREVIOUS YEAR 2015-16
	ESTABLISHMENT EXPENSES		
1	Salary & Allowances	63493288.87	60592497.60
2	CPF Contribution	5876894.00	5909727.00
3	Gratuity Paid	5014152.00	4291801.00
4	Encashment of leave	6643554.00	4322093.00
5	Reimbursement of medical expenses	2471954.00	2479569.00
	TOTAL	63499852.87	77595667.60

As per our separate report of even date,
For **SANJAY MISRA & CO.**
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

(SANJAY MISRA)
BCA, ISA (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Date: 14.09.17

Place: Saharanpur



SANJAY MISRA & CO.
Chartered Accountant

T16, New Avas Vikas Colony,
Delhi Road, Saharanpur
Phone (0132) 2760642

CENTRAL PULP & PAPER RESEARCH INSTITUTE

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SCHEDULES FORMING PART OF BALANCE SHEET AS ON 31-3-2017

SCHEDULE 13 - ADMINISTRATIVE EXPENSES ETC.

Amount (Rs.)

S.No	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2016-17	2015-16
	OTHER ADMINISTRATIVE EXPENSES ETC.		
1	To Lab. & Plant Maintenance	4606791.80	4266243.56
2	To Cartage & Freight	3025.00	58804.00
3	To Electricity and water	7821720.00	7502256.00
4	To Insurance	0.00	1140.00
5	To Repair & Maintenance of Assets	6115417.49	5671046.72
6	To Rent & Taxes	609800.00	726000.00
7	To Postage & Telephone & Communication	900383.85	592803.00
8	To Printing & Stationery	1200400.38	1256613.81
9	To Travelling & Conveyance Exp.	1831589.00	1297680.60
10	To Exp.on Seminar & Workshop	450.00	15970.00
11	To Membership subscription	10000.00	10000.00
12	To Audit fees	29600.00	28750.00
13	To Hospitality Expenses	234766.00	184183.00
14	To Legal & Professional Exp.	94145.00	186840.00
15	To News Paper Exp.	33600.00	52190.00
16	To Training Expenses	148657.00	858032.00
17	To Watch & Ward	3054656.00	2994485.00
18	To Bank charges	18646.30	36266.40
19	To Advertisement	707385.00	273236.75
20	To Interest on Service Tax	0.00	58778.00
21	To Testing Fee Paid	0.00	44200.00
22	To Staff Car Maint.	341563.00	419017.00
23	To Interest on TDS	0.00	5273.00
24	To Penalty on Service Tax	0.00	8804.00
25	To Interest Paid on Utilized Grant	0.00	274339.00
26	To Licenses A/c	10825.00	0.00
27	Hindi Diwas Exp.	3000.00	0.00
28	Swachh Bharat Abhiyan Exp.	60130.00	0.00
	TOTAL	28215368.81	26930077.84

Sanjay Misra & Co. Chartered Accountants

For SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

(SANJAY MISRA)
I.C.A. (B), (P), (M)

(DIRECTOR)

ADMINISTRATIVE OFFICER

Date: 14.03.17

Place: Saharanpur

CENTRAL PULP & PAPER RESEARCH INSTITUTE

An autonomous organization registered under Societies Act under the administrative control of the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR (U.P.)

ANNEXURE

Significant Accounting Policies & Notes on Accounts

Overview:

CPPRI is an autonomous organization registered under the Societies Act under the administrative control of Ministry of Commerce & Industry (Govt. of India) vide Government of India Notification dated 7.8.1979.

Financial Accounts:

The financial statements are prepared on the basis of historical cost convention and the Accounting Policies used in preparation of these financial statements conform with the Accounting Principles generally accepted in India. The Institute follows the accrual method of accounting.

A. Significant Accounting Policies:

1. Revenue Recognition:

- 1.1 Testing fee is accounted for on accrual basis.
- 1.2 Lease Rent is accounted for on accrual basis.
- 1.3 Government Grant, Consultancy fee, Institutional fee, Sponsored Project, Membership fee, Training and Registration fees are accounted for on receipt basis.

2. Inventory valuation:

The inventory comprises of stores and spares are valued at cost.

3. Fixed Assets:

Fixed Assets are stated at cost less accumulated depreciation.

4. Depreciation:

- 4.1 Depreciation is provided on written down value method, as per the rates specified in the Income Tax Act 1961.

5. Government Grants:

Government grants received to the extent utilized for capital expenditure being added to the capital fund and to the extent utilized for revenue expenditure being treated as income in the income and expenditure account and the un-utilized grant being carried forward. This is not as per the para no. 34 of the Accounting Standard (AS-12) relating to Accounting for Government Grants. The Institute was advised to consider the guidelines on the subject in consultation with the concerned organizations/agencies for implementation. The Institute in reply has confirmed that other similar organizations/agencies are also following the same pattern. This point was also discussed by the concerned officer in the training imparted by National Institute of Finance Management, Govt. of India during the course of training.



- (6) **Foreign currency transactions:**
Transactions in foreign currency are accounted at the exchange rate prevailing on the date of transaction in Indian Currency.
- (B) **Notes forming part of Accounts:**
1. **Information about the activities of the Institute:**
The Institute running under the Administrative control of Ministry of Commerce & Industry, Dept. of IP&P is engaged to promote Research and other scientific work connected with pulp, paper & allied industries to establish and maintain laboratories, pilot plant, workshop and to edit, print, publish and exhibit books, papers and periodicals bearing upon the said industries. Besides that the Institute also under take Cost funded projects and Sponsored projects from Govt. of India, government institutions and other organizations also.
2. **Retirement benefits:**
- 2.1 Provision for gratuity payable on death/retirement of employees, during this year is Rs. 5014152 and for leave encashment is Rs. 6643554 payable to them based on accrual basis and as per the actuarial valuation certificate of Shri Bhudev Chatterjee.
3. **Current Assets, Loans & Advances:**
Management has stated that the current assets, loans and advances have full value on realization in the ordinary course of business.
4. Corresponding previous year figures have been re-grouped or re-arranged wherever necessary.
5. Total advances stand as on 31.3.2017 is Rs. 9297284.09 excluding advance to staff relates for advance against supply of equipments etc.
6. As per Schedule No.1 of the Balance-sheet, capital fund shows that Grant of Rs.10429145.00 has been incurred in capital expenditure while as per Schedule No.5 of the Balance-sheet relating to fixed assets shows an addition of Rs.7828642.03. Regarding more capital expenditure of Rs.2606302.97, it is stated by the management that it is due to adjustment of suppliers bills and from letter of credits in the current year.
7. The management has confirmed that:
- 7.1 The provisions of all known income, expenditure and liabilities have been made.
- 7.2 No contingent liability exist on the date of Balance-sheet.
- 7.3 No significant event has occurred from the date of Balance-sheet and audit.

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

ADMINISTRATIVE OFFICER

DIRECTOR

For SANJAY MISRA & CO,
CHARTERED ACCOUNTANTS

Date: 14.09.17.

Place: Saharanpur

(SANJAY MISRA)
F.C.A., ICAI (DISA)

CPPRI STAFF LIST

Directors Secretariat

Director	Dr. R.K. Jain, M.Sc., Ph.D. (Superannuated on 31.8.2016) Smt. Rita Tandon, M.Sc., (w.e.f 1.9.2016)
Private Secretary	Shri A. Arokiadoss, B.Com., PG. Diploma in Business Administration
Technician	Shri R.K. Kapoor Shri Sunder Lal

Physical Chemistry, Pulping & Bleaching Division

Head Scientist F & Head Scientist-G & Head	Dr. Vinlesh Hrist, M.Sc., Ph.D. (Superannuated on 30.9.2016) Dr. Suresh Panwar, M.Sc., Ph.D. (w.e.f 1.10.2016)
Scientist-E-1	Dr. Rajnish Tandon, M.Sc., Ph.D.
Scientist-E-1	Dr. Priti Shivhare Lal, M.Sc., Ph.D.
Scientist B	Dr. Arvind Sharma, M.Sc., Ph.D., Diploma in Pulp and Paper Technology
Technician	Shri Musrafi Lal Shri N.S.Negi (Superannuated on 31.5.2016)

Paper Testing and Energy Management Division

Scientist-F & Head	Dr. B.P.Thapliyal, M.Sc., M.Tech., Ph.D., Accredited Energy Auditor
Scientist E-1	Dr. R.D. Godiyal, M.Sc., D.Phil. Dr. Sanjay Tyagi, B.E. (Mech.Engg), M.E. (Pulp & Paper), Ph.D. Accredited Energy Auditor
Technical Officer 'C' T.O.B	Shri N.K. Naik, Diploma Engineering (Industrial Electronic) Shri Karan Singh, Certificate Course in Pulp & Paper Tech. (Superannuated on 31.07.2016)
Technician	Shri. Ashok Kumar Rawat (Superannuated on 31.12.2016)



Chemical Recovery & Biotechnology Division

Scientist-G & Head	Dr. R. K. Jain, M.Sc., Ph.D. (Superannuated on 31.8.2016)
Scientist-G & Head Biotechnology	Smt. Rita Tandon, M.Sc. (w.e.f. 1.9.2016)
Scientist-F& Head CR	Dr. B. P. Thapliyal, M.Sc., M.Tech. Ph.D (w.e.f. 1.9.2016)
Scientist-E-I	Dr. A. K. Dixit, M.Sc. Ph.D. Smt. Anuradha V. Janbade, M.Sc.
Scientist B	Dr. (Mrs.) Vasanta Vadde Thaluri M.Sc., M.Phil. Ph.D. (resigned w.e.f. 16.4.2016)
S.S.A.	Shri Kumar Anupam, B.Tech (Chemical Engineering)
Technician	Shri Avtar Singh

International Co-operation and Wet Laboratory

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist-E-I	Shri Alok Kumar Goel, M.Sc. Accredited Energy Auditor
Scientist-C	Shri Satyu Dev Negi, M.Sc., PG Dip. in Pulp and Paper Technology
T.O.H	Shri Gyan Pal Singh, Certificate Course in Pulp and Paper Technology

Environmental Management Division

Scientist-G & Head	Dr. Suresh Pawar, M.Sc. Ph.D.
Scientist E-II	Dr. M. K. Gupta, M.Sc., Ph.D.
Scientist E-I	Dr. Shivalier Mishra, M.Sc., Ph.D. Dr. Nirin Endray, M.Sc., Ph.D., PGDIPM, (PG Diploma in Industrial Pollution Management)
S.S.A.	Mohd. Salim, M.Sc.
T.O.C.	Shri Raj Pal Singh, Intermediate, Certificate Course in Pulp and Paper Technology
Technician	Shri Magan Singh

Technical Services & Co-ordination Cell (TSCC)

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist-E-I	Shri Alok Kumar Goel, M.Sc., Accredited Energy Auditor
Technician	Shri Gopal Singh

Library & Documentation Division

Scientist E-I & Incharge	Dr.R.D. Godiyal, M.Sc., M.Tech., D.Phil.
Library Officer-A	Smt. Sarita Sharma, M.A., MLI5c
STA	Shri N.S. Bist (Superannuated on 31.1.2017)
Technician	Shri Ruchi Singh (Superannuated on 31.03.2017)

Cess Training Programme Cell

Scientist E-I & In-charge	Dr. Rajnab Tandon, M.Sc., Ph.D
---------------------------	--------------------------------

Engineering & Maintenance Division

Scientist E-II & Head Technical Officer 'C'	Dr.M.K.Gupta, M.Sc., Ph.D Shri R.S. Rawat, ITI Draughtsman (Mech.) and One year Training in Tool Designing (Superannuated on 31.1.2017)
T.O.B	Shri Hritj Pal Singh, B.A. Dip.in Mechanical Engineering Shri Pankaj Kumar Goley, B.Tech. (Electrical)
Driver	Shri R.L. Gupta, Boiler Attendant Certificate course Shri Arvind Kumar Shri Shri Bhagwan Sharma
Technician	Shri Dushyant Kumar Shri Roop Singh, (Superannuated on 31.7.2016) Shri O.P. Kotnala Shri Soban Singh

Administration Division

Administrative Officer	Shri Anil Kumar (Superannuated on 31.10.2016) Shri A.K.Saxena, [w.e.f. 2.12.2016]
Section Officer	Shri Y.K. Sharma, M.A. PGDPM and Office Management Course (ITMS) Shri S.K.Negi, M.A., PG. Dip. in Journalism, Passed National Certificate Examination in Supervision from N.P.C.
Technicians	Shri Ravinder Dutt (Superannuated on 31.7.2016) Shri Nasir Ali Smt. Shykhala Tripathi



Finance & Accounts Division

Administration Officer & J/c	Shri A.K. Saxena, M.Com Shri S.K. Chaurasia, M.Com. (Superannuated on 31.12.2016)
Personal Assistant	Shri M.P. Sharma, M.A.
Accountant	Shri O.P. Bhatia, B.Com (Hons.)
Assistant	Shri Rani Bax, B.Com. Shri B.B. Chettri, M.A. Shri Naresh Kumar, B.Com.
Accountant Technicians	Shri H.C. Pandey, M.Com. Shri Prem Singh.

Store & Purchase Division

Section Officer & Incharge	Shri Roshan Lal, M.A. (superannuated on 30.11.2016) Shri B.K. Negi, M.A., P.G. Dip. in Journalism, Passed National Certificate Examination in Supervision from N.P.C. (w.e.f 1.12.2016)
Accountant	Shri L.D. Joshi, B.A.
Assistant	Shri Satya Pal Singh, B.A. Shri S. Biser, B.A.
Technician	Shri Halbir Singh

Estate and Horticulture Department

Estate Officer	Shri H.K. Negi, M.A., P.G. Dip. in Journalism, Passed National Certificate Examination in Supervision from N.P.C.
Technician	Shri Gopal Dutt Shri Sharma Kumar

Industrial Co-operation and Business Development, New Delhi

Scientist-II-II & Officer-incharge	Dr. Kawaljeet Singh, M.Sc.Ph.D.
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Technical Review

Dr. B. P. Thapliyal
Smt. Rita Tandon

Compilation and Editing

Dr. Nitin Endley
Shri. Satya Dev Negi
Smt. Sarita Sharma

Printing Coordination

Dr. R.D. Godiyal
Smt. Sarita Sharma



For further information please contact

Central Pulp & Paper Research Institute

**Head Office
Director**

**P.O. Box No. 174, Paper Mill Road,
Himmat Nagar, Saharanpur - 247 001 (U.P.)**

Ph.: (0132) 2714059, 2714061, 2714062

Fax : (0132) 2714052

Website: www.cppri.org.in

E-mail : director@cppri.org.in

**Base Office
Office Incharge**

**I-10, Jangpura B,
Near Bhogal Bus Stand,
New Delhi - 110014, INDIA**

Ph. (011) 65903444, 49027213

E-mail: cppri@yahoo.com