

Annual Report

2017-18



**Central Pulp &
Paper Research Institute**



Annual Report

2017-18



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*

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From the Director's Desk

It is my pleasure to present the progress and achievements of CPPRI during **2017-18** through this Annual Report.

I am pleased to inform that CPPRI this year introduced various **Management Information Systems (MIS)** and **e-Governance mechanisms**. CPPRI has successfully implemented **Public Financial Management System (PFMS)** to establish an efficient fund flow system and expenditure network and adopted **GeM (Government e-Marketplace)** system for e-procurement. CPPRI is also using Government of India's, e-procurement portal for publishing the tenders, enquiries, corrigendum and award of contract details. Further CPPRI has also initiated the process of developing **GIGW (Guidelines for Indian Government Website)** compliant website.

Under **UNIDO Project on Development & 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, Canada, Korea, Japan and China** to get exposure to latest trends in R&D specially in the area of nano cellulose, biorefinery, effluent treatment, management and working of research institutes, technological developments in various areas of paper making adopted by pulp and paper industries in these countries.

I am pleased to inform that the progress of research projects carried out under Project based Support and Cess Funded Projects has also been satisfactory.

Among the other notable activities, CPPRI is working in various other areas which include- evaluation of paper making potential of alternate raw materials, preparation of micro/nano fibrillated cellulose for application in papermaking, preparation of anti-bacterial packaging paper, evaluation of feasibility of zero liquid discharge, utilisation of lignin in rubber industry, biotechnological applications etc.



CPPRI successfully assisted **Central Pollution Control Board (CPCB)** as third party in monitoring the environmental status of grossly polluting industries in Ganga River Basin which included textile and chemical industries as well as slaughter houses.

CPPRI also successfully organised 4 dissemination workshops during 2017-18 under **UNIDO Project on Development & Adoption of Appropriate Technologies for Enhancing Productivity in the Paper and Pulp Sector** at **Saharanpur, Kolkata, Coimbatore** and **Daman**. The workshops garnered considerable interest and participation from the pulp and paper mills of the respective cluster. The workshop also facilitated interaction with international faculty from reputed International Universities and R&D institutes.

Skill development and training of the mill personnel is one of the main activities of the Institute. Various industry personnel were trained during the year and CPPRI also provided short term summer training to students from various universities and colleges.

Dedicated efforts made by the Institute in rendering technical, testing and consultancy services to various agencies have resulted in **Internal Revenue Generation (IRG)** of ₹ **303.11 Lacs** during the year 2017-18.

CPPRI is in process of development of lab facilities for testing of paper board and specialty paper. The facilities will benefit manufacturers of paper board / corrugated board cartons and specialty paper. CPPRI has also initiated inter laboratory comparison of paper testing facilities for pulp and paper mills for evaluating the reliability, accuracy and comparability of equipments used in their quality control laboratories.

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, National Archives of India (Ministry of Culture)** etc. The **Hindi Cell** also continued its efforts for further increase in use of Hindi in official work. Director CPPRI has been chosen by **Ministry of Home Affairs, Government of India** to chair the **Nagar Raj Bhasha Karyanvan Samiti** to promote the use of Rajbhasha in Central Government Offices, PSU, Banks etc. in Saharanpur District. CPPRI hosted the introductory meeting of this Samiti in April 2017, thereafter first yearly meeting was held in May 2017 and second yearly meeting was held in October 2017.

Under **Swachh Bharat Mission** of Government of India, CPPRI continued its effort proactively. A bio-composting plant was set up in the institute for biocomposting of shed leaves and other bio-degradable wastes.

CPPRI as usual, observed with great fervor national and other important days during the year like **Independence Day, Republic Day, International Yoga Day, Hindi Diwas, Vigilance Awareness**



Week etc. through organisation of meetings and functions for creating awareness among the staff and their families on the related issues.

CPPRI would like to place on record the guidance and encouragement extended by **Shri Ramesh Abhishek, IAS, Secretary, Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, Government 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 **Dr. Vandana Kumar, IDAS, Joint Secretary, Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, Government of India** and **Chairperson, Research Advisory Committee (RAC) of CPPRI and Cess Committee**.

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

CPPRI also thanks **Indian Paper Manufacturers Association (IPMA), Indian Newsprint Manufacturers Association (INMA), Indian Agro and Recycled Paper Mills Association (IARPMA), Indian Recycled Paper Mills Association (IRPMA)** and **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's 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.

Dr. B. P. Thapliyal



OUTLOOK OF INDIAN PAPER INDUSTRY

Indian paper sector is fast emerging among the top league of global paper producers. During the last decade it has moved to 5th largest producer from the 15th position in 2004-2005. Demand driving factors such as rising income level & per capita expenditure on education, uptrend of literacy level, increased demand of better quality of packaging paper for FMCG products, ban on plastics, increased preference for ready to eat food etc. have made a positive impact on the Paper sector and as a result consumption of paper has reached over 13.0 kg per capita. Various Central / State flagship schemes namely, Sarva Shiksha Abhiyan, Saakshar Bharat, Samagra Shiksha Scheme, Right to Education and Scholarship & Education Loan Scheme, have resulted in a robust demand for paper and paperboard. The table below presents a snapshot of the Indian Paper Sector:

Number of mills		859
Total Installed capacity, million tons		25.55
Operating mills		499
Operating Installed Capacity, million tons		20.65
Production of Paper, Paperboard and Newsprint, million tons		16.91
CONTRIBUTION FROM DIFFERENT SEGMENTS (Million Tons)		
WOOD BASED	AGRO BASED	RCF MILLS
3.27	1.61	12.03
Capacity utilisation		~ 80%
Non-operational units		268
Idle installed capacity, million tons		4.29
Per capita consumption, kg		13.89
CONTRIBUTIONS (₹ in Crore)		
Total Turnover of the Sector		Contribution to Exchequer
60000		5500
EMPLOYMENT DATA (MILLION PEOPLE)		
Direct Employment		Indirect Employment
0.6		1.6
Indian Share in World's Production, %		4.29

SECTORAL GROWTH

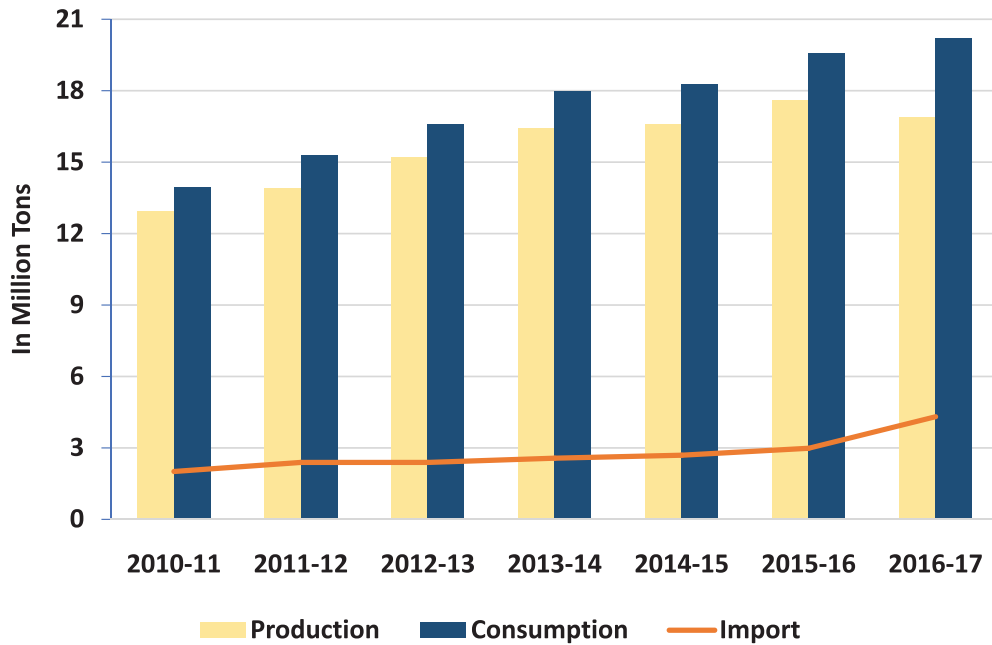
Over the last six years, the major rise can be seen in the use of recycled fiber (RCF). This is on expected lines, as many units shifted their feedstock to RCF largely due to environmental issues. The share of the Wood-based paper mills in total production has dropped from about 25% to 19% in the past six years. The use of wood for papermaking is holding steady as most of the large players have gone in for social / farm forestry to meet their demand of wood.



Segment wise Share in the Total Paper Production

PAPER & PAPERBOARD SEGMENT

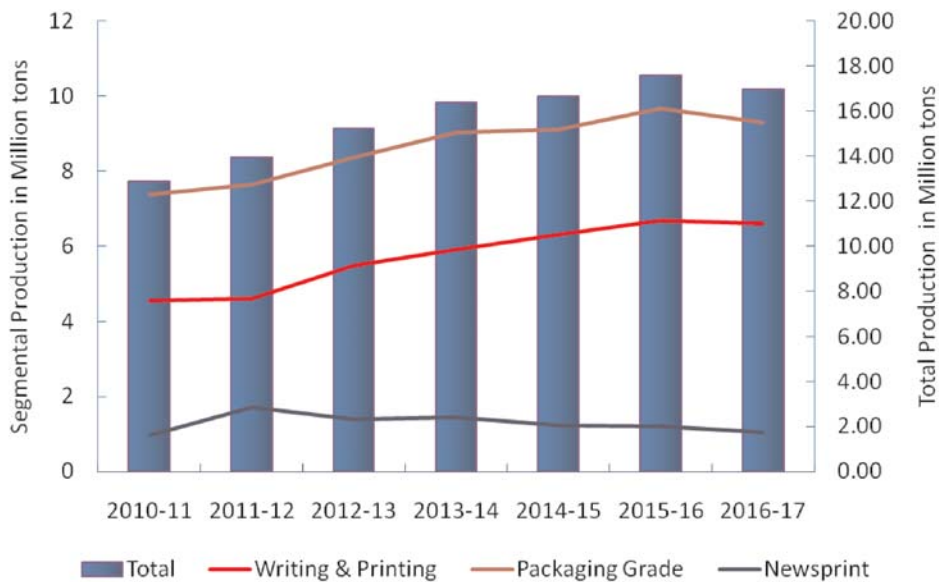
Traditionally, the paper sector exhibits a CAGR of about 6.0-6.5%. Despite steady increase over the last decade, the Industry has witnessed drop in production over past 3 years. This is in contrast to the consumption, which is exhibiting a steady rise. Clearly, the Industry has come to a point where the raw material crunch has started to take its toll and the sector has almost stretched its limit for capacity debottlenecking. This is clear from the data that in the face of decreasing production, steadily rising consumption is being met from increasing imports.



Production, Consumption & Import Trends of Paper & Paper Board

VARIETY WISE PRODUCTION TRENDS

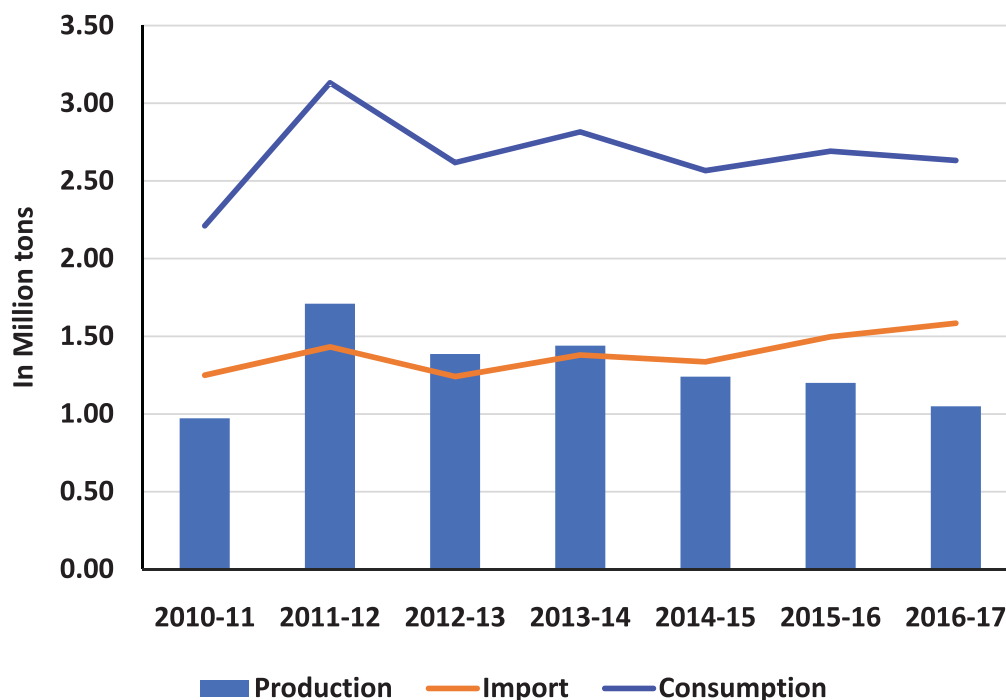
The trends of production of indicated segments are in expected lines with packaging grade at the highest and the Newsprint at the lowest volume of production. Additionally, the downtrend in newsprint production over the last many years is clearly visible.



Variety Wise Production Trend in Indian Paper Industry

NEWSPRINT SEGMENT

The woes of the newsprint sector continue with the production decreasing at a steady rate over the past few years. The consumption is being met by increasing imports. As per data of Indian Newsprint Manufacturers Association, only 64 mills registered under the Newsprint Control Order (NCO) are actually producing newsprint resulting in the operating installed capacity 2.52 million tons per annum. As many as 23 mills have closed operations since being listed in the NCO and 36 mills have discontinued the production of newsprint. The domestic trend of newsprint production is continuously showing a downtrend in the year 2016-17. Only 1.05 million tons was produced in 2016-17 which is 0.15 million tons less in comparison to 2015-16. Nearly 60% newsprint requirement in the country was met by imports, as a result 1.58 million tons of newsprint was imported in 2016-17. The export of newsprint from the country has been negligible.



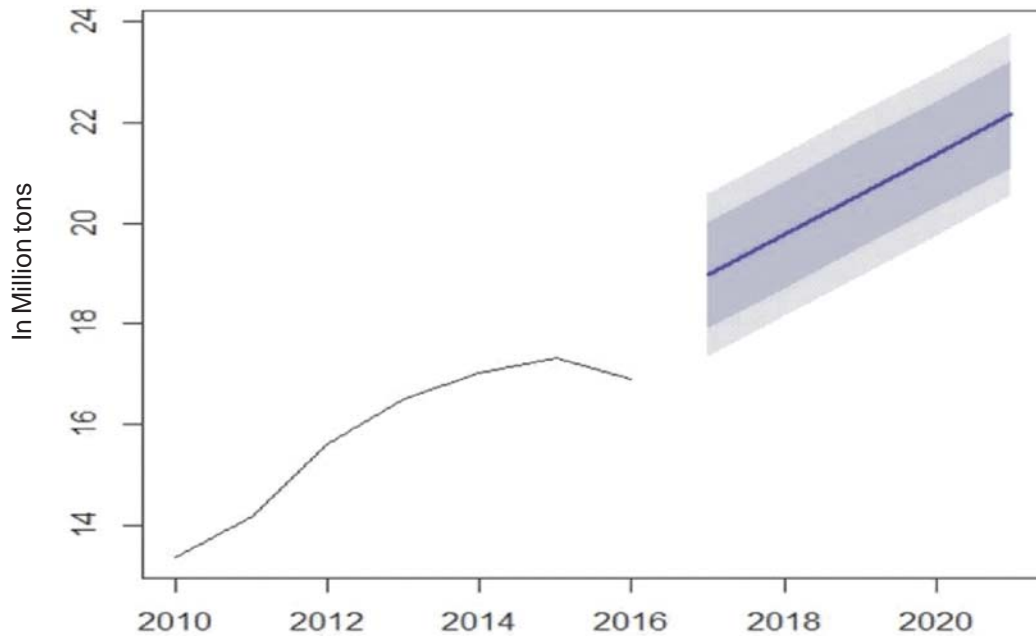
Production, Consumption & Import Trends of Newsprint

PROJECTIONS

1. Analysis of Forecasting – Production (Holt-Winter Filtering using R Software)

In order to analyse the production forecast, the **Holt-Winter** model was used on the data available with CPPRI for the last seven years. The purpose of using the Holt-Winter Filtering method was to find out if or not there is any periodicity in the data, as often the paper industry is referred to as a cyclic industry. However, the software returned with an alpha value of zero indicating that data

does not exhibit significant cyclic behaviour. It also means that based on the previous scenarios, the software does not attach much significance to lowering of production in 2016 and predicts growth in production in the coming years to meet the demand.

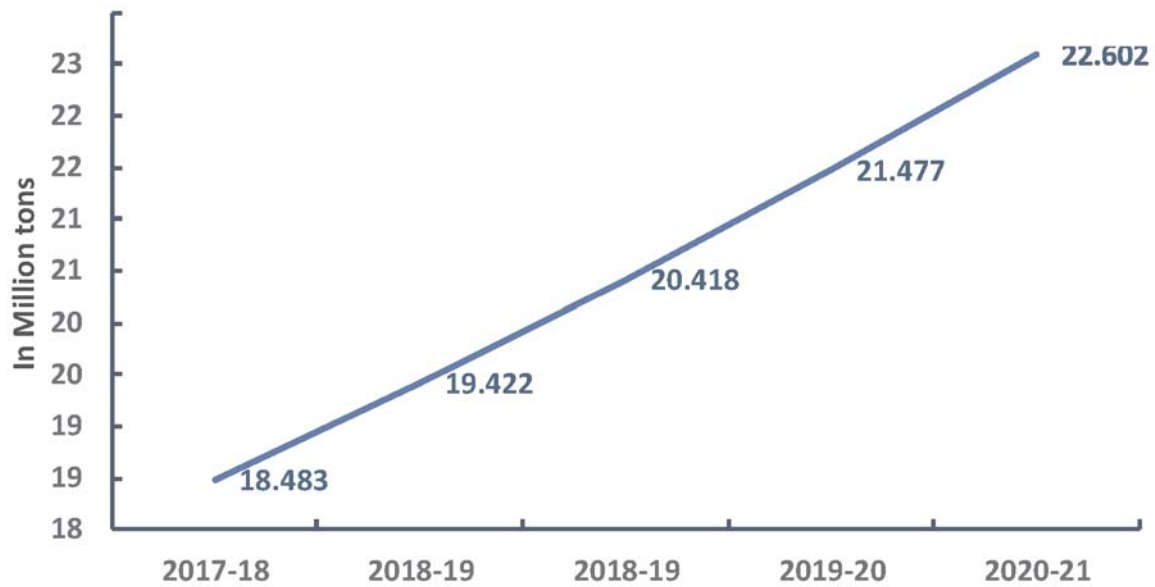


Analysis of Forecasts from Holt - Winter

In the graph, the blue central area indicates the value scatter at 80% confidence whereas the grey extension indicates a scatter area at 95% confidence level. The model predicts a value of 20-24 million tons for production for the year 2020-21 with a central value of 22 million tons. However, the standard error of this model was observed to be on the higher side.

2. Analysis of Forecasting-Production (ab-initio method)

Since the previous method indicated high standard error, therefore, above forecast has also been attempted using Year on Year (YoY) increase in sectoral production, smoothed for spikes & deviations. This also indicates a production of about 22 million tons by the years 2020-21. However, the stagnation of increase in production rate for the last two years does constitute a matter of concern.



Analysis of Forecasting-Production (ab-initio method)

CONCLUSION

In conclusion, it can be said that paper industry is set to see sustained demand growth. In order to provide the opportunity for corresponding sustained production growth as concluded by above studies, it will be imperative to provide a sustained cellulosic fibre base for the industry.



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, Council of Association of CPPRI is appointed by Government of India. At present, **Shri Ramesh Abhishek, IAS, Secretary, Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industry, Government of India** is President CoA. **Dr. Vandana Kumar, IDAS, Joint Secretary, Department of Industrial Policy & Promotion, Ministry of Commerce and Industry, Government of India** 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 (DIPP)
Vice President	Joint Secretary to the Government of India, Ministry of Commerce & Industry (DIPP)
Member Secretary	Director, Central Pulp & Paper Research Institute
Members from Government	1
Members from Academic Institutions	1
Members from Scientific Institutions	3
Members from Paper Industry	10



MEMBERS OF COUNCIL OF ASSOCIATION OF CPPRI

1. **Shri Ramesh Abhishek, IAS** **PRESIDENT**
Secretary
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
2. **Dr. Vandana Kumar, IDAS**
Joint Secretary
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
3. **Smt. Sunita Yadav**
Director IF Wing – DIPP
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
4. **Shri Madhukar Mishra**
Chairman
Development Council for Pulp, Paper and Allied Industries
and Managing Director, Star Paper Mills Limited
5. **Dr. G. S. Goraya**
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. Chandrasekhar**
Director
Indian Institute of Chemical Technology
8. **Professor Y. S. Negi**
HOD
IIT Roorkee (Saharanpur Campus)
9. **Dr. R. C. Rastogi**
President
Indian Recycled Paper Mills Association (IRPMA)
and CMD- Khatema Fibres Limited



10. **Shri Pramod Agarwal**

President

Indian Agro and Recycled Paper Mills Association (IARPMA)
and CMD - Rama Paper Mills Limited

11. **Shri Saurabh Bangur**

President

Indian Paper Manufacturers Association (IPMA)
and Vice Chairman, The West Coast Paper Mills Limited

12. **Shri P. S. Patwari**

President

Indian Newsprint Manufacturers Association (INMA)
and Executive Director, Emami Paper Mills Limited

13. **Shri Pawan Agarwal**

President

Indian Pulp & Paper Technical Association (IPPTA)
and Joint Managing Director, Naini Group of Industries

14. **Shri Kishan Khaitan**

Managing Director

Wires & Fabriks (S.A.) Limited

15. **Shri S. K. Jain**

Chairman-cum-Managing Director

Hindustan Paper Corporation Limited

16. **Shri Pradeep Dhobale**

ITC Limited - Paperboards & Specialty Papers Division

17. **Shri Anil Kumar**

Executive Director and CEO

Shreyans Industries Limited (Unit:Shreyans Papers)

18. **Dr. B. P. Thapliyal**

Director

Central Pulp & Paper Research Institute

MEMBER SECRETARY

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 (DIPP), Ministry of Commerce & Industry, Government of India, Department 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 R&D projects carried out by the institute under Project Based Support of DIPP (Formerly Five-Year plan Projects). **Dr. Vandana Kumar, IDAS, Joint Secretary, Department of Industrial Policy & Promotion, Ministry of Commerce and Industry, Government of India** is the Chairperson of RAC.

Composition of the Research Advisory Committee	
Chairman	Joint Secretary (DIPP), 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 Organisations	10
Consultants / Technologists	3



MEMBERS OF RESEARCH ADVISORY COMMITTEE OF CPPRI

1. **Dr. Vandana Kumar, IDAS** **CHAIRPERSON**
Joint Secretary
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
2. **Smt. Sunita Yadav**
Director
IF Wing -IPP Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
3. **Mohd. Zakaria Khan Ysufzai** (up to 16.11.2017)
Shri A. P. Singh (from 17.11.2017 onwards)
Senior Development Officer
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
4. **Shri K. K. Sinha** (Tenure completed on 15.9.2017)
Industrial Advisor (TSW, LEI) DIPP
Department of Industrial Policy & Promotion
Ministry of Commerce & Industry, Government of India
5. **Shri S. K. Jain**
Chairman-cum-Managing Director
Hindustan Paper Corporation Limited
6. **Professor Y. S. Negi**
HOD
IIT - Roorkee (Saharanpur Campus)
7. **Shri P. S. Patwari**
President
Indian Newsprint Manufacturers Association (INMA)
and Executive Director - Emami Paper Mills Limited
8. **Dr. R. C. Rastogi**
President
Indian Recycled Paper Mills Association (IRPMA)
and CMD- Khatema Fibers Limited
9. **Dr. N. V. Satyanarayana**
Chief Scientist and Head Business Development
Indian Institute of Chemical Technology
10. **Shri R. Vardhan**
Consultant



11. **Shri Rahavendra Hebbar**
General Manager (Development)
J.K.Papers Limited
12. **Dr. Vikas Rana**
Head (C and P Division)
Indian Council of Forestry Research & Education
13. **Dr. A. B. Akolkar**
Member Secretary
Central Pollution Control Board
14. **Shri N. K. Jain**
Director
Valmet Technologies Co. Pvt. Limited
15. **Shri Sanjay Kumar Singh**
Chief Operating Officer
ITC Limited – Paperboards & Speciality Papers Division
16. **Shri Pawan Agarwal**
Chairman Kumaon Garhwal Chamber of Commerce and Industry
(KGCCI: Paper Unit Chapter) and JMD - Naini Group of Industries
17. **Dr. H. D. Kulkarni**
Vice President (Plantations)
ITC Limited – Paperboards & Speciality Papers Division
18. **Shri Tushar Shah**
Director
Daman Ganga Group
19. **Shri Anil Kumar**
Executive Director
and CEO Shreyans Industries Limited (Unit: Shreyans Papers)
20. **Shri Pavan Khaitan**
Managing Director
Kuantum Papers Limited
21. **Shri Arun G. Bijur**
Vice Chairman
SPB Projects and Consultancy Limited
22. **Dr. B. P. Thapliyal**
Director
Central Pulp & Paper Research Institute

MEMBER SECRETARY



STAFF

As on April 1, 2017, CPPRI's core team includes **Scientists (18), Technical Staff (22) and Administrative & 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 permanent staff along with qualification is annexed with this report.

MAJOR ACHIEVEMENTS DURING 2017-18

The major achievements of CPPRI during 2017-18 are summarised as under:

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

- Successful implementation of **Public Financial Management System (PFMS)** to establish an efficient fund flow system and expenditure network.
- Successful adoption of **GeM (Government e–Marketplace)**, the National Public Procurement Portal for e–procurement.
- CPPRI is also using **Central Public Procurement Portal (e-procurement system)** of Government of India for publishing the tenders, enquiries, corrigendum and award of contract details.

Evaluation of Paper Making Potential of Alternate Fibrous Raw Materials / Raw Material Upgradation

- Pulping and bleaching studies carried out with various non-conventional /alternate raw materials like jute core, tobacco fiber, coconut fiber, *Melia dubia*, empty fruit brunch (EFB) fiber, *Lantana camara*, pine needle etc. for producing different grades of pulp.
- Successful pilot scale pulping and bleaching trials with EFB fiber, coconut fiber and core jute.
- Successful pulping trials of rice straw with bagasse and wheat straw in different ratio to increase utilisation of rice straw for paper making.
- High yield pulping of rice straw and evaluation of potential to produce kraft liner or corrugated medium pulp by blending high yield rice straw pulp with recycled Old Newsprint (ONP) & Old Corrugated Carton (OCC) pulp.
- Successful utilisation of banana fibre for currency and security paper manufacture.
- Successful bagasse depithing trials with modified feeding system to improve paper quality from bagasse.

Setting up of Paper Board and Speciality Paper Testing Facilities

- Creation of data base on analysis of different commercial samples of liners and mediums.

Papermaking

- Developed a concept based on charge measurement for wet end optimisation. Industrial application of the concept demonstrated in integrated pulp & paper mills to improve retention efficiency of wet end chemicals to achieve desired properties.



- Protocol developed based on Total Organic Carbon (TOC) measurement to evaluate Effective Measurement of Microstickies Accumulation (EMMA) potential which may help in prediction of machine runnability issues.

Environmental Management

- Assistance provided to CPCB for inspection of technological and environmental status of grossly polluting industries like textile, dyeing and printing units, chemicals manufacturers and slaughter houses.
- Assistance rendered 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 & Paper Industries of Ganga River Basin in various mills on regular basis.
- Feasibility study of zero liquid discharge in 6 RCF based pulp and paper mills producing kraft paper, duplex board and newsprint was successfully carried out.

Chemical Recovery

- Successful pilot scale trials carried out on desilication of black and green liquor at Naini Papers Limited, Kashipur, Uttarakhand.
- Successful utilisation of lignin separated from black liquor for application in styrene butadiene rubber.

Training / Skill Development

- Successful organisation of UNIDO sponsored Workshops on dissemination of information about activities under UNIDO Project on **Development & Adoption of Appropriate Technology for Productivity Enhancement in Pulp & Paper Sector** at Saharanpur, Kolkata, Daman and Coimbatore on June 5 and September 15, 19 and 21, 2017 respectively.
- Successful organisation of **Workshop on Patents and Intellectual Property Rights (IPRs) for the Pulp and Paper Sector** at CPPRI, June 8-9, 2017.
- Successful organisation of Workshop on **Utilization of Spent Pulping Liquor as a Source of Clean Energy jointly by CPPRI & PCRA** at Muzaffarnagar on June 23, 2017.

Statistical Cell

- The Statistical Cell housed in the CPPRI base office, New Delhi has emerged as a prominent resource of data pertaining to the Pulp & Paper Sector. In the line of requirement from various stakeholders and interest groups, data was provided with the requisite formatting and compilation.

- In this reference, core analysis of trade was performed and provided to Department of Industrial Policy & Promotion (DIPP) / Department of Commerce (DOC) in order to contribute to trade negotiation being carried out by India under various free trade agreements. Significant inputs were provided under the Regional Comprehensive Economic Partnership, (RCEP) negotiations, India-ASEAN Negotiation, India-Peru, India-Israel, India-Mauritius, India-European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA), Goods Negotiations under Bay of Bengal Initiative for Multi-Sectoral Technical & Economic Cooperation (BIMSTEC) India-Systematic Country Diagnostic, Harmonized system of Export Policy for Chapter 48 (Paper), Quality Control Order (QCO) & Public Procurement Order (PPO).
- Relevant inputs were also provided for Ministry of Economy, Trade and Industry Japan's Recovered Paper Program, BIS Mandate for copier paper, Certified Reference Materials (CSIR-National Physical Laboratory), Synthetic Uncoated Monolayer Paper Made Up of Silica With Polyolefin, Department-Related Parliamentary Standing Committees (DRPSC), Appraisal and Approval of Public Funded Schemes and Projects, Use of the condition of virgin pulp in tender documents, National Skill Development Corporation (NSDC), Public Financial Management System (PFMS), Comprehensive Review of Autonomous Bodies & National Conference on moving towards making pulp and paper sector water secure and sustainable.

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, characterisation 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 ₹ **303.11 Lacs**.

Contract Agreement / MoU Signed

- A Non-Disclosure Agreement was signed with Ravi Machani, Kurnool for development of kraft paper with antibacterial and antifungal property using Bio-polymer (Chitosan) as wet end additive in papermaking and as barrier coating without compromising the quality of the output paper such as strength properties and printing ability.
- A Non-Disclosure Agreement was signed with Nuvoco Vistas Corp. Limited, Kolkata for development of sack paper for cement industry.
- A Confidentiality Agreement was signed with Hindustan Unilever Limited, Mumbai for joint collaborative technical and consultancy services.

- MoU signed with NH Consulting Private Limited, New Delhi for joint collaborative studies.
- A Non-Disclosure Agreement was signed with Sunita Hydrocolloids Private Limited, Jodhpur, Rajasthan for joint collaborative studies for preparation of ligno sulphonates.

Research Papers Published

- 13 research papers were published in various journals and proceedings during 2017-18.

Reports Prepared

- 63 Technical / Consultancy reports were prepared during 2017-18.

Infrastructure Development / Capacity Building

- Upgradation of infrastructure and facilities through purchase of moisture analyser, elrepho brightness tester, new feeding system for bagasse depithing pilot plant and portable particle charge analyser.



Moisture Analyser



Elrepho Brightness Tester



Feeding System of Bagasse Depithing Pilot Plant



Portable Particle Charge Analyser

Receipts & Expenditure

During the year **2017-18**, total receipts of the Institute were ₹ **2281.48 Lacs** and total expenditure was ₹ **1417.62 Lacs** (i.e. revenue expenditure ₹ **1367.97 Lacs** + capital expenditure ₹ **49.65 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 1.4.2017	597.98	A.	REVENUE EXPENDITURE	
2a.	Grants from Ministry of Commerce & Industry, DIPP, Govt. of India	145.50	1.	Salary & Allowances	1078.19
b.	Base level support through Development Council for Pulp, Paper & Allied Industries.	1000.00	2.	Plant & Lab Maintenance	16.76
c.	Grants received from Development Council for Pulp, Paper & Allied Industries for Cess funded projects / Core Secretariat	136.57			
3.	Testing fees	116.35	3.	Electricity charges	78.44
4.	Consultancy fees / Membership fee	79.50	4.	Repair of Assets	56.71
5.	Training fees / M.Sc. fees	7.19	5.	Miscellaneous	137.87
6.	Miscellaneous receipts	100.07	B.	CAPITAL EXPENDITURE	49.65
7.	Received from ECPF Trust	98.32	C.	BALANCE WITH CPPRI	863.86
	TOTAL	2281.48		TOTAL	2281.48

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 ₹ **303.11 Lacs** during the financial year **2017-18**.



SWACHH BHARAT MISSION – CPPRI INITIATIVES

Following activities were carried out by CPPRI during 2017-18 under Swachh Bharat Mission :

- Rs. 10 lakhs were allocated in a separate designated head exclusively for Swachhta Action Plan for expenditure on renovation of existing toilets and building up of new toilet, renovation of Director’s Secretariat, repairing / painting of CPPRI guest house / hostel, fabrication of composter plant, upgrading of horticulture machineries and beautification of landscape.
- For speedy disposal of e-waste and scrap material in the institute, two departmental committees comprising of scientific, administrative and accounts staff were constituted (a) **for disposal of e-waste** (comprising of Shri A. K. Goel, Shri Pankaj Kumar Goley, Shri Kumar Anupam, Shri Naresh Kumar, and Shri J. S. Bist) and (b) **for scrap materials** (comprising of Dr. A. K. Dixit, Shri Brijpal Singh, Shri Pankaj Kumar Goley, Shri Om Prakash Bhatia and Shri J. S. Bist).
- A **pilot compost plant**, having capacity to process 6-7 kg of dry leaves / day for production of compost with the use of bacterial consortia in a period of 60 days, has been installed at CPPRI.
- A **working model** for composting of biodegradable waste from house hold has also been installed at CPPRI residential colony. These models have been donated by NGO Muskan Jyoti, Saharanpur.
- The cleanliness drive in CPPRI campus and residential colony as well as in the vicinity of the institute is being carried out on a regular basis.



A View of Pilot Compost Plant and Household Composting Model Installed at CPPRI



Glimpses of CPPRI Campus and Ongoing Cleanliness Activities under Swachh Bharat Mission



R&D ACTIVITIES

(A) Schemes Carried out under Project based Support (Extension of 12th Five Year Plan Research Schemes up to September 2017)

(a) Raw Material and Product Development

I. Utilisation 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 materials in Indian paper industry.

Highlights

Utilisation of Rice Straw for Papermaking

- A complete solution and approach to convert rice straw to value added products was applied.
- Two stage pulping of rice straw was carried out to produce pulp of low kappa number pulp and achieving pulp yield of above 60%.
- Mixed pulping of rice straw was carried out along with wheat straw and bagasse in different ratio, to utilise rice straw in existing process conditions without altering the routine pulping and bleaching operations.
- High yield pulping of rice straw was also carried out with low chemical cooking and mild mechanical treatment. The high yield pulp was further blended with recycled Old News Print (ONP) or Old Corrugated Carton (OCC) pulp to prepare kraft liner or corrugated medium pulp.

Evaluation of Alternate Raw Materials for Papermaking

- Pulping and bleaching of other alternate raw materials viz jute core, tobacco fiber, coconut fiber, *Melia dubia*, EFB fiber, *Lantana camara*, pine needle etc. was carried out to produce different grades of pulp.
- Pilot plant scale trial of EFB fiber, coconut fiber, core jute were also carried out.
- Blending studies of coir fiber with OCC pulp has indicated potential of coir fiber pulp as reinforced fiber for recycled pulp to produce packaging grade paper or fiber board.
- Other products like bio-char and dietary fibers were also prepared from different raw materials
- The project has been successfully completed.

II. New Approaches in Processing and Papermaking 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

Mill Scale Wet End Chemistry Optimisation based on Charge Measurement Technique

- The head box sample collected from mill site at two different time intervals were evaluated for stock charge, charge demand and to study their impact on first pass retention (FPR), first pass ash retention and total filler retention.
- Study revealed that due to overdose of filler (which results in increase in anionic trash), the mill is unable to achieve desired FPR. Through dose optimisation the anionicity of the system was brought down, retention was improved and filler requirement reduced by around 40 kg/t.

Development of Packaging Grade Paper having Antibacterial Properties

- To develop antimicrobial properties in packaging grades of paper through barrier coating, Chitosan was selected as a biopolymer having a unique non-toxic, anti-fungal and anti-bacterial properties.
- The studies were conducted on OCC furnish to assess the efficacy of Chitosan. Chitosan is best suited as a surface sizing solution on kraft paper to improve Cobb and physical strength. Due to its cationic behaviour chitosan is more effective in improving the fines retention as well as in reducing the anionic trash in back water. Chitosan solution serves the purpose of replacing more than 2-3 wet end chemicals normally used in paper industry.
- The project has been successfully completed.

(b) Energy Conservation and Environmental Management

I. 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 for agro based and wood based chemical recovery systems were conducted.
- Studies on liquor heat treatment were conducted at lab scale and pilot plant scale at CPPRI & different paper mills.
- Studies on lignin separation from black liquor for marginal capacity expansion of existing recovery boiler capacity were conducted.
- The project has been successfully completed.

II. Implementation of Enzyme Applications in Pulp and Paper Industry

Objective

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

Highlights

- Development and isolation of two new strains indicating bioremediation potential of effluents.
- Studies on optimisation of process variables like inoculum dose, temperature, pH, aeration rate and retention time were conducted to enhance the pollution reduction efficiency.
- Two stage biological treatment using the isolated strains was also investigated.
- Three thermophilic isolates were isolated and study conducted to develop the indigenous capabilities for ethanol production in pulp and paper mills.
- The strains resulted in conversion efficiency of 90% (theoretically) at sugar concentration: 40g/l, temperature: 45°C, pH: 5.0 and fermentation time: 24-36 h.

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 and performance evaluation of 13 agro and RCF based Pulp and Paper mills were carried out. Detailed reports with recommendations and suggestions for improving the performance of ETP were submitted to the respective mills.

- Feasibility of Zero Liquid Discharge (ZLD) status studied in 6 RCF based mills producing kraft paper.
- Detailed material & water balance studies were carried out in 5 mills to evaluate the actual water and raw material consumption.
- Water audit of 3 RCF based mills was conducted.
- Studies carried out on application of tertiary treatment i.e. chemical treatment and membrane filtration have indicated significant reduction in pollution parameters viz COD (20-50%), BOD (10-20 %), Colour (50-90%), TDS (30-50%) which can facilitate reuse and recycle of treated effluent in pulp and paper mills and ultimately reducing the fresh water consumption by 20-30%.

C. Infrastructure Development and Capacity Building Activities

I. 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

- The strength and durability of corrugated board lies in the strength of the components (liner and medium) of which it is made up of. Thus in order to improve the final quality of paper board and corrugated board, detailed investigations were carried out on the quality analysis of medium and liner papers especially made from recycled fibers for different parameters in the laboratory.
- The database so generated will serve as a tool for paper manufacturers in optimizing their manufacturing parameters thus leading to improved quality of paper board and corrugated box.
- The project has been successfully completed.

II. Modernisation of CPPRI Library

Objective

- Modernisation 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

- e-Granthalaya 4.0 Web OPAC can be accessed on the following link window interface https://eg4.nic.in/CGOVLIB1/OPAC/Default.aspx?LIB_CODE=CPPRI.



- e-Granthalaya 4.0 Web OPAC is now accessible on mobile device also at the following URL <http://eg4.nic.in/mobile>.
- Compiled three anthologies in the area of deinking, recycled fiber and biotechnological applications in pulp and paper Industry.
- Issue-return notification is automatically sent to registered e-mail id of user.
- Barcode based issue-return system has been successfully implemented at CPPRI Library.
- Proceedings of four Cess training programmes have been digitized for future reference.
- The project has been successfully completed.

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

- Training rendered to industry personnel in area of pulping, bleaching, stock preparation, chemical recovery environment etc.
- Provided logistic support in organising UNIDO workshops.
- Provided logistic support in conducting of M.Sc (CPT) classes and training to trainees.
- The project has been successfully completed.

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.



- Installation of LED lights in the campus for reduction in power consumption.
- Laying of PVC water pipe line from office tube well to residential colony and booster pump installation in residential colony tube well room.
- Coordination of transportation services and communication services.
- Horticulture & plantation activities.
- The project has been successfully completed.



(B) Cess Funded Projects

I. Census Survey of the Indian Paper Industry (CPPRI)

Objective

- Continuous updation of the data bank (created on Paper Sector under the Census Survey Project) which involves updation of details of individual paper units, their installed capacity & its utilisation and product mix (wherever feasible). Consumption pattern are reported based on import and export data.
- Functioning of the Statistical Cell as a resource centre for providing data on the sector to various stakeholders (Government bodies, Institutes, Academia & Paper Industry) and executing a think tank function for various trade negotiations for paper & paperboard items.

Highlights

- Updation of data for all the units in the database (859 mills, installed capacity 25.55 million tons) is being carried out on a continuous basis, as and when the data becomes available.
- Out of the above, 268 units with an installed capacity 4.29 million tons are presently non-functional.
- Data of 499 paper mills having installed capacity of 20.65 million tons and producing nearly 16.91 million tons (2016-17) has been updated through personal visit / secondary / tertiary sources. Efforts are on for verification of production and related data for 92 mills.
- Attempt is under way for application of statistical tool (Holt Winter Filtering method) to project future trend of key sectoral parameters.

II. Improvement in Selectivity of Oxygen Bleaching (Joint Project of IPMA - SPB – ACIRD – CPPRI)

Objective

- To find out the most suitable conditions for oxygen delignification (ODL) for different indigenous raw materials.
- To study the effect of carbohydrate protectors to reduce cellulose degradation during ODL stage
- To reduce pulp shrinkage during ODL stage.
- Plant scale trials using optimised conditions with identified additive.

Highlights

- Plant scale trials were successfully conducted in a wood based pulp and paper mill which validated lab scale studies.
- The project is now complete and report has been submitted.

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

Objective

- 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

- Design modification of the feeding system carried out to improve the feeding rate and overcome the operational problems experienced during the trials.
- Successful trials conducted on fresh bagasse with modified feeding system.
- Screen part design modification under progress to match with the increased throughput from disc section due to improved feeding rate.
- Demonstration trial of whole system using fresh bagasse to the stake holders will be carried out soon after modifications.

IV. 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 IARPMA - ACIRD – CPPRI)

Objective

- 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 recalcitrant organic matter with coagulants and flocculants.

Highlights

- Based on the research work, it is concluded that split dosing of Poly Aluminium Chloride (PAC) (total dose 16.2 m³/day) using 7.5 m³/day PAC for pre-treatment of anaerobically treated wastewater followed by 8.7 m³/day PAC for post-treatment is effective to reduce the pollution load significantly leading to cost saving of Rs. 12000/day, (current consumption of PAC is 20 m³/day at mill).
- A pilot scale trial (1.15 m³/day) at mill site was successfully carried out for over two weeks. The results were in accordance with laboratory findings.
- The chemical sludge generated after pre and post-treatment was mixed with saw dust to form briquettes. The combustion characteristics of chemical sludge (GCV: 2013 kcal/kg) were found to be good after mixing with saw dust (GCV: 4518 kcal/kg).
- The project has been successfully completed.



V. 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 utilise the resources, equipment & unit processes to the optimum level.

Highlights

- The project has been successfully completed in March 2017 after conducting sixteen training programme in various areas of paper making.

VI. Development of Protocol for Deposit Control in RCF based Mills for better Machine Runnability (Joint Project of INMA - 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

- Laboratory studies were conducted on head box and machine back water samples collected from a wood-based mill for development of correlation between TOC and COD in relation to machine runnability issues.
- The methodology was further validated at another large integrated mill for control of pitch deposition at paper machine and waste paper-based mill for stickies deposition.
- The project has been successfully completed.

VII. Capacity Building and Upgradation of Infrastructure 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

- A detailed questionnaire was prepared and sent to different mills for collecting information on present status of equipment calibration of research / quality laboratories of Indian Pulp and Paper Mills.

- Experiments were carried out in laboratory for making handsheets / paper sheets under dynamic conditions simulating paper machine conditions.
- Samples so prepared were used as reference samples for calibration purpose of paper mills R&D / quality control laboratories. These samples were evaluated thoroughly in CPPRI laboratory before sending to participating mills laboratories.
- Care was taken in the preparation of these samples with minimum variations in properties, when tested under standard conditions of temperature and humidity.

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

Objective

- Infrastructure development for micro / nano fibrillated cellulose (M / NFC) preparation.
- Lab scale production of cellulose micro / nanofibrils using micro fluidiser.
- Characterisation of prepared cellulose micro / nanofibrils.
- Evaluation of their potential for various applications in paper making such as increased filler content, improvement in strength, refining energy reduction, improved paper quality etc.

Highlights

- Successful preparation of M / NFC from wheat straw and hardwood eucalyptus using micro fluidiser was carried out.
- Characterisation of prepared M / NFC pulp using XRD, SEM and TEM techniques.
- Lab scale trials on reduction in refining energy for mixed hardwood pulp using imported M / NFC at PFI refining of pulps to 30 and 50° SR levels.
- Lab scale experiments on addition of imported M/NFC samples for improvement in strength/ reduction of softwood (SW) pulp.
- Experiments on addition of imported M / NFC sample for reduction in grammage.

IX Utilisation of Lignin by-product from Paper Industry in Rubber Industry (Joint Project of CPPRI - IRMRA)

Objective

- To explore the utilisation 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

- Three bulk samples of lignin from different agro based black liquor were prepared, purified and characterised to study the parameters of interest by IRMRA.
- Studies carried out at IRMRA on application of lignin in rubber products have shown the requirement of lignin modifications in pH and particle size for further improvement in the properties of rubber products.
- Further studies are under progress.

X 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 - PAPRI)

Objective

- 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.

Highlights

- In first phase, 27 wood samples and in second phase 7 wood samples were received from Pulp and Paper Research Institute Jaykaypur District Rayagada to assess the physical and chemical properties like basic density, holocellulose, lignin content, ash content, (A-B) solubility, N/10 NaOH solubility and cold and hot water solubility.
- Studies of these samples are under progress.

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 extended active services for verification of action plan for Charter compliance submitted by mills, quarterly Charter implementation progress verification, ETP adequacy assessment, etc.
- 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 Paper & Pulp Sector and to facilitate development and adoption of technologies for waste management and improving energy efficiency in the paper and pulp sector.

Highlights

- Under the project delegation of seven scientists went on a study tour to Norway and Sweden and interacted with scientists, academicians and researcher of leading institutes of Norway and Sweden like RISE - PFI, RISE - Innventia to get exposure to latest R&D trends and activities related to pulp and paper making, ozone bleaching, membrane separation, biorefinery, microfibrillated cellulose etc.
- Two scientists visited leading institutes and production facilities in China like China National Pulp & Paper Research Institute, Beijing ; Beijing Forest University, Beijing ; Tranlin Paper Company, Jinan ; Rizhao Huatai Paper Company, Rizhao and Shanghai Corun Membrane Technology Company Limited, Shanghai to get an exposure on new developments in the latest technologies, process operations as well as R&D being undertaken in the areas related to pulp & paper making which could be adopted or developed indigenously for improving competitiveness & sustainability of Indian paper industry.

- Two scientists visited Canada to get an exposure/ideas on new and latest R&D trends and activities related to pulp & paper making, new technology advancement in the area of biorefinery and nanocellulose applications and environmental management etc. They visited FP Innovations, Montreal, Pulp and Paper Centre, Department of Chemistry at McGill University, Montreal; Windsor Paper Mill, Domtar; Limerick Pulp and Paper Centre, University of New Brunswick, Fredericton; Millar Western Forest Products Limited, Whitecourt, Alberta; West Fraser Hilton Pulp Mill, Alberta; Alberta Newsprint, Whitecourt, Alberta; University of British Columbia, Vancouver ; FP Innovations, University of British Columbia, Vancouver.
- Dr. B. P. Thapliyal, Director CPPRI visited Tokyo, Japan to attend INCHEM 2017 and see Japanese technologies for waste water treatment.
- One scientist participated in 2 days consultation meeting with stakeholders of Korean Pulp and Paper Industry.
- Comparative studies on conventional (CEopH) bleaching and different TCF bleaching sequence like A-Z-P, O-Z-P, A-Z-Ep, A-Z-EP (pressurised) and A-Z-Eop (pressurised) for bleaching of mixed agro pulp were carried out in context of strength and optical properties as well as impact on pollution load generated.
- CPPRI assisted UNIDO in organising five workshops at Saharanpur, Kolkata, Daman, Coimbatore to disseminate the information of the studies carried out under UNIDO Project.

III Monitoring of Grossly Polluting Industries (CPCB Project)

- CPPRI was awarded a project by CPCB for Monitoring Grossly Polluting Industries (GPIs) discharging into River Ganga and its tributaries. Under the project CPPRI carried out inspection of 30 GPIs located in Meerut, Etah, Bijnor, Hapur, Sambhal. The GPIs included textile, chemical, sugar units and slaughter houses.
- CPRRI team visited each of the unit to collect the data and environmental samples for analysis. A consolidated report was submitted to CPCB and presentation of project findings was made by CPPRI at National Mission for Clean Ganga at New Delhi.

IV Improved Efficiency of Chemical Recovery System in Straw based Black Liquor to Achieve Techno-economic Viability (Sponsored by Office of PSA, Govt. of India)

Objective

- To improve the efficiency of chemical recovery systems by desilication and liquor heat treatment of straw based black liquors to achieve techno- economic viability.

Highlights

- Organisation of the 3rd PMRC meeting at CPPRI, Saharanpur to review the status of the project.
- Under this project lab scale studies on heat treatment and desilication of black liquor samples collected from mills were conducted.
- Characterisation of as such black liquor samples and black liquor samples after liquor heat treatment and desilication were done.
- Installation and troubleshooting of liquor heat treatment and desilication pilot plant is under progress.

V. Exploration of Banana Fiber for making of Currency / Security Paper (Sponsored by Security Paper Mills Limited, Hoshangabad)

Objective

- To extract fiber from banana stem and study its utilisation for making currency and security paper.

Highlights

- Banana stems were collected from nearby region and fiber was extracted using banana fiber extraction machine.
- Optimisation of pulping, refining and bleaching process was completed.
- Relevant physical properties of pulp and strength properties of hand sheets were determined.
- Studies on blending of banana fibre pulp with cotton pulp in different ratio were also carried out.



PROJECTS SPONSORED BY PULP, PAPER AND ALLIED INDUSTRIES

Following Pulp, Paper, Allied Industries and Organisations sponsored R&D projects / consultancy work to CPPRI in following areas :

Raw Material Preparation, Evaluation, Pulping and Bleaching

Use of Whole Jute Plant in Paper Pulps

- Ministry of Textiles, Government of India, Kolkata.

Laboratory Studies for Evaluation of Palm EFB Fibre Sample

- Gauriputra Speciality Papers Private Limited , Mumbai.

Soda Pulping of Wheat Straw for Product Development

- Raman Ecofriendly, Mohali , Punjab.

Ozone Bleaching Studies of ODL Pulp following ZEopD and ZEopP Sequence

- Naini Papers Limited, Kashipur, Uttarakhand.

Implementation of Ozone ECF and TCF Bleaching Sequences on ODL Mill Pulp

- Naini Papers Limited, Kashipur, Uttarakhand.

Study of Ozone Bleaching Sequences of AZ(Eop)D and AZ(Eop)H on Mixed Agro Based Unbleached Pulp

- Naini Papers Limited, Kashipur, Uttarakhand.

Pulp / Chemical Evaluation, Waste Paper Recycling and Paper Making

Evaluation of Pulp for Various Fibre, Physical and Strength Properties

- Seascop Pulp & Paper Private Limited, Mumbai, Maharashtra.
- Dev Priya Products Private Limited, Meerut, Uttar Pradesh.
- Ramco Industries Limited, Chennai, Tamilnadu.
- West Coast Paper Mills Limited, Dandeli, Karnataka.
- Central National India Pulp and Paper Private Limited, New Delhi.

- VLS Fibre, Chennai, Tamilnadu.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Unity Pulp and Papers, Itarsi, Madhya Pradesh.
- Tradecom International Private Limited, Mumbai.
- Brown Overseas Private Limited, Mumbai.
- Century Ply Boards (I) Limited, West Bengal.
- Visaka Industries Limited, Rae Bareli, Uttar Pradesh.
- K. R. Pulp & Paper Limited, Shahjahanpur, Uttar Pradesh.
- J B Daruka Papers Limited, Sitapur, Uttar Pradesh.

Evaluation of Used Tea Carton, Soap Wrappers, Ice cream Cartons for its Repulpability and Papermaking Potential

- Unilever Industries (P) Limited, Mumbai, Maharashtra.
- Hindustan Unilever Industries (P) Limited, Bangalore, Karnataka.

Development of Kraft Paper with Antibacterial and Antifungal Property using Bio-polymer

- LDS Industries and Business Solutions, Kurnool, Andhra Pradesh.

Testing of Filler

- Ashapura Minchem Limited, Mumbai, Maharashtra.
- SBM Enterprises, Cuttack, Odisha.
- Mahalaxmi Industries, Udaipur, Rajasthan.

Troubleshooting and Evaluation of Wet End Chemistry

- Shah Paper Mills Limited, Vapi, Gujarat.

Comparative Evaluation of Pigment Dyes

- Ganpati Organics, Sonapat, Haryana.

Testing of PolyAl and Fibre content in Tetra Pak reject

- Parason Machinery (I) Private Limited, Aurangabad.



Environmental Management

ETP Adequacy Assessment

- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh.
- Fibremarx Papers (P) Limited, Kashipur, Uttarakhand.
- Anand Triplex Board Limited, Meerut, Uttar Pradesh.
- New Bonanza India Limited, Meerut, Uttar Pradesh.
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh.
- NS Papers Limited, Muzaffarnagar, Uttar Pradesh.
- Tirupati Balaji Fibers Limited, Muzaffarnagar, Uttar Pradesh.
- Sahota Papers Limited, Jaspur, Uttarakhand.
- Chaddha Paper Limited, Bilaspur, Uttar Pradesh.
- KK Duplex & Paper Mills (P) Limited, Muzaffarnagar, Uttar Pradesh.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Dev Bhoomi Pulp & Paper Industries Private Limited, Haridwar, Uttarakhand.

CPCB Charter Progress Verification

- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Lalji Board Industries Private Limited, Firozabad, Uttar Pradesh.
- Dayalji Industries Private Limited, Firozabad, Uttar Pradesh.
- KR Pulp & Papers Limited, Unit-I & Unit-II, Jalalabad Road, District- Shahjahanpur, Uttar Pradesh.

Zero Liquid Discharge Feasibility

- Dev Priya Industries Private Limited, Unit-I Meerut, Uttar Pradesh.
- Lalji Board Industries Private Limited & Dayalji Industries, Firozabad, Uttar Pradesh.
- Anandeshwar Industries (P) Limited, Kanpur, Uttar Pradesh.
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh.
- RAC Papers Limited, Hapur, Uttar Pradesh.
- Star Kraft Papers Pvt Limited, Meerut, Uttar Pradesh.
- Devprayag Paper Mill Pvt Limited, Allahabad.

Material & Water Balance Studies

- Nikita Paper Limited, Shamli, Uttar Pradesh.
- Silverton Papers Limited, Muzaffarnagar, Uttar Pradesh.
- Aristocraft Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Meenu Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Bindal Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.

Water Audit

- West Coast Paper Mill Limited, Dandeli, Karnataka.

Audit Assessment of Hazardous Waste

- Century Pulp and Paper, Lalkua, Uttarakhand.

Chemical Recovery

Annual Contract of Training & Auditing of Chemical Recovery

- Satia Paper Mills Limited, Muktsar, Punjab.
- KR Pulp & Papers Limited, Shahjahanpur, Uttar Pradesh.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Century Pulp & Paper, Lalkua, Uttarakhand.
- Shreyans Industries Limited, Ahmedgarh, Punjab.

Feasibility of Installation of Lime Kiln

- Ruchira Paper Mills Limited, Kalamb, Himachal Pradesh.

Liquor Heat Treatment

- Century Pulp & Paper, Lalkua, Uttarakhand.

Desilication of Black and Green Liquor

- Naini Papers Limited, Kashipur, Uttarakhand.

Chemical Recovery Audit

- Yash Papers Limited, Faizabad, Uttar Pradesh.

Adequacy of Chemical Recovery

- Vishwakarma Paper & Boards Limited, Kashipur, Uttarakhand.



TECHNICAL AND CONSULTANCY SERVICES

Technical services were rendered to the following mills and organisations by analysing 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.

- A. P. Paper Mills Limited, Mohali, Punjab.
- Aadarsh Private Limited, Bhopal, Madhya Pradesh.
- Agarwal Enterprises, Delhi.
- Aggarwal Duplex Board Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Aggarwal Zarda Factory, Saharanpur, Uttar Pradesh.
- Alok Printers, Agra, Uttar Pradesh.
- Anand Duplex Limited, Meerut, Uttar Pradesh.
- Anand Duplex Limited, Unit-II, Meerut, Uttar Pradesh.
- Anand Triplex Board Limited, Meerut, Uttar Pradesh.
- Andhra Pradesh Social Welfare Residential Educational Institute, Guntur, Andhra Pradesh.
- Anupam Prakashan, Mathura, Uttar Pradesh.
- APJ Abdul Kalam Technical University, Lucknow, Uttar Pradesh.
- Arist Craft Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Arosol Packaging Industries, Saharanpur, Uttar Pradesh.
- Ashapura Minchem Limited, Bhuj, Gujarat.
- Ashpura Manchem Limited, Mumbai, Maharashtra.
- Aspha Board Private Limited, Mumbai, Maharashtra.
- Avery Dennison India Private Limited, Gurgaon, Haryana.
- Bahl Paper Mills Limited, Kashipur, Uttarakhand.
- Bajaj Kagaj Limited, Unnao, Uttar Pradesh.
- Banwari Paper Mills Limited, Kashipur, Uttarakhand.
- Bennett Coleman & Company Limited, New Delhi.
- Bhagwat Printing Press, Mathura, Uttar Pradesh.
- Bhagwati Kripa Paper Mills, Jaipur, Rajasthan.
- Bhupendra University, Madhepura, Bihar.
- Bihar Lok Prashashan evam Gramin Vikas Sansthan, Patna, Bihar.
- Bihar Lok Prashashan evam Gramin Vikas, Patna, Bihar.
- Bihar Sarkar Shram Sansthan Vibhag, Patna, Bihar.

- Bihar Sarkar Yojna evam Vikar Vibhag, Patna, Bihar.
- Bihar Skill Development Mission, Bihar.
- Bihar State Power Generation Company Limited, Patna, Bihar.
- Bihar State Text Book Publishing Corporation Limited, Patna, Bihar.
- Bihar Vidhyalya Pariksha Samiti, Patna, Bihar.
- Bilt Graphic Paper Products Limited, New Delhi.
- Bilt Graphics Paper Product Limited, Ballarpur, Maharashtra.
- Bindals Duplex Limited, Unit-I, Muzaffarnagar, Uttar Pradesh.
- Bindals Papers Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Bindiya Enterprises, Kheda, Gujarat.
- Board of School Education Haryana, Bhiwani, Haryana.
- Board of Secondary Education, Cuttack, Odisha.
- Box Corrugators and Offset Printers, Bhopal, Madhya Pradesh.
- Brown Overseas Private Limited, Mumbai, Maharashtra.
- Burda Druck India Private Limited, Greater Noida, Uttar Pradesh.
- Bureau of Energy Efficiency, New Delhi.
- Central Board of Secondary Education, New Delhi.
- Central National India Pulp & Paper Private Limited, New Delhi.
- Central Pollution Control Board, Delhi.
- Century Ply Board (I) Limited, Bishanpur, West Bengal.
- Century Pulp and Paper, Lalkua, Uttarakhand.
- Century Pulp and Paper, New Delhi.
- Century Pulp and Paper, Udham Singh Nagar, Uttarakhand.
- Chaddha Papers Limited, Rampur, Uttar Pradesh.
- Chamunda Papers Private Limited, Hapur, Uttar Pradesh.
- Chandpur Enterprises Limited, Chandpur, Uttar Pradesh.
- Chaudhary Charan Singh University, Meerut, Uttar Pradesh.
- Consul Paper Products, Nainital, Uttarakhand.
- D & G Paper Private Limited, Patiala, Punjab.
- Delhi Bureau of Text Books, New Delhi.
- Delta Paper Mills Limited, Vendra, Andhra Pradesh.
- Deputy Commissioner of Custom, Kolkata, West Bengal.
- Dev Bhumi Pulp & Paper Industry, Haridwar, Uttarakhand.
- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh.



- Dev Priya Paper Limited, Meerut, Uttar Pradesh.
- Dev Priya Products Private Limited, Meerut, Uttar Pradesh.
- Devi Ahilya Vishwavidyalya, Indore, Madhya Pradesh.
- Devrishi Papers Private Limited, Jaspur, Uttarakhand.
- Devrishi Papers Private Limited, Udham Singh Nagar, Uttarakhand.
- Directorate of Stationery and Offices Suppliers, Jammu & Kashmir.
- Disha Industries Limited, Muzaffarnagar, Uttar Pradesh.
- DLS Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Dow Coring India Private Limited, Mumbai, Maharashtra.
- Dr. Ram Manohar Lohia Avadh University, Faizabad, Uttar Pradesh.
- Dr. APJ Abdul Kalam Pravidhik Vishwavidyalya, Lucknow, Uttar Pradesh.
- Dr. APJ Abdul Kalam Technical University, Lucknow, Uttar Pradesh.
- Dynamic Text Books Private Limited, Bijoli, Uttar Pradesh.
- East West Products Limited, Khatema, Uttarakhand.
- Eco Tech Paper, Guwahati, Assam.
- Emami Paper Mills Limited, Odisha.
- Employment News, New Delhi.
- Fibremarks Paper Private Limited, Shivrajpur, Uttar Pradesh.
- Fibremarx Papers Private Limited, Udham Singh Nagar, Uttarakhand.
- Friends Paper Mills, Batala, Punjab.
- Gala Printcity Limited, Ahemdabad, Gujarat.
- Galaxy Paper Private Limited, Muzaffarnagar, Uttar Pradesh.
- Ganga Pulp and Paper Private Limited, Chandauli, Uttar Pradesh.
- Ganpati Organics, Sonapat, Haryana.
- Gauriputra Speciality Papers Private Limited, Mumbai, Maharashtra.
- Genus Paper and Boards Limited, Moradabad, Uttar Pradesh.
- Good Luck Publishers Limited, Saharanpur, Uttar Pradesh.
- Government of Jammu & Kashmir, Srinagar, Jammu & Kashmir.
- Government Printing and Stationery, Gandhinagar, Gujarat.
- Grasim Industries Limited, Kumarpatnam, Karnataka.
- Gujarat State Board of School Textbook, Gandhinagar, Gujarat.
- Hariom Industries Limited, Kanpur, Uttar Pradesh.
- Hariom Industries Limited, Kashipur, Uttarakhand.
- Harsh Enterprises, Kanpur, Uttar Pradesh.

- Haryana School Shiksha Pariyojna Parishad, Panchkula, Himachal Pradesh.
- HEBA Printing Works, Patna, Bihar.
- HIL Limited, Hyderabad, Telangana.
- Hind Brick Udyog, Saharanpur, Uttar Pradesh.
- Hindustan Media Ventures Limited, Patna, Bihar.
- Hindustan Unilever Limited, Bangalore, Karnataka.
- Holy Faith International (P) Limited, New Delhi.
- IK Gujral Punjab Technical University, Karpurthala, Punjab.
- ICAI, Noida, Uttar Pradesh.
- ICD, Bangalore, Karnataka.
- Indian Agro and Recycled Paper Mill Association, New Delhi.
- Indian Security Press, Nasik Road, Maharashtra.
- Indra Gandhi National Open University, New Delhi.
- International Paper APPM Limited, New Delhi.
- International Paper APPM Limited, Rajamundry, Andhra Pradesh.
- ITC Limited, ESPB Division, Chennai, Tamil Nadu.
- ITC Limited, PSPD, Hooghly, West Bengal.
- ITC Limited, PSPD, Sarapaka, Telangana.
- ITC Limited, Secunderabad, Telangana.
- J B Daruka Papers Limited, Sitapur, Uttar Pradesh.
- J K Paper Limited, Surat, Gujarat.
- J K Paper Limited, Rayagada, Odisha.
- Jai Narayan Vyas University, Jodhpur, Rajasthan.
- Janki News Print Limited, Meerut, Uttar Pradesh.
- Jawahar Navodaya Vidhyalaya, Saharanpur, Uttar Pradesh.
- J K Paper Limited, New Delhi.
- JSR Instruments, Roorkee, Uttarakhand.
- K R Pulp and Paper Limited, Shahjahanpur, Uttar Pradesh.
- KC Printing and Allied Works, Mathura, Uttar Pradesh.
- KK Duplex and Paper Mills Private Limited, Muzaffarnagar, Uttar Pradesh.
- Kamakshi Papers Private Limited, Gajrualla, Uttar Pradesh.
- Kangaro Industries Limited, Ludhiana, Punjab.
- Karalaya Collector evam Zila Nirvachan Adhikari, Alirajpur, Madhya Pradesh.



- Karalaya Collector evam Zila Nirvachan Adhikari, Anuppur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Batool, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Bhopal, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Chindwada, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Dhar, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Hoshangabad, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Indore, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Jabalpur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Khargoon, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Mandsoor, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Raisen, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Rajgarh, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Shadol, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Balaghat, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Mandla, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Narsinghpur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Reeva, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Sagar, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Satna, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Shivpuri, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Sidhi, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Umariya, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Ashok Nagar, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Badwani, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Bala Ghat, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Burhanpur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Chatarpur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Damoh, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Guna, Madhya Pradesh.
- Karalaya Collector Evam Zila Nirvachan Adhikari, Harda, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Khandwa, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Khargonpur, Madhya Pradesh.
- Karalaya Collector evam Zila Nirvachan Adhikari, Mandla, Madhya Pradesh.

- Karyalya Collector evam Zila Nirvachan Adhikari, Panna, Madhya Pradesh.
- Karyalya Collector evam Zila Nirvachan Adhikari, Ratlam, Madhya Pradesh.
- Karyalya Collector evam Zila Nirvachan Adhikari, Shajapur, Madhya Pradesh.
- Karyalya Collector evam Zila Nirvachan Adhikari, Sihor, Madhya Pradesh.
- Karyalya Collector evam Zila Nirvachan Adhikari, Sivani, Madhya Pradesh.
- Karyalya Collector evam Zila Nirvachan Adhikari, Tikamgad, Madhya Pradesh.
- Kasturi International Private Limited, New Delhi.
- Katyayini Paper Mills Private Limited, Kashipur, Uttarakhand.
- Kazmi and Associates, Allahabad, Uttar Pradesh.
- Khatema Fibers Limited, Khatema, Uttarakhand.
- KL Hi-Tech Secure Print Limited, Sangareddy, Telangana.
- KR Pulp and Paper Private Limited, Unit-I, Shahjhanpur, Uttar Pradesh.
- KR Pulp and Paper Private Limited, Unit-II, Shahjhanpur, Uttar Pradesh.
- Kuantum Papers Limited, Hoshiarpur, Punjab.
- Lalji Board India Private Limited, Firozabad, Uttar Pradesh.
- Lalji Board Industries Private Limited, Firozabad, Uttar Pradesh.
- LDS Industries and Business Solutions, Kurnool, Andhra Pradesh.
- Lucknow Printers and Publishers, Lucknow, Uttar Pradesh.
- Madhyamik Shiksha Board Rajasthan, Ajmer, Rajasthan.
- Madhyamik Shiksha Mandal Madhya Pradesh, Bhopal, Madhya Pradesh.
- Mahalaxmi Industries, Jaipur, Rajasthan.
- Maharishi Dayanand University, Rohtak, Haryana.
- Makhanlal Chaturvedi Rashtriya Patrakarita evam Sanchar Vishvavidyalya, Bhopal, Madhya Pradesh.
- Meenu Paper Mills (P) Limited, Muzaffarnagar, Uttar Pradesh.
- Micron Mineral Industries, Udaipur, Rajasthan.
- Mittal Publishing House, Mathura, Uttar Pradesh.
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh.
- Mudran Mahal Printers and Publishers, Agra, Uttar Pradesh.
- Mudran Tatha Lekhan Samgari Vibhag Haryana, Panchkula, Haryana.
- Multiwal Duplex Private Limited, Kashipur, Uttarakhand.
- Mysore Sales International Limited, Bengaluru, Karnataka.
- Naini Paper Limited, Udham Singh Nagar, Uttarakhand.
- Naini Tissues Limited, Kashipur, Uttarakhand.



- National Council of Education Research and Training, New Delhi.
- National Health Mission, Panchkula, Haryana.
- National Hydrographic Office, Dehradun.
- National Insurance Company Limited, Ludhiana, Punjab.
- National Printers, Ranchi, Jharkhand.
- Navodaya Vidyalaya Samiti, Lucknow, Uttar Pradesh.
- New Bonanza India Limited, Meerut, Uttar Pradesh.
- New Calcutta Private Limited, Chanduli, Uttar Pradesh.
- Nikita Papers Limited, Shamli, Uttar Pradesh.
- Noor Enzyme (P) Limited, Kolkatta, West Bengal.
- North Bihar Power Distribution Company Limited, Patna, Bihar.
- Novadaya Vidhyalaya Samiti, Bhopal, Madhya Pradesh.
- NS Papers Limited, Muzaffarnagar, Uttar Pradesh.
- NUVOCO Vistas Corporation Limited, Kolkata, West Bengal.
- Office of the Deputy Commissioner of Customs, Gandhinagar, Gujarat.
- Office of the Jute Commissioner, Ministry of Textiles, Kolkata, West Bengal.
- Office of the Principal Commissioner of Customs, Customs House Mundra, Kutch, Gujarat.
- Office of the Principal Commissioner of Customs, Raigad, Maharashtra.
- Orient Paper Mills Limited, Shahdol, Madhya Pradesh.
- Oyster Printers & Publishers Private Limited, Mathura, Uttar Pradesh.
- Parason Machinery (I) Private Limited, Aurangabad, Maharashtra.
- Patna Offset Press, Patna, Bihar.
- Pioneer Printers Agra, Uttar Pradesh.
- Pitambra Books Private Limited, Bijoli, Uttar Pradesh.
- Pitambra Books Private Limited, Jhansi, Uttar Pradesh.
- Prarambhik Shiksha evam Sarva Shiksha Abhiyan, Bhagalpur, Bihar.
- Printers and Publishers, Agra, Uttar Pradesh.
- Printex India, Allahabad, Uttar Pradesh.
- Printing and Stationery & Ply Printing Press, Chennai, Tamil Nadu.
- Printing and Stationery Department, Haryana.
- Printing and Stationery Department, Chennai.
- PSB Paper Limited, Udham Singh Nagar, Uttarakhand.
- Pulp Paper Research Institute, Jayakapur, Odisha.

- Punjab National Bank, Printing and Stationery Department, Noida, Uttar Pradesh.
- Punjab State Lotteries, Chandigarh, Punjab.
- R.K. Printers and Binders, Ahmedabad, Gujarat.
- Raani Durgavati Vishvvidhyalya, Jabalpur, Madhya Pradesh.
- RAC Papers Limited, Hapur, Uttar Pradesh.
- Raj Enterprises, Nainital, Uttarakhand.
- Raj Lakshmi Paper and Boards Private Limited, Bazpur, Uttarakhand.
- Rajasthan Rajya Pathya Pustak Mandal, Jaipur, Rajasthan.
- Rajasthan State Road Transport Corporation, Jaipur, Rajasthan.
- Rajasthan Technical University, Kota, Rajasthan.
- Rajeev Chemicals Private Limited, Ghaziabad, Uttar Pradesh.
- Rajeev Prakashan, Allahabad, Uttar Pradesh.
- Rajoriya Brother's and Company, Shivpuri, Madhya Pradesh.
- Rajya Bal Sanrakshan Samiti, Patna, Bihar.
- Rajya Kendriya Mudranalya, Jaipur, Rajasthan.
- Rama Shyama Papers Private Limited, Bareilly, Uttar Pradesh.
- Ramco Industries Limited, Tamilnadu.
- Ramraja Printers and Publishers, Jhansi, Uttar Pradesh.
- Rani Durgawati Vishvvidhyalya, Jabalpur, Madhya Pradesh.
- Ratna Overseas, Gurgaon, Haryana.
- Rayana Paper & Boards Limited, Sant Kabir Nagar, Uttar Pradesh.
- R P Printers, Noida, Uttar Pradesh.
- Ruchira Papers Limited, Sirmaur, Himachal Pradesh.
- SAB International, New Delhi.
- Sahota Papers Limited, Jaspur, U.S. Nagar, Uttarakhand.
- Sakshar Bharat Mission, Lucknow, Uttar Pradesh.
- Samekit Bal Vikas Sewaye Nideshalya, Patna, Bihar.
- Sandeep Paper Mills Private Limited, Noida, Uttar Pradesh.
- Sandeep Singh, Saharanpur, Uttar Pradesh.
- Satia Industries Limited, Muktsar, Punjab.
- Saurashtra Unviversity, Rajkot, Gujarat.
- SBM Enterprises, Tulsipur, Cuttack, Odisha.
- Seascope Pulp and Paper Private Limited, Mumbai, Maharashtra.



- Security Paper Mill, Hoshangabad, Madhya Pradesh.
- Shah Paper Mill Limited, Vapi, Gujarat.
- Shakti Krafts and Tissues Limited, Muzaffarnagar, Uttar Pradesh.
- Shakumbhari Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Shree Bhageshwari Papers (P) Limited, Unit-I & Unit II, Muzaffarnagar, Uttar Pradesh.
- Shree Sidhali Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Shree Venketesh Paper Mills Private Limited, Meerut, Uttar Pradesh.
- Shreyans Industries Limited, Ahmedgarh, Punjab.
- Shri Ganga Paper Mills Private Limited, Ghaziabad, Uttar Pradesh.
- Shriram Institute for Industrial Research, New Delhi.
- Siddheshwari Industries Private Limited, Muzaffarnagar, Uttar Pradesh.
- Siddheshwari Paper Udyog Private Limited, Kashipur, Uttarakhand.
- Sidharth Papers Limited, Unit-I, Kashipur, Uttarakhand.
- Sidharth Papers Limited, Unit-II, Kashipur, Uttarakhand.
- Sidharth Papers Limited, Kashipur, Uttarakhand.
- Silverton Paper Limited, Unit-I, Muzaffarnagar, Uttar Pradesh.
- Silverton Paper Limited, Unit-II, Muzaffarnagar, Uttar Pradesh.
- Silverton Pulp and Paper Private Limited, Muzaffarnagar, Uttar Pradesh.
- Singhal Agencies, Lucknow, Uttar Pradesh.
- Sinwoo Pack India Private Limited, Noida, Uttar Pradesh.
- Sonex Print Pack Private Limited, New Delhi.
- South Bihar Power Distribution Company Limited, Patna, Bihar.
- Southern Railway Printing Press, Chennai, Tamilnadu.
- Sri Sai Offset, Patna, Bihar.
- SSK House, Navi Mumbai, Maharashtra.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh.
- State Health Society, Patna, Bihar.
- State Society of Ultra Poor and Social Welfare, Patna, Bihar.
- Suchna evam Jan Sampark Vibhag, Patna, Bihar.
- Superidentent of Customs, Gandhinagar, Gujarat.
- Surya Coats Private Limited, Ahmedabad, Gujarat.
- Surya Enterprises, Patna, Bihar.

- Suyash Kraft and Paper Limited, Muzaffarnagar, Uttar Pradesh.
- Swapna Printing Works Private Limited, Kolkata, West Bengal.
- Tamilnadu Newsprint and Papers Limited, Tiruchirappalli, Tamilnadu.
- Tehri Pulp and Paper Limited, Muzaffarnagar, Uttar Pradesh.
- The Institute of Chartered Accountants of India, Noida, Uttar Pradesh.
- The Sandesh Limited, Ahmedabad, Gujarat.
- The Tribune Trust, Chandigarh, Punjab.
- The West Coast Paper Mills Limited, Dandeli, Karnataka.
- Tirupati Balaji Fibres Limited, Muzaffarnagar, Uttar Pradesh.
- Topline Writing Instruments Private Limited, Verna, Goa.
- Tradecom International Private Limited, Mumbai, Maharashtra.
- Udaipur Mineral Development Syndicate Private Limited, Jaipur, Rajasthan.
- Uivid Offset, Patna, Bihar.
- Unilever Industries Private Limited, Mumbai, Maharashtra.
- Unity Pulp and Paper, Itarsi, Madhya Pradesh.
- Universal Engineering Corporation, Saharanpur, Uttar Pradesh.
- Upkar Printers and Publishers, Agra, Uttar Pradesh.
- Uttarakhand Mukta Vishvvidyalya, Nainital, Uttarakhand.
- Vardhman Industries, Meerut, Uttar Pradesh.
- Veer Bahadur Singh Purvanchal Vishvavidyalya, Jaunpur, Uttar Pradesh.
- Vikram Vishvavidyalya, Ujjain, Madhya Pradesh.
- Visaka Industries Limited, Rae Bareilly, Uttar Pradesh.
- Vishvakarma Paper and Boards Limited, Kashipur, Uttarakhand.
- Vishwa Pariwar, Jhansi, Uttar Pradesh.
- Vishwa Printers, Lucknow, Uttar Pradesh.
- Vishwanath Paper and Boards Limited, Kashipur, Uttarakhand.
- VLS Fibre, Chennai, Tamilnadu.
- Vyavsayik Pariksha Parishad Uttarakhand, Dehradun, Uttarakhand.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Yash Papers Limited, Gaziabad, Uttar Pradesh.
- Yash Printers, Ahmedabad, Gujarat.
- Yojna evam Vikas Vibhag, Patna, Bihar.
- Zila Nirvachan Padadhikari, Vaishali, Bihar.



MEETINGS ORGANISED / ATTENDED

Meeting of Research Advisory Committee (RAC)

A meeting of the Research Advisory Committee (RAC) was held on August 10, 2017 at Udyog Bhawan, New Delhi. The meeting was chaired by Dr. Vandana Kumar, IDAS Joint Secretary, DIPP, Ministry of Commerce & Industry, Government of India to review the completed projects under XII Plan, activities proposed to be extended upto March 2020 and new project activities proposed to be undertaken upto March 2020. Smt. Rita Tandon, Scientist 'G' presented the agenda of the meeting on behalf of Dr. B.P. Thapliyal, Director CPPRI and Member Secretary RAC. The meeting was attended by members of RAC, as well as special invitees from Department of Industrial Policy & Promotion, Ministry of Commerce & Industry as well as officials from IPMA, IARPMA, INMA, ACIRD and CPPRI.

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

The first meeting of the Reconstituted Development Council for Pulp, Paper and Allied Industries (DCPPAI) was held under the Chairmanship of Shri Madhukar Mishra on August 11, 2017 at Udyog Bhawan, New Delhi. The meeting was attended by Dr. Vandana Kumar, IDAS, Joint Secretary, DIPP, Ministry of Commerce & Industry, members of the Council as well as special invitees from DIPP, IARPMA, INMA, AIFMP and CPPRI. The agenda of the meeting was presented by Smt. Rita Tandon, Scientist 'G' on behalf of Dr. B. P. Thapliyal, Director, CPPRI and Member Secretary DCPPAI. During the meeting various issues related to Indian Pulp and Paper industry and follow up action on the decisions of the last meeting was discussed.

Major Meetings attended by CPPRI Scientists during 2017-18

Meetings at Udyog Bhawan, New Delhi

- Smt. Rita Tandon attended meeting with Joint Secretary (Paper) at DIPP, New Delhi as on April 10 – 11, 2017 and April 20, 2017.
- Smt. Rita Tandon attended 5th National Steering Committee Meeting of Country Programme on May 16, 2017.
- Smt. Rita Tandon attended a meeting of North East Industrial Investment Promotion Policy (NEIIP) on June 21, 2017.
- Smt. Rita Tandon and Dr.M.K.Gupta attended the meeting of Empowered Committee chaired by the Secretary, DIPP, Ministry of Commerce and Industry, Government of India in connection of approval of subsidy claim submitted by Ecotech Papers Limited on June 21, 2017.
- Smt. Rita Tandon attended a meeting on July 12, 2017 in connection with discussion on CPPRI budget, 7th CPC and forth coming meetings of CPPRI.
- Smt. Rita Tandon attended a meeting at Udyog Bhawan, New Delhi on July 27, 2017 in connection with Quality Control Order for Copier Paper.
- Smt. Rita Tandon attended a meeting with Joint Secretary (Paper) at Udyog Bhawan on August 8, 2017 to discuss the RAC Agenda.
- Dr. B. P. Thapliyal attended RCEP meeting at DIPP on October 11, 2017.
- Dr. B. P. Thapliyal attended 4th Steering Committee Meeting of UNIDO at DIPP on October 24, 2017.
- Dr. B. P. Thapliyal attended a meeting chaired by Additional Secretary, DIPP with Representatives of Paper Industry associations regarding virgin pulp in tender conditions on December 5, 2017.
- Dr. B. P. Thapliyal attended a meeting at DIPP on December 18, 2017 and December 21, 2017 in context with presentations of public funded schemes projects for Standing Finance Committee.

Meetings at Ministry of Environment, Forests and Climate Change, New Delhi

- Dr. B. P. Thapliyal attended a Expert Appraisal Committee meeting of Ministry of Environment, Forests and Climate Change on September 11, 2017.
- Dr. B. P. Thapliyal attended Expert Appraisal Committee meeting of Ministry of Environment, Forests and Climate Change on March 14, 2018.
- Dr. Nitin Endlay attended a meeting of Expert Appraisal Committee on January 3, 2018.



Meetings at IGNOU, New Delhi

- Smt. Rita Tandon and Dr. R.D. Godiyal attended Technical Advisory & Paper Purchase Committee (TAPPC) meeting on April 28, 2017.
- Smt. Rita Tandon attended Tender Opening and Evaluation Committee Meeting on May 8, 2017.
- Dr. B. P. Thapliyal and Shri Alok Kumar Goel, attended TAPPC meeting on February 2, 2018.

Meetings at Bureau of Energy Efficiency, New Delhi

- Dr. B. P. Thapliyal attended a Launch event of ESCert Trade by BEE on September 26, 2017.
- Shri Alok Kumar Goel attended pre proposal meeting for selection of consultant regarding project proposal on Selection of Consulting Services for Development of Sector Specific Key EE Performance Indicator and Benchmarks for Paper Sector with BEE-GEF-World Bank Program officials at Bureau of Energy Efficiency (BEE), New Delhi on March 8, 2018.
- Dr. Sanjay Tyagi and Shri Alok Kumar Goel attended a Pre-proposal meeting of Pulp and Paper on March 8, 2018.
- Shri Alok Kumar Goel attended 9th Technical Meeting for Pulp and Paper Sector under PAT - IV cycle at Bureau of Energy Efficiency (BEE) on March 9, 2018.
- Dr. Sanjay Tyagi and Shri Alok Kumar Goel attended a meeting of 9th Technical Committee Outcome Exhibition of Bureau of Energy Efficiency on March 9, 2018.

Meetings on CHD - 15 for Pulp, Paper and Allied Product at BIS, Manak Bhawan, New Delhi / Noida

- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. R. D. Godiyal, Shri Alok Kumar Goel and Dr. Sanjay Tyagi attended 16th Meeting of CHD - 15 on April 21, 2017.
- Smt. Rita Tandon attended a meeting of CHD -15 on May 4, 2017.
- Shri Alok Kumar Goel attended CHD -15 meeting regarding IS : 1848 on July 3, 2017 and CHD - 15 meeting on November 9, 2017.
- Dr. B. P. Thapliyal and Dr. R. D. Godiyal attended a meeting of Sectoral Expert Committee at BIS on August 24, 2017.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. Sanjay Tyagi and Shri Alok Kumar Goel attended a meeting on November 9, 2017 for revision of IS: 14490.

Meetings at UNIDO IC-ISID, New Delhi

- Dr. B. P. Thapliyal and Dr. M. K. Gupta attended a meeting related to UNIDO project activities on August 23, 2017.

- Dr. B. P. Thapliyal attended 4th Steering meeting of UNIDO on October 24, 2017.
- Dr. B. P. Thapliyal attended meeting regarding UNIDO Projects, Phase -1 and Phase – II on February 28, 2018.

Meeting at Reserve Bank of India

- Dr. B. P. Thapliyal attended a meeting of technical committee for Technical Bid evaluation on March 19, 2018.

Meeting at Parliament House, New Delhi

- Dr. B. P. Thapliyal attended a meeting at Parliament House annexe, New Delhi regarding examination of demands for grants (2018-2019) of the Ministry of Commerce and Industry (DIPP).

Meetings at IPPTA

- Dr. B. P. Thapliyal attended Executive Committee meeting at Hotel Radisson, Ghaziabad on March 22, 2018.
- Dr. B. P. Thapliyal attended IPPTA 54th Annual General meeting at Hotel Radisson , Ghaziabad on March 23-24, 2018.

Other Meetings

- Dr. R.D. Godiyal attended a meeting with Service Engineers and officials of DSS, Micro imaging Division of Image Tech Private Limited, New Delhi regarding Motorized Research Microscope of Olympus on April 7, 2017.
- Dr. A. K. Dixit attended PMRC meeting on Green Chemistry Project in Vigyan Bhawan, Delhi, April 10-12, 2017.
- Dr. Sanjay Tyagi attended a meeting of Technical Committee for framing up of Passport Paper specifications at Indian Security Press, Nasik on April 17, 2017 and July 13, 2017.
- Dr. Sanjay Tyagi attended a meeting for preparation of reference samples and study of paper machine at Quantum Paper Mill on May 8, 2017.
- Dr. A. K. Dixit attended meeting at Indian Rubber Manufacturing Research Association, Thane in connection with joint project on lignin utilisation on May 21-23, 2017.
- Dr. B.P. Thapliyal and Dr. R.D. Godiyal attended a meeting with INKAY , Mumbai for preparation of Nano Cellulose Fibre on Panda Homogenizer at Indraprasth University, New Mumbai on May 22, 2017.
- Dr. Sanjay Tyagi attended a meeting on Currency Grade Pulp Technology at Indian Council for Agriculture Research (ICAR), New Delhi on June 8, 2017.



- Smt. Rita Tandon and Dr. Nitin Endlay attended National Conference on Moving towards Making Pulp and Paper Sector Water Secure, New Delhi on June 23, 2017.
- Smt. Rita Tandon, attended a meeting of technical committee of Paperex 2017 on July 4, 2017 at New Delhi.
- Dr. B. P. Thapliyal and Dr. R. D. Godiyal attended a meeting in BARC, Mumbai regarding Irradiation of Wood Chips Projects on July 23, 2017.
- Smt Rita Tandon and Dr. Nitin Endlay attended a meeting related to M.Sc (CPT) Course at Forest Research Institute (Deemed University), Dehradun on July 24, 2017.
- Dr. A. K. Dixit attended a Joint Research Meeting on Lignin Utilisation at Sunita Hydrocolloids Pvt. Limited, Jodhpur on August 16-20, 2017.
- Smt. Rita Tandon attended a meeting of technical committee of Paperex 2017 on August 18, 2017.
- Dr. B. P. Thapliyal attended a meeting at CII Papertech, Hyderabad on August 30, 2017.
- Dr. Shivaker Mishra and Dr. Nitin Endlay attended a review meeting of CPCB Sponsored Project on Monitoring of Grossly Polluting Industries in Ganga River Basin at National Mission for Clean Ganga (NMCG) on Grossly Polluting Industries on September 20, 2017, at New Delhi.
- Dr. Nitin Endlay attended a meeting of Departmental Promotion Committee (DPC) of Uttarakhand Environmental Protection and Pollution Control Board, Dehradun as an External Expert on September 21, 2017 at Dehradun.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. R. D. Godiyal, Dr. A. K. Dixit, Dr. Shivaker Mishra, Dr. Priti S Lal, Smt. Anuradha V Janbade, Dr. Nitin Endlay and Dr. Arvind Kumar Sharma attended a meeting with Shri E.P.Ghosal Executive Director, Shri Bajaj of Shangren Group and Shalabh Agarwal, Service and Solution Provider in context of project proposal on utilisation of Malaysian EFB fiber and explore other areas of joint collaborative studies on September 25, 2017 at Saharanpur.
- Dr. B. P. Thapliyal, Dr. M.K. Gupta, Dr. Priti S Lal and Dr. Arvind Kumar Sharma attended a meeting with Mr. Brendan van Wyk, Business Development Manager Pulp and Paper Xylem Water Solutions South Africa (Private) Limited and Dr. R.K Jain, Expert (Paper) UNIDO (IC-ISID) New Delhi and Mr. Pawan Agarawal, Managing Director, Naini Group, Kashipur regarding ozone bleaching of non wood pulps under UNIDO project - Development and Adoption of Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry on September, 30, 2017 at New Delhi.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Smt. Anuradha V Janbade, Dr. Nitin Endlay and Dr. Arvind Kumar Sharma attended a meeting held on October 31, 2017 at New Delhi with Mr. Brendan van Wyk, Mr. Madhavan Narain of Xylem Inc, India & Dr. R. K. Jain, (Expert Paper), UNIDO (IC-ISID) to discuss the proposed project activities on application of ozone as tertiary treatment for pulp and paper mill effluents.

- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Smt. Anuradha V Janbade and Dr. Nitin Endlay attended a meeting with CTP France Officials at UNIDO office, New Delhi on November 11, 2017 to explore area of mutual collaboration.
- Dr. B. P. Thapliyal, Dr. A. K. Dixit and Shri Kumar Anupam attended a meeting with officials Indian Institute of Petroleum Dehradun regarding Joint Indo- Norwegian Project Proposal on Biofuel on November 14, 2017.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. Kawaljeet Singh and Shri Satya Dev Negi, attended a meeting with Japanese delegation at IPMA Office, New Delhi on January 15, 2018 in connection with waste paper collection mechanism in India.
- Shri Alok Kumar Goel attended meeting with UNIDO Expert at UNIDO (IC-ISID) Office, New Delhi on February 1, 2018 to convey feedback on fellowship training undertaken at Norway and Sweden.
- Dr. Priti S Lal attended a meeting at UNIDO (IC-ISID) Office, New Delhi on February 7, 2018 in connection with discussion on activities under the project on Development and Adoption of Appropriate Technologies for Enhancing Productivity in Pulp and Paper Sector.
- Dr. B. P. Thapliyal and Dr. Sanjay Tyagi attended a meeting of CHD -16 at Indian Institute of Packaging, New Delhi on February 23, 2018.
- Shri Alok Kumar Goel attended a meeting on Round Table Discussion on Draft Energy Conservation Guidelines for Indian Industry at India Habitat Centre, New Delhi organised by BEE and TERI on February 26, 2018.
- Shri Alok Kumar Goel attended a meeting for selection of consultant regarding project proposal Selection of Consulting Services for Development of Sector Specific Key Performance Indicator and Benchmarks for Paper Sector with TERI officials at IHC, New Delhi on February 26, 2018.
- Dr. R. D. Godiyal attended a viva meeting at Graphic Era University on March 5, 2018.
- Dr. B. P. Thapliyal attended a meeting at Graphic Era University and Indian Institute of Soil and Water Conservation on March 5, 2018.
- Dr. Kawaljeet Singh, Dr. R. D. Godiyal and Dr. Sanjay Tyagi attended a meeting at National Physical Laboratory, New Delhi for Development of Certified Reference Material in Paper Products on March 16, 2018.

CELEBRATION OF NATIONAL DAYS AND OTHER IMPORTANT DAYS AT CPPRI

Independence Day

CPPRI celebrated the Independence Day on August 15, 2017 with usual fanfare and gaiety. After the guard of honour from CPPRI Security Staff, the Director Dr. B. P. Thapliyal, unfurled the national flag followed by singing of national anthem. Director, CPPRI addressed the staff and their family members, remembering the sacrifices of our freedom fighters, highlighting the activities and achievements of CPPRI and unveiling the future plans for growth of CPPRI. Meritorious students of CPPRI staff were rewarded for their excellent performance in Class X and XII examination.



Glimpses of Independence Day Celebrations

Republic Day

CPPRI celebrated the Republic Day on January 26, 2018 with usual fanfare and gaiety. After the guard of honour from CPPRI Security Staff, the Director Dr. B.P. Thapliyal, unfurled the national flag followed by singing of national anthem. Director, CPPRI addressed the staff and their family members, remembering the contribution of our national leaders in progress and development of our nation and highlighting the activities and achievements of CPPRI.



Glimpses of Republic Day Celebrations

Yoga Day

Third International Yoga day was observed at CPPRI on June 21, 2017 to promote the practice of yoga and meditation in daily life. The Yoga day was organised at residential colony of CPPRI under the guidance of Dr. Sanjay Tyagi, Scientist, CPPRI. All staff members alongwith their families participated in the event. The programme helped in creating awareness on holistic benefits of yoga. The programme was coordinated by Dr. Shivaker Mishra, Shri Kumar Anupam and Shri B. K. Negi.



Glimpses of International Yoga Day at CPPRI

Rajbhasha Hindi Mah

Rajbhasha Hindi Mah was observed at CPPRI from September 01-30, 2017 to promote the use of Hindi in day-to-day work as well as in the scientific & technical work. To mark the occasion a meeting chaired by Dr. B. P. Thapliyal, Director was convened on September 14, 2017. Senior Scientists and Officials of Administration, Finance and 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 the use of Hindi in CPPRI were deliberated upon. To promote the use of Hindi, essay competition and poster competition were organised for staff of CPPRI as well as for their wards in different categories. Prize and certificates were distributed to all the participants. Following staff members were awarded for Hindi Essay Competition.

1 st Prize	Shri Kumar Anupam
2 nd Prize	Dr. Arvind Kumar Sharma
3 rd Prize	Km. Ravita Saini and Km. Parul Agarwal

To encourage and motivate the staff members for working in Hindi, cash awards were given for the year 2016-17.

1 st Prize	₹ 5000/-	1. Shri Y. K. Sharma
		2. Shri B. K. Negi
2 nd Prize	₹ 3000/-	1. Shri M. P. Sharma
		2. Shri L. D. Joshi
		3. Shri H. C. Pandey
3 rd Prize	₹ 2000/-	1. Dr. Arvind Kumar Sharma
		2. Shri O. P. Bhatia
		3. Shri Ram Bax
		4. Shri B. B. Chettri
		5. Shri Naresh Mittal





Glimpses of Rajbhasa Hindi Mah Celebrations at CPPRI

Vigilance Awareness Week

In pursuance of the directions of Central Vigilance Commission, the Vigilance Awareness Week 2017 was observed by the Institute from October 30, 2017 to November 4, 2017 with the theme “**My Vision – Corruption Free India**”. The week commenced with the pledge administered by Dr. B. P. Thapliyal, Director in Hindi and English to all employees and students of M.Sc. (Cellulose and Paper Technology). The staff pledged to bring about integrity and transparency in all the spheres of their activities. Employees were encouraged to take e-pledge by visiting the Central Vigilance Commission website.

The message of Hon’ble President of India, Shri Ram Nath Kovind and Hon’ble Prime Minister of India, Shri Narendra Modi for this occasion were also read out. The flex banners depicting the observance of Vigilance Awareness Week-2017 were displayed at all prime locations in the office premises. Banners indicating anti corruption slogans were also displayed at various strategic points/ places of the Institute. The programme was coordinated by Shri M. P. Sharma.

Debates and Poster competition were organised to create awareness against corruption. M.Sc. (CPT) student Shri Abhishek Ruhela was the winner of Debate competition and Shri Abhishek Paliya and Master Navam Endlay, S/o Dr. Nitin Endlay, Scientist CPPRI were winners of Poster Competition.



Glimpses of Vigilance Awareness Week Celebrations at CPPRI

WORKSHOPS ORGANISED / TRAININGS RENDERED

CPPRI organised following training programmes / workshops during the year 2017-2018:

- Workshops on **Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper & Pulp Industry** at Saharanpur (June 5, 2017), Kolkata (June 15, 2017), Daman (September 19, 2017) and Coimbatore (September 21, 2017) in joint collaboration with UNIDO (IC-ISID), New Delhi.



Glimpses of UNIDO Workshop at Saharanpur



Glimpses of UNIDO Workshop at Kolkata



Glimpses of UNIDO Workshop at Coimbatore

- Workshop on **Patents & Intellectual Property Rights (IPRs) for the Pulp & Paper Sector** at Central Pulp & Paper Research Institute, Saharanpur on June 8-9, 2017 in joint collaboration with TIFAC, New Delhi and UNIDO (IC-ISID), New Delhi.



Glimpses of Workshop on Patents & Intellectual Property Rights (IPRs) for the Pulp & Paper Sector, Saharanpur

- Workshop on **Utilization of Spent Pulping Liquor as a Source of Clean Energy** at Muzaffarnagar on June 23, 2017 in joint collaboration with Petroleum Conservation Research Association, New Delhi.



Glimpses of Workshop on Utilization of Spent Pulping Liquor as a Source of Clean Energy, Muzaffarnagar

- One day Workshop on **लोक भाषाओं का हिन्दी के साथ सामंजस्य पर चर्चा** at Central Pulp and Paper Research Institute, Saharanpur on December 23, 2017.



Glimpses of Hindi Workshop at Saharanpur

Inhouse Training

In addition to the above, in-house training was provided to various students / officials from following universities / organisations in the area of raw material analysis, pulping, bleaching, biotechnology, chemical recovery, paper testing and testing procedures.

- Banasthali Vidyapeeth, Rajasthan.
- Forest Research Institute, Dehradun.
- Office of Controller of Stationary, Govt. of Kerala.
- Southern Railway Printing Press, Chennai.
- Kurukshetra University, Kurukshetra, Haryana.
- Gurukul Kangri University, Haridwar, Uttarakhand.
- Shobhit University, Gangoh, Uttar Pradesh.
- Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad, Uttar Pradesh.
- Life Insurance Corporation, Kanpur Zone, Uttar Pradesh.
- Currency Note Press, Nashik, Maharashtra.

PARTICIPATION IN SEMINARS, WORKSHOPS AND TRAINING PROGRAMMES

CPPRI scientists attended following seminars, workshops and training programmes during 2017-18 to disseminate 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.

- Seminar on **Innovation and Latest Trend in Pulp and Paper Products and its Technology**, National Institute of Training for Standardization, Noida, April 21, 2017- Smt. Rita Tandon, Dr. B. P. Thapliyal, Dr. R. D. Godiyal, Dr. Sanjay Tyagi and Shri Alok Kumar Goel.
- **Young Standardizers Workshop**, Bureau of Indian Standards, New Delhi, April 21, 2017 – Shri Kumar Anupam.



Young Standardizers Workshop, Bureau of Indian Standards, New Delhi

- UNIDO Workshop on **Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper & Pulp Industry**, Saharanpur, June 5, 2017 - Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A. K. Dixit, Dr. Shivaker Mishra, Dr. Priti S Lal, Smt. Anuradha V Janbade, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Satya Dev Negi, Dr. Arvind Kumar Sharma, Mohd. Salim and Shri Kumar Anupam.
- UNIDO Workshop on **Patents & Intellectual Property Rights (IPRs) for the Pulp & Paper Sector**, Saharanpur, June 8-9, 2017 - Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A. K. Dixit, Dr. Shivaker Mishra, Smt. Anuradha V Janbade, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Satya Dev Negi, Dr. Arvind Kumar Sharma, Mohd. Salim and Shri Kumar Anupam.



Glimpses of UNIDO Workshops at Saharanpur

- UNIDO Workshop on **Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry**, Kolkata, June 15, 2017 - Smt. Rita Tandon, Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A. K. Dixit, Dr. Shivaker Mishra, Shri Alok Kumar Goel and Shri Rambax Garg.



Glimpse of UNIDO Workshop at Kolkata

- Workshop on **Utilization of Spent Pulping Liquor as a Source of Clean Energy**, Muzaffarnagar, June 23, 2017 – Dr. B. P. Thapliyal, Dr. A. K. Dixit, Smt. Anuradha V Janbade and Shri Kumar Anupam.
- IPPTA Zonal Seminar on **Packaging Paper – The Way Ahead**, Aurangabad, August 4-5, 2017 – Shri Satya Dev Negi.
- UNIDO Workshop on **Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry**, Daman, September 19, 2017 – Smt. Rita Tandon, Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A. K. Dixit, Smt. Anuradha V Janbade, Shri Satya Dev Negi and Shri Hem Chandra Pandey.

- UNIDO Workshop on **Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry**, Coimbatore, September 21, 2017 - Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Dr. A. K. Dixit, Dr. Priti S Lal, Dr. Sanjay Tyagi, Dr. Arvind Kumar Sharma and Shri O. P. Bhatia.



Glimpse of UNIDO Workshop at Coimbatore

- **13th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2017)**, New Delhi, November 1-3, 2017 – Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta, Dr. Kawaljeet Singh, Dr. R. D. Godiyal, Dr. Priti S Lal, Smt. Anuradha V Janbade, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Satya Dev Negi, Dr. Arvind Kumar Sharma and Shri Kumar Anupam.





Glimpses of Paperex 2017 at New Delhi

- Three-day Workshop on **राजभाषा प्रबंधन**, Jim Corbett National Park, Nainital, November 1-3, 2017 – Shri B. K. Negi.
- Seminar on **Future Research Needs in the Field of Paper Sciences & Bio-energy from Cellulosic Waste**, Forest Research Institute, Dehradun, December 4, 2017 – Dr. A. K. Dixit.



Glimpse of Seminar at FRI, Dehradun

- One day Workshop on **लोक भाषाओं का हिन्दी के साथ सामंजस्य पर चर्चा**, Central Pulp and Paper Research Institute, Saharanpur, December 23, 2017 - Shri Kumar Anupam and Shri B. K. Negi.
- One day **Hindi Workshop**, United India Insurance Company Limited, Saharanpur, January 3, 2018 – Shri Kumar Anupam and Shri B. K. Negi.
- **General Management Programme for Scientists**, Administrative Staff College of India, Hyderabad, January 8 – 19, 2018 – Smt. Anuradha V. Janbade and Shri Alok Kumar Goel.



Glimpse of General Management Programme for Scientists, Hyderabad

- Inception Workshop on **Scoping Study on Clean Air in India**, New Delhi, January 16, 2018 - Dr. M. K. Gupta and Dr. Kawaljeet Singh.
- Management Development Programme on **Environment and Natural Resources Management** at Indian Institute of Forest Management, Bhopal, January 29- February 2, 2018 – Dr. Nitin Endlay.



Glimpse of MDP on Environment and Natural Resources Management, Bhopal

- National Conference on **Recent Trends in Basic and Applied Sciences and Sustainable Environment**, Swami Vivekananda Subharti University, Meerut, February 1-2, 2018 – Shri Kumar Anupam.
- One day **Regional Official Language Conference and Award Ceremony**, Varanasi, February 9, 2018 – Dr. B. P. Thapliyal and Shri B. K. Negi.



Glimpses of Regional Official Language Conference and Award Ceremony, Varanasi

- One day National Seminar on **Wood: A Way Forward for Sustainable Development**, Institute of Wood Science and Technology, Bengaluru, February 9, 2018 - Dr. Priti S. Lal.
- Workshop on **Draft Energy Conservation Guidelines for Indian Industries**, New Delhi, February 26, 2018 - Dr. Sanjay Tyagi.
- National Workshop cum Technology Exhibition for **Promoting Energy Efficient & Cleaner Production for Sustainable Industrial Growth**, New Delhi, March 8-9, 2018 - Dr. B. P. Thapliyal, Dr. Sanjay Tyagi and Shri Alok Kumar Goel.
- IPPTA Seminar on **Innovation – For Growth & Sustainability**, Ghaziabad, March 23-24, 2018 - Dr. M. K. Gupta.

PAPERS PRESENTED AND LECTURES DELIVERED

During the year 2017-2018 CPPRI Scientists presented the following papers and delivered the following lectures:

Seminar on Innovation and Latest Trend in Pulp and Paper Products and its Technology at National Institute of Training for Standardization, Noida on April 21, 2017

- Paper and Paper Board Properties – Dr. Sanjay Tyagi.

Environmental Clinic on Paper Industry organised by Andhra Pradesh Pollution Control Board at Rajahmundry on April 10, 2017

- Water Conservation and Effective Effluent Treatment in Pulp and Paper Industry – Basics, Issues, Strategies and Trends – Dr. Nitin Endlay.



CPPRI Scientist at Environmental Clinic on Paper Industry, Rajahmundry

UNIDO Workshop on Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper & Pulp Industry at Saharanpur on June 5, 2017

- Technological Trends in Europe “Highlights of Study Tour to Norway, Sweden and Belgium” – Smt. Rita Tandon.
- Liquor Heat Treatment Studies Conducted at Central Pulp and Paper Research Institute, Saharanpur – Dr. A. K. Dixit.
- Membrane Filtration as an Option for Tertiary Treatment of Paper Mill Effluent – Dr. Shivaker Mishra.
- Ozone Bleaching of Non-Wood Pulp – Dr. Priti S Lal.



CPPRI Scientists at UNIDO Workshop, Saharanpur

UNIDO Workshop on Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry at Kolkata on September 15, 2017

- Technological Trends in Europe “Highlights of Study Tour to Norway, Sweden and Belgium” – Smt. Rita Tandon.
- Ozone Bleaching of Non-Wood Pulp - Dr. M. K. Gupta.
- Liquor Heat Treatment Studies Conducted at Central Pulp and Paper Research Institute, Saharanpur – Dr. A. K. Dixit.
- Membrane Filtration Studies Carried Out by CPPRI – Dr. Shivaker Mishra.



CPPRI Scientists at UNIDO Workshop, Kolkata

UNIDO Workshop on Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry at Daman on September 19, 2017

- Technological Trends in Europe “Highlights of Study Tour to Norway, Sweden and Belgium” – Smt. Rita Tandon.
- Membrane Filtration as an Option for Tertiary Treatment of Paper Mill Effluent – Dr. M. K. Gupta.
- Liquor Heat Treatment Studies Conducted at Central Pulp and Paper Research Institute, Saharanpur – Dr. A. K. Dixit.
- Ozone Bleaching of Non-Wood Pulp – Dr. Priti S Lal.

UNIDO Workshop on Appropriate Technologies and Practices for Enhancing the Sustainability of the Indian Paper and Pulp Industry at Coimbatore on September 21, 2017

- Technological Trends in Europe “Highlights of Study Tour to Norway, Sweden and Belgium” – Smt. Rita Tandon.
- Membrane Filtration as an Option for Tertiary Treatment of Paper Mill Effluent – Dr. M. K. Gupta.
- Liquor Heat Treatment Studies Conducted at Central Pulp and Paper Research Institute, Saharanpur – Dr. A. K. Dixit.
- Ozone Bleaching of Non-Wood Pulp – Dr. Priti S Lal.





Glimpses of UNIDO workshop at Coimbatore

Workshop on Utilization of Spent Pulping Liquor as a Source of Clean Energy, jointly organised by Petroleum Conservation Research Association and Central Pulp & Paper Research Institute at Muzaffarnagar on June 23, 2017

- Development of Value Added Products from Black Liquor and their Various Industrial Applications – Dr. A. K. Dixit.
- Utilisation of Black Liquor as Source of Green Energy and Retardants for Energy Saving in Concrete Industry – Smt. Anuradha V Janbade.



CPPRI Scientists at PCRA-CPPRI joint Workshop, Muzaffarnagar

Invited Lecture organised by Paper Manufacturers Association, Muzaffarnagar and Paques BV at Muzaffarnagar on June 5, 2017

- Potential of Biomethanation in RCF based Paper Mills – Dr. Nitin Endlay.

Invited Lecture at National Mission for Clean Ganga (NMCG), New Delhi on September 20, 2017

- Findings during Inspection of Grossly Polluting Industries for Compliance Verification of Effluent Discharge Standards during March – April 2017 – Dr. Nitin Endlay.

13th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2017) at New Delhi on November 1-3, 2017

- The Indian Paper Sector: Status Report 2017 and Sustainability Prospects – Dr. B. P. Thapliyal.
- New Green Initiatives by CPPRI for Cleaner and Green Energy Generation – Shri Kumar Anupam.



CPPRI Scientists at Paperex 2017, New Delhi

Three-day Workshop on राजभाषा प्रबंधन, Jim Corbet National Park, Nainital, November 1 - 3, 2017

- केन्द्रीय लुग्दी एवं कागज संस्थान में राजभाषा प्रबंधन – Shri B. K. Negi.



Glimpse of Workshop on Rajbhasha Prabandhan at Nainital

Seminar on Future Research Needs in the Field of Paper Sciences & Bio-energy from Cellulosic Waste at FRI Dehradun on December 5, 2017

- Integrated Agro based Biorefinery for Sustainable Growth of Paper Industry – Dr. A. K. Dixit.



CPPRI Scientist in Seminar at FRI Dehradun

National Conference on Recent Trends in Basic and Applied Sciences and Sustainable Environment at Swami Vivekananda Subharti University, Meerut on February 1-2, 2018

- Transforming a Bagasse based Pulp and Paper Mill to a Multiproduct Biorefinery – Shri Kumar Anupam.



CPPRI Scientist in National Conference at Swami Vivekananda Subharti University, Meerut

One day Hindi Workshop organised by United India Insurance Company Limited at Saharanpur on January 3, 2018

- विज्ञान लेखन में हिन्दी की वर्तमान स्थिति – Shri Kumar Anupam.
- राजभाषा प्रबंधन – Shri B. K. Negi.



CPPRI participation in Hindi Workshop, Saharanpur

National Seminar on Wood: A Way Forward for Sustainable Development at Institute of Wood Science and Technology, Bengaluru on February 9, 2018

- Effect of Harvesting Age of Acacia and Eucalyptus on Various Pulp and Paper Properties – Dr. Priti S Lal.



CPPRI Scientist in National Seminar at Institute of Wood Science and Technolgy, Bengaluru

2nd National Workshop cum Technology Exhibition for Promoting Energy Efficient & Cleaner production for Sustainable Industrial Growth at India Habitat Centre, New Delhi, March 8-9, 2018

- Efficient Steam Utilisation System – Case Studies in Pulp and Paper Industry - Dr. B. P. Thapliyal.



Director CPPRI at 2nd National Workshop cum Technology Exhibition, New Delhi



REPRESENTATION IN EXTERNAL COMMITTEES

Ministry of Environment, Forests & Climate Change, New Delhi

- Expert Member, Committee for Import Policy for Waste Paper - Director Dr. B. P. Thapliyal (From August, 2017 onwards) and Smt. Rita Tandon (Upto August, 2017).
- Member, Expert Appraisal Committee (Industry 1) - Director Dr. B. P. Thapliyal (From August, 2017 onwards) and Smt. Rita Tandon (Upto August, 2017).

Ministry of Home Affairs, New Delhi

- Chairman, Nagar Rajbhasha Karyanvan Samiti, Saharanpur – Director Dr. B. P. Thapliyal (From August, 2017 onwards) and Smt. Rita Tandon (Upto August, 2017).

Bureau of Indian Standards (BIS), New Delhi

- Chairman, Sectional Committee CHD - 15 for Development of Standards of different Paper & its Products – Director B. P. Thapliyal (From August, 2017 onwards) and Smt. Rita Tandon (Upto August, 2017).
- Member, BIS CHD - 16 Committee - Dr. Sanjay Tyagi.
- Convener, Alert Group of the CHD - 15 Committee of BIS - Dr. Sanjay Tyagi.
- Convener of various panels constituted under CHD - 15 of BIS - Dr. B. P. Thapliyal / Dr. Sanjay Tyagi.

Bureau of Energy Efficiency, New Delhi

- Chairman, Sectoral Expert Committee - Dr. B. P. Thapliyal.
- Expert member, Committee for Normalisation 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 and Development, Yamuna Nagar (Haryana) - Dr. B. P. Thapliyal.

Indian Pulp and Paper Technical Association

- Member Executive Committee - Dr. B. P. Thapliyal.
- Editor-In-Chief, IPPTA Journal - Dr. B. P. Thapliyal.
- Executive Member- Smt. Rita Tandon.

- Member Technical Committee - Dr. M. K. Gupta.

National Council for Cement and Building Materials, Faridabad

- Member, Energy and Environment Technical Committee - Dr. B. P. Thapliyal.

External Examiner

- M.Tech. (Pulp and Paper) Course, IIT Roorkee - Dr. B. P. Thapliyal, Dr. R. D. Godiyal and Dr. Sanjay Tyagi.
- M.Tech. (Packaging), Department of Paper Technology, IIT Roorkee, (Saharanpur Campus) - Dr. B. P. Thapliyal.
- Evaluation of dissertations / viva examination of M.Tech. and B. Tech. students of IIT Roorkee, (Saharanpur Campus), Dr. B. P. Thapliyal and Dr. Sanjay Tyagi.
- M.Sc./Ph.D, Department of Environmental Science. G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand – Dr. Shivaker Mishra and Dr. Nitin Endlay.

Others

- Member, Technical Advisory and Paper Purchase Committee (TAPCC), IGNOU, New Delhi - Dr. B. P. Thapliyal and Dr. Sanjay Tyagi (Alternate Member).
- Member of team formed under Central Capital Investment Subsidy Scheme (CCISS), 2007 for the inspection of Ashoka Kraft Paper Mills Limited, Dist. Kamrup, Assam - Dr. M. K. Gupta and Dr. Sanjay Tyagi.
- Member of Subcommittee on Energy, Environment and Technology constituted under Working Group on Paper for XII Five Year Plan – Dr. B. P. Thapliyal.
- Expert Member of Bid evaluation for revival of NEPA – Dr. B. P. Thapliyal.
- Member, Technical Committee for Purchase of Paper, Haryana Government, Chandigarh - Dr. B. P. Thapliyal and Dr. R. D. Godiyal.
- Member of Technical Committee to review the specification of Passport Printing Paper constituted by Indian Security Press (ISP), (A unit of SPMICL, Ministry of Finance, Government of India), Nashik Road, Maharashtra - Dr. Sanjay Tyagi.
- Member of Technical committee to review the technical specification of Stamp Paper constituted by Indian Security Press (ISP), (A unit of SPMICL, Ministry of Finance, GOI), Nashik Road, Maharashtra - Dr. Sanjay Tyagi.
- Additional Director (Independent), Board of Directors of Satia Industries Limited - Dr. Priti Shivhare Lal.

PUBLICATIONS

- Bora, Akash Pratim; Dhawane, Sumit H; Kumar Anupam and Halder, Gopinath. *Biodiesel Synthesis from Mesua ferrea Oil using Waste Shell derived Carbon Catalyst*. Renewable Energy 121, pp 195-204, 2018.
- Deepika; Kumar Anupam; Lal, Priti Shivhare and Ashok Kumar. *Melia dubia: An Alternate Hardwood Cellulosic Fibre for Pulp and Paper Industry*. Proceedings: XIX Commonwealth Forestry Conference, Dehradun, pp192, 2017.
- Dixit, A. K.; Tarun; Kumar Anupam and Thapliyal, B. P. *New Green Initiative by CPPRI for Cleaner and Green Energy Generation*. In Proceedings: 13th International Technical Conference on Pulp, Paper and Allied Industries (Paperex 2017), New Delhi, pp 231-238, 2017.
- Dixit, A. K. *Paper Mill based Biorefinery: A Step towards Sustainable Development*. In Proceedings: National Conference on Recent Trends in Basic and Applied Sciences and Sustainable Environment, Meerut, pp 66, 2018.
- Dixit, A. K.; Kumar Anupam and Thapliyal, B. P. *Transforming a Bagasse based Pulp and Paper Mill to a Multiproduct Biorefinery*. In Proceedings: National Conference on Recent Trends in Basic and Applied Sciences and Sustainable Environment, Meerut, pp 65, 2018.
- Endlay Nitin; Mishra, S.; Mohd Salim and Panwar; S. *Biomethanation Technology in RCF based Paper Mills: Potential and Possibilities to achieve Environmental Sustainability*. Inpaper India, 20(3), pp, 6-12, 2017.
- Ghosh, Indrasena; Sharma, Chaya and Tandon, Rita. *Role of Additives to Improve Adsorption of Xylan on Precipitated Calcium Carbonate*. Cellulose 25, pp 1583-1598, 2018.
- Janbade , Anuradha V and Tandon, Rita. *Paper and Paper Board for Food Packaging Applications: Review of Standard Regulations*. IPPTA Journal, 40 (4), pp 120-122, 2017.
- Lal, Priti S; Sharma, Arvind and Gupta, M. K. and Thapliyal, B. P. *Effect of Harvesting Age of Acacia and Eucalyptus on Various Pulp and Paper Properties*. In Proceedings: National Seminar on Wood: a way forward for Sustainable Development, Bengaluru, pp 64-74, 2018.
- Machani, Ravi Kumar; Negi, Satya Dev and Tandon, Rita. *Future of Food Packaging Industry with New Generation Bio-polymer*. IPPTA Journal, 29 (3), pp 58-62, 2017.
- Monga, Sourabh; Naithani, S; Thapliyal, B. P.; Tyagi, Sanjay and Bist, Manju. *Effect of Morphological Characteristics of Indigenous Fibres (E. tereticornis and S. officinarum) and their Impact on Paper Properties*. IPPTA Journal, 29 (2), pp 43-47, 2017.



- Singh, Kawaljeet; Tandon, Rita and Thapliyal, B. P. ***The Indian Paper Sector: Status Report 2017 and Sustainability Prospects***. Proceedings of 13th International Technical Conference on Pulp, Paper and Allied Industries(Paperex 2017), New Delhi, pp 1-10, 2017.
- Tyagi, Sanjay; Kaushik, Prachi; Thapliyal, B. P. and Godiyal, R. D. ***Enhancing Printing and Optical Properties of Paper by using Improved Techniques of Filler Retention***. IPPTA Journal, 29 (2), pp 98-102, 2017.



REPORTS PREPARED

During the year 2017-2018 various reports related to Pulping, Bleaching, Waste Paper Processing, Environmental Management, Chemical Recovery etc. were prepared. The details are as under :

Pulping and Bleaching

- Progress Report on Use of Whole Jute Plant in Paper Pulp submitted to Jute Commissioner, Ministry of Textiles, Government of India, Kolkata.
- Ozone Bleaching Studies of ODL Pulp following ZEopD and ZEopP Sequence submitted to Naini Papers Limited, Kasihpur, Uttarakhand.
- Ozone Bleaching Sequences of Mixed Agro Pulp following AZ(Eop)D and AZ(Eop)H Sequences submitted to Naini Papers Limited, Kasihpur, Uttarakhand.

Wet End Chemistry / Waste paper Processing

Evaluation of Used Tea Carton, Soap Wrappers, Ice cream Cartons for its Repulpability and Papermaking Potential.

- Unilever Industries (P) Limited, Mumbai, Maharashtra.
- Hindustan Unilever Industries (P) Limited, Bangalore, Karnataka.

Development of Kraft Paper with Antibacterial and Antifungal Property using Bio-polymer

- LDS Industries and Business Solutions, Kurnool, Andhra Pradesh.

Troubleshooting and Evaluation of Wet end Chemistry

- Shah Paper Mills Limited, Vapi, Gujarat.

Comparative Evaluation of Pigment Dyes

- Ganpati Organics, Sonapat, Haryana.

Environment Management

ETP Adequacy

- Dev Priya Industries Private Limited, Meerut, Uttar Pradesh.
- Fibremarx Papers (P) Limited, Kashipur, Uttarakhand.
- West Coast Paper Mill Limited, Dandeli, Karnataka.

- Anand Triplex Board Limited, Meerut, Uttar Pradesh.
- New Bonanza India Limited, Meerut, Uttar Pradesh.
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh.
- NS Papers Limited, Muzaffarnagar, Uttar Pradesh.
- Tirupati Balaji Fibers Limited, Muzaffarnagar, Uttar Pradesh.
- Sahota Papers Limited, Jaspur, Uttarakhand.
- Chaddha Paper Limited, Bilaspur, Uttar Pradesh.
- KK Duplex & Paper Mills (P) Limited, Muzaffarnagar, Uttar Pradesh.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Dev Bhoomi Pulp & Paper Industries Private Limited, Haridwar Uttarakhand.

Zero Liquid Discharge (ZLD) Feasibility Report

- Dev Priya Industries Private Limited, Unit-I Meerut, Uttar Pradesh.
- Lalji Board Industries Private Limited & Dayalji Industries, Firozabad, Uttar Pradesh.
- Anandeshwar Industries (P) Limited, Kanpur, Uttar Pradesh.
- Chamunda Paper Private Limited, Hapur, Uttar Pradesh.
- RAC Papers Limited, Hapur, Uttar Pradesh.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Devprayag Paper Mill Private Limited, Allahabad.

Material & Water Balance Studies

- Nikita Paper Limited, Shamli, Uttar Pradesh.
- Silverton Papers Limited, Muzaffarnagar, Uttar Pradesh.
- Aristocraft Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Meenu Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Bindal Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.

CPCB Charter Progress Verification

- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Lalji Board Industries Private Limited, Firozabad, Uttar Pradesh.



- Dayalji Industries Private Limited, Firozabad, Uttar Pradesh.
- KR Pulp & Papers Limited, Unit- I & Unit- II, Jalalabad Road, Sahahjahanpur, Uttar Pradesh.

Inspection Reports of Monitoring of Grossly Polluting Industries (CPCB Project)

- 21 Units – (Textile, Dyeing, Slaughter Houses etc.)

Hazardous Waste Audit Report

- Century Pulp & Paper Lalkua, Uttarakhand.

Chemical Recovery

Feasibility of Installation of Lime Kiln

- Ruchira Paper Mills Limited, Kalamb, Himachal Pradesh.

Liquor Heat Treatment

- Century Pulp & Paper, Lalkua, Uttarakhand.

Chemical Recovery Audit

- Yash Papers Limited, Faizabad, Uttar Pradesh.

Adequacy of Chemical Recovery

- Vishwakarma Paper & Boards Limited, Kashipur, Uttarakhand.

OVERSEAS VISITS

Under the Project “**Development and Adoption of Appropriate Technologies for Enhancing Productivity in the Paper and Pulp Sector**” following overseas visits were undertaken by CPPRI Scientists during 2017-2018 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 environment management etc.

Visit to Norway and Sweden

A seven-member team from CPPRI comprising of Dr. Shivaker Mishra, Smt. Anuradha V Janbade, Shri Alok Kumar Goel, Shri Satya Dev Negi, Dr. Arvind Kumar Sharma, Mohd. Salim and Shri Kumar Anupam participated in the fellowship training program from August 16-30, 2017 at RISE PFI, Trondheim, Norway and RISE Innventia, Stockholm, Sweden. The fellowship training comprised of theoretical lectures on basic concepts of pulp and papermaking, laboratories trials on production of Micro Fibrillated Cellulose (MFC) at RISE PFI, Trondheim, Norway and practical demonstration of three identified technologies i.e. Ozone bleaching, Membrane separation and Liquor heat treatment at RISE Innventia, Stockholm, Sweden.



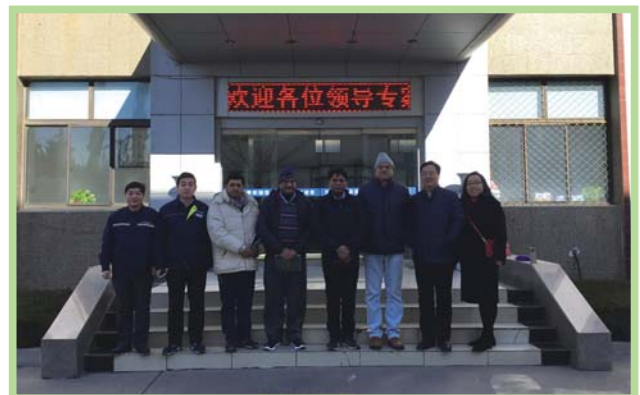
Glimpses of Visit to Norway and Sweden Visit

Visit to China

A delegation of two Scientists Dr. Shivaker Mishra and Dr. Sanjay Tyagi from CPPRI and two officials from UNIDO Shri Vikas Kumar, Deputy Director, UNIDO (IC-ISID) and Dr. R. K. Jain, Expert (Paper) went on a study tour to China from January 8-13, 2018 to get an exposure on new developments in the latest technologies, process operations as well as R&D being undertaken in the areas related to pulp and paper industry which could be adopted or developed indigenously for improving competitiveness and sustainability of Indian paper industry.

The team visited the following Institutes and production facilities in China :

1. China National Pulp and Paper Research Institute (CNPPRI), Beijing.
2. Beijing Forest University, Beijing.
3. Tranlin Paper Company Limited (Tranlin Group), Jinan.
4. Rizhao Huatai Paper Company, Rizhao.
5. Shanghai Corun Membrane Technology Company Limited, Shanghai.



Glimpses of Visit to China

Visit to Canada

To get exposure / ideas on new and latest research and development trends and activities related to pulp and paper making, new technology advancement in the area of biorefinery and nanocellulose applications and environmental managements etc. Dr. R. D. Godiyal and Dr. A. K. Dixit visited following institutions from January 29 - February 10, 2018 along with Shri Rajeev Vijh, Director UNIDO (IC-ISID) and Dr. R. K. Jain, Expert (Paper)

- FP Innovations, Montreal.
- Pulp and Paper Centre, Department of Chemistry at McGill University, Montreal.
- Windsor Paper Mill, Domtar.
- Limerick Pulp and Paper Centre, University of New Brunswick, Fredericton.
- Millar Western Forest Products Limited, Whitecourt, Alberta.
- West Fraser Hilton Pulp Mill, Alberta.
- Alberta Newsprint, Whitecourt, Alberta.
- University of British Columbia, Vancouver.
- FP Innovations, University of British Columbia, Vancouver.



Glimpses of Visit to Canada

Visit to Japan

UNIDO ITPO, Tokyo arranged interaction between CPPRI and the Japanese entrepreneurs during the INCHEM 2017, Asia's largest and Japan's only exhibition for Chemical and Process Industries, held from November 20 -24, 2017 in "Tokyo Big Sight". Innovation in Water Management was the part of INCHEM, 2017 along with the showcasing of products / technologies for water supply, sewage and industrial waste water treatment.

Dr. B. P. Thapliyal, Director, CPPRI attended the meeting along with representatives from Indonesia, Myanmar, Vietnam and Cambodia. They also visited Iriezaki **Wastewater Treatment Center** in Kawasaki to see Japanese technologies for wastewater treatment practised and attended a B2B meet during UNIDO Forum seminar at Tokyo Big Sight.



Glimpses of Visit to Japan

Visit to South Korea

Smt. Anuradha V Janbade along with officials from UNIDO (IC-ISID) New Delhi, participated in 2 days consultation meeting with stakeholders of Korean Pulp and Paper Industry.

Two meetings were organised by UNIDO - Investment Technology Promotion Office, Seoul, Republic of South Korea on March 15-16, 2018 with representatives of the Korean TAPPI at Seoul and with faculty from Department of Paper Science and Engineering, Kangwon National University at Chuncheon.

The meetings were held to explore the possibilities for mutual cooperation and exchange of expertise between India and Korean Pulp and Paper Industry.



Glimpses of Visit to South Korea



VISITS TO PULP AND PAPER MILLS & OTHER ORGANISATIONS

During the year 2017 – 2018 CPPRI Scientists visited many pulp and paper mills to provide technical and consultancy services. The scientists 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 scientists is as under:

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

- Naini Papers Limited, Kashipur, Uttarakhand - Dr. M. K. Gupta, Dr. Priti S Lal and Dr. Arvind Kumar Sharma.
- Security Paper Mill, Hoshangabad, Madhya Pradesh – Dr. A. K. Dixit and Shri Kumar Anupam.
- Avantha Centre for Industrial Research and Development, Yamunanagar, Haryana - Dr. Priti S Lal and Dr. Arvind Sharma.
- Silverton Pulp and Paper Mill, Muzaffarnagar, Uttar Pradesh - Dr. Arvind Sharma.

ETP Adequacy Assessment

Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim visited 12 pulp and paper mills in Meerut, Kashipur, Bijnor, Muzaffarnagar, Jaspur, Bilaspur and Haridwar for ETP adequacy assessment.

CPCB Charter Progress Verification

Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim visited 4 pulp and paper mills in Meerut, Firozabad and Shahjahanpur for verification of progress in CPCB charter implementation.

Zero Liquid Discharge Feasibility

Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim visited 7 RCF based pulp and paper mills in Meerut, Firozabad, Kanpur, Hapur and Allahabad for evaluation of feasibility of zero liquid discharge.

Material & Water Balance Studies

Dr. Shivaker Mishra, Dr. Nitin Endlay and Mohd. Salim visited 5 pulp and paper mills in Shamli and Muzaffarnagar for conducting material & water balance studies.

Water Audit

Dr. Shivaker Mishra and Mohd. Salim conducted water audit at West Coast Paper Mill Limited, Dandeli, Karnataka.

Hazardous Waste Audit

Dr. Nitin Endlay and Mohd. Salim carried out hazardous waste audit in Century Pulp and Paper, Lalkua, Uttarakhand.

Environmental Monitoring

Environmental monitoring was carried out in 4 pulp and paper mills at Saharanpur, Khatema, Lalkua and Muzaffarnagar.

Process Evaluation

Dr. R. D. Godiyal, Dr. Sanjay Tyagi, Shri Alok Kumar Goel and Shri Satya Dev Negi visited 7 mills at Kashipur, Saharanpur, Saila Khurd, Vapi, Muzaffarnagar, Meerut and Balasore.

Chemical Recovery – Troubleshooting / Adequacy Assessment Consultancy / Mill Trials / Project Studies

Dr. A. K. Dixit and Shri Kumar Anupam visited 4 mills in Kashipur and Muzaffarnagar.

Scientific / Academic Institutes and other Organisations

- Uttaranchal Environmental Protection and Pollution Control Board (UEPPCB) - Dr. M. K. Gupta and Dr. Nitin Endlay.
- Central Pollution Control Board (CPCB), New Delhi - Dr. M. K. Gupta.
- Indian Institute of Packaging, New Delhi - Dr. B. P. Thapliyal and Dr. Sanjay Tyagi.
- Indian Security Press, Nasik, Maharashtra - Dr. Sanjay Tyagi.
- National Physical Laboratory, New Delhi - Dr. Kawaljeet Singh and Dr. R. D. Godiyal.
- Indian Institute of Petroleum, Dehradun, Uttarakhand – Dr. B. P. Thapliyal, Dr. A. K. Dixit, Shri Kumar Anupam.
- Department of Science & Technology (DST), New Delhi - Dr. M. K. Gupta and Smt. Anuradha V Janbade.
- Department of Biotechnology (DBT), New Delhi - Dr. M. K. Gupta and Smt. Anuradha V Janbade.
- Krishi Bhavan, New Delhi - Dr. Arvind Kumar Sharma.



VISITORS TO CPPRI

During 2017-2018, CPPRI was visited by various International / National Technocrats, Scientists, Academicians and Officials from various pulp, paper and allied industries for consultation, technical services and training. Some of them are mentioned as under :

International

- Dr. Mohini M Sain, Dean, Faculty of Forestry and Director Centre for Biocomposites and Biomaterials Processing University of Toronto, Canada.
- Dr. Qyvind Eriksen, Laboratory Manager, Paper Fibre and Research Institute, Norway.
- Dr. Yonghao Ni, Chair, Department of Chemical Engineering and Director, Limerick Pulp and Paper Centre, University of New Brunswick, Canada.
- Shri Brendan Van Wyk, Business Development Manager Pulp and Paper Xylem Water Solutions South Africa (Pty) Limited, South Africa.

National

- Dr. Anita Nair, Head of the Department, Bangurnagar Degree College, Dandeli.
- Dr. Anurag Garg, Associate Professor, IIT Bombay, Mumbai.
- Dr. Arundhati B, Project Associate, Patent Office, New Delhi.
- Dr. K. Rajkumar, Director, Indian Rubber Manufacturing Research Association, Mumbai.
- Dr. Ketaki Bapat, Office of Principal Scientific Advisor, Government of India, New Delhi.
- Dr. Piyush Garg, Assistant Controller of Patent, Patent Office, New Delhi.
- Shri G. Natraj, Patent Attorney from Patent Facilitation Centre, New Delhi.
- Shri Yashwant Dev Panwar, Sc-E, Patent office, New Delhi.
- Dr. R. K Jain, Expert (Paper), UNIDO (IC-ISID) New Delhi.
- Dr. Satish Kumar, Ex- Professor, IIT - Roorkee.
- Dr. A. K. Tripathi and Dr. Vikas Rana, FRI, Dehradun.
- Dr. Sanjay Naithani, Ex Scientist, FRI, Dehradun.
- Dr. Sanjay Jain, District Coordinator, District Science Club, Saharanpur.
- Dr. V. V. Mahajani, Ex Professor, Institute of Chemical Technology, Mumbai.
- Shri Ashok Kumar, Sc-E, Division of Genetics and Tree Propagation, Forest Research Institute, Dehradun.



- Shri Gaurav Verma, Municipal Commissioner, Saharanpur Municipal Corporation, Saharanpur.
- Shri Pawan Agarawal, Managing Director, Naini Group, Kashipur.
- Shri Raghavednra Hebbar, General Manager (Development), J. K. Paper, New Delhi.
- Shri Saji Kumar, Shri Miraj S. S. and Shri Rahul, A. R. Stationary Department, Kerala.
- Smt. Barwamala Saha, Reliance Industries Limited, Mumbai.
- Shri Om Prakash, BSNL, Saharanpur.
- Shri Vikas Kumar, Air Force Station, Sarsawa.
- Shri Jitendra, Chief Engineer, Saharanpur Municipal Corporation, Saharanpur.
- Smt. Shweta Duggal, Smt. Ila Kaushik and Shri Vishal Tyagi, ACME Global School, Janta Road, Saharanpur.



M.Sc. (Cellulose and Paper Technology)

(A Joint Collaborative Course of FRI (Deemed University), Dehradun and CPPRI, Saharanpur)

Activities

The final year classes of the students of the fourth batch (2016 -18) of **M.Sc. (Cellulose and Paper Technology)** were conducted at CPPRI. Both theoretical and practical knowledge on various aspects of pulp and papermaking i.e. raw material handling and preservation, pulping and bleaching, stock preparation and papermaking, paper recycling, chemical recovery, environmental management and biotechnological applications were imparted to the students by CPPRI scientists and guest faculty.

The students also undertook a two-month compulsory industrial trainings at Century Pulp and Paper (Lalkua), Hindustan Newsprint Limited (Kerala), Pudumjee Paper Mills Limited (Maharashtra) and Star Paper Mills Limited (Saharanpur) as a part of curriculum and also carried out project works in various areas of paper making.

The students observed **Teachers Day** on September 5, 2017 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 2017** and **Hindi Mah 2017**.

The students have got placement in Annapurna Imports, Muzaffarnagar, Uttar Pradesh; Pacific Nano Products India Private Limited, Fort Songadh, Gujarat and Star Paper Mills Limited, Saharanpur, Uttar Pradesh.

List of Students

Shri Abhishek Rohilla, Shri Abhishek Paliya, Km. Diksha Rawat, Shri Narayan Chandar Mohanty, Shri Nidhin Krishan K, Shri Prashant, Km. Rishika Mondal, Shri Vivek Prashar, Shri Lovekesh and Shri Vijay Kumar.

Financial Report

2017-18



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas 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.)

**AUDITOR'S REPORT TO THE MEMBERS OF THE
CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR (U.P.)**

We have audited the attached Balance Sheet of CENTRAL PULP AND PAPER RESEARCH INSTITUTE, SAHARANPUR (U.P.) as on 31.3.2018 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 auditee's 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 31.03.2018, and
- ii) In the case of Income & Expenditure Account of the deficit for the year ended on 31.03.2018.

Date : 17.09.18

Place : Saharanpur.

For SANJAY MISRA & CO.
Chartered Accountants

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



SANJAY MISRA & CO.
Chartered Accountants

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BALANCE SHEET AS AT 31.3.2018

Amount (₹)			
PARTICULARS	Schedule	Current Year 2017-18	Previous year 2016-17
CAPITAL FUND AND LIABILITIES			
CAPITAL FUND	1	121955008.19	130485890.62
UN-UTILISED SP. PROJECT & CONSULTANCY	2	1570689.51	2514148.51
UNUTILISED GRANTS	3	24121492.50	19289645.56
CURRENT LIABILITIES AND PROVISIONS	4	84437228.00	71038781.15
TOTAL		232084418.20	223328465.84
ASSETS			
FIXED ASSETS	5	95105501.27	96403410.20
CURRENT ASSETS, LOANS, ADVANCES ETC.	6	136978916.93	126925055.64
TOTAL		232084418.20	223328465.84

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



DIRECTOR

ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



SANJAY MISRA & CO.
Chartered Accountants

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INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.3.2018

PARTICULARS	SCHEDULE	Amount (₹)	
		CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
A: INCOME			
Income from Institutional & Consultancy fee	7	21494353.00	15207030.00
Grants from Govt. of India	8	121121843.36	101120963.08
Fees/Subscription	9	529621.00	377000.00
Interest earned	10	5572259.92	6524783.00
Other income	11	736610.10	716127.28
TOTAL (A)		149454687.38	123945903.36
B: EXPENDITURE			
Establishment expenses	12	120989752.65	83499852.87
Administrative Expenses etc.	13	28304311.97	28215308.81
Depreciation for current year	5	11888173.89	13124684.80
TOTAL (B)		161182238.51	124839846.48
Excess of Expenditure over Income (B-A)		11727551.13	893943.12
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 even date.
FOR SANJAY MISRA & CO.
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



[Signature]
DIRECTOR

[Signature]
ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



CENTRAL PULP & PAPER RESEARCH INSTITUTE
POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR
RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31.3.2018

Amount (₹)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
Opening Balance:			Establishment Expenses:		
To Cash Balance	26842.26	33577.26	By Salary & Allowances	70729902.00	57460647.87
To Bank Balance on current account	-1237952.25	28951673.06	By CPF Contribution	7865698.00	5686407.00
To Deposit Accounts(Margin money against letter of Credit)	10544380.00	6154193.00	By Encashment of Leave	5908575.00	9375306.00
To Deposit Accounts	61008568.66	37689376.66	By Gratuity paid	9936416.00	10993761.00
Grant Received:			By Reimbursement of Medical Exp.	2084767.00	2471964.00
To Grant in Aid,MOI,GOI	14550000.00	25000000.00	Other Administrative Expenses:		
To Grant in Aid,Development council	113656900.00	80770000.00	By Lab & Plant Maintenance	1374325.50	5196586.25
Grant PrincipalSc. Advisor GOI	0.00	2500000.00	By Cartage & Freight	19570.00	3025.00
Interest Received:			By Electricity and water	7843535.48	7871720.00
To Int. from Staff on Convey. adv.&HBA	857314.00	598769.00	By Repair & Maintenance of Assets	5047864.90	4156486.23
To Interest received from bank	7208364.74	3319192.00	By Rent & Taxes	617984.00	548640.00
To Interest Received on refund of TDS	104177.00	0.00	By Postage & Telepone & communication	529629.52	909643.85
Other Income:			By Printing & Stationery	1105098.22	1235970.36
To Sale of Publication	5200.00	18843.00	By Travelling & Conveyance Exp.	2374838.00	1849008.00
To Testing fee	11634904.00	10408012.00	By Testing Fee	206025.00	25975.00
To Consultancy fees	7636685.70	4389836.00	By Consultancy Expenses.	172500.00	0.00
To Training fees	216750.00	286349.00	By Hospitality Expenses.	187499.00	234766.00
To Membership fee	312871.00	80000.00	By Legal & Professional Exp.	230522.00	82232.00
To Lease rent	175000.00	50000.00	By Audit fees	29500.00	28750.00
To Hostel rent	111005.00	134700.00	By Training Expenses	0.00	163057.00
To Miscellaneous Receipt	106539.10	166299.28	By Watch & Ward	5962123.00	3025719.00
To Licence Fee	345265.00	346285.00	By Bank charges	6740.66	18646.30
To Festival Advance	49950.00	90900.00	By Rent & Advertisement	94608.00	694107.00
To House Building Advance	392964.00	385728.00	By Exp.onSeminar & Workshop	76911.00	450.00
To Conveyance Advance	204600.00	193200.00	By Membership subscription	0.00	10000.00
To Computer Advance	240225.00	225700.00	By News Paper	26070.00	33506.00
To Service Tax	897640.00	2266908.00	By Staff Car Maintenance	476444.00	375937.00
To Education cess	237.00	235.00	By Hindi Diwas Exp.	5401.00	3390.00
To H.Education cess	24.00	122.00	swachh Bhart Abhiyan Exp.	613300.00	80130.00
To Swach Bharat cess	31460.00	80364.00	By Liveries	0.00	10625.00
To K.K.Cess	31352.00	56595.00	By Paper ex	111418.00	0.00
To SGST	334215.66	0.00	By Software expenses	3600.00	0.00
To CGST	334215.66	0.00	By Fixed Assets/ Capital work in Progress	10510757.96	6223444.03
To IGST	1923298.50	0.00	Other Payments:		
To Fellowship	13000.00	0.00	By Adv.for Assets	654473.00	60320.00
To TDS Refund	1096613.00	0.00	By T.D.S.	11369967.00	4692211.00
To Security from Staff	0.00	0.00	By Service Tax	1159454.00	1675459.00
To Security from Contractor	0.00	1683.00	By Sawach Bhart Cess	47940.00	74386.00
To Security from Student	25000.00	24000.00	By K.K.Cess	41077.00	46456.00
To M.Sc. Course Fee	502300.00	728500.00	By SGST	292660.66	0.00
To Laboratory Fee	2000.00	15000.00	By CGST	173168.66	0.00
To Library Fee	0.00	10000.00	By IGST	1668799.70	0.00
To Sale of Assets	0.00	80000.00	By Convetailment Service Tax	158458.00	429854.00
To Earnest Money received	0.00	100000.00	By Convetailment K.K.Cess	10659.00	12819.00
To Refunded from UNIDO	0.00	1143004.00	By Input Tax credit (CGST)	139950.00	0.00
To amount recoverable	0.00	1192.00	By Festival Advance	36000.00	72000.00
To CPPRI ECPF Trust for staff payment	300000.00	0.00	By House Building Advance	1000000.00	0.00
To CPPRI ECPF Trust	9831892.70	0.00	By Conveyance Advance	30000.00	114000.00
			By Computer Advance	125000.00	140000.00
			By Security Deposit	216000.00	23100.00
			By Trade Tax	22807.00	0.00
			By Security refunded to student	35500.00	16000.00
			By SECURITY REFUNDED TO STAFF	3000.00	0.00
			By UNIDIO Project	1407266.00	0.00
			By CPPRI ECPF Trust	0.00	9831892.70
			Closing Balances:		
			By Cash Balance	2011.26	26842.26
			By Bank Balance on current account	24153761.81	-1237952.25
			By Deposit Ac/(Margin money against L.C.)	4344433.74	10544380.00
			By Deposit Accounts	62229791.66	61008568.66
TOTAL	243473801.73	206300236.26	TOTAL	243473801.73	206300236.26

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



Signature

DIRECTOR

Signature

ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



SANJAY MISRA & CO.
Chartered Accountants

116, New Avas Vikas Colony
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 . AT 31.3.18

SCHEDULE 1 - CAPITAL FUND

Amount (₹)

PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
CAPITAL FUND		
Balance as at the beginning of the year	130485890.62	120950688.74
Add:1:		
1. Grants towards Capital Fund	1298684.00	8617097.00
2. Cess project(Capital purpose)	1897984.70	1812048.00
	133682559.32	131379833.74
less:-		
Balance of net expenditure transferred from the income & expenditure account	11727551.13	893943.12
	121955008.19	130485890.62
BALANCE AS AT THE YEAR - END	121955008.19	130485890.62

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE




DIRECTOR


ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

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

Amount (₹)

Sl. No	NAME OF PROJECT	CURRENT YEAR	PREVIOUS YEAR
		2017-18 AMOUNT	2016-17 AMOUNT
1	CPCB	13024.26	13024.26
2	DBT-Technological improvemt of Process	1124.25	1124.25
3	Green Chemistry	1556541.00	2500000.00
		1570689.51	2514148.51

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

Place: Saharanpur
Date: 17-09-18

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Chartered Accountants

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE - 3- DETAILS OF UN-UTILIZED GRANT

Amount (₹)

PARTICULARS	BALANCE 1.4.2017		GRANTS RECEIVED & UTILISED DURING 2017-18		UNSPENT BALANCE 31.3.17	
	AMOUNT	RECEIVED AMOUNT	REFUNDED AMOUNT	UTILISED AMOUNT	AMOUNT	AMOUNT
Plan Grant	0.00	14550000.00	0.00	14461218.00	88782.00	0.00
BASE LEVEL SUPPORT(NON-PLAN)	0.00	100000000.00	0.00	99998563.00	1437.00	0.00
Cess Funded project	0.00	0.00	0.00	0.00	0.00	0.00
Pilot Scale Studies on eff. Depith.of Bagas. Aprocess developed by CPPRI (CPPRI)	6861915.00	0.00	0.00	6861915.00	5998882.00	6861915.00
Continious Education for Technical Personnel in Pulp & Paper Industry	251428.64	0.00	0.00	251428.64	0.00	251428.64
Ozone Treatment on Indigionous Paper	229721.00	0.00	0.00	229721.00	0.00	229721.00
Setting up of a Statistical Data Collection Cell for Indian Pulp & Paper Industry	1134081.92	0.00	0.00	1134081.92	0.00	1134081.92
Increase in Brightness celling of agro residue Pulp in cost effective.....Wheat Straw	761627.50	0.00	0.00	761627.50	0.00	761627.50
Studt on technological status and potential of Productivity	167635.00	0.00	0.00	167635.00	0.00	167635.00
Improvement in Slectivity of Oxygen Bleaching	1260000.00	0.00	0.00	1260000.00	0.00	1260000.00
Achivement of Highest brightness & whiteness in Paper in cost effective	1089711.50	0.00	0.00	1089711.50	675662.50	1089711.50
Core Secretariate for DCPPIA	0.00	1700000.00	0.00	1700000.00	0.00	0.00
Biochemical abatement of Pollution load in Waste-water	773525.00	500000.00	0.00	1273525.00	0.00	773525.00
Utilisation of Lignin as Value Added Product for Manufacturing of Rubber Product	277000.00	1323000.00	0.00	183024.00	1416976.00	277000.00
Capacity Building and upgradation of infrastructure for inter lab comparison	5808000.00	5948000.00	0.00	383863.00	11372137.00	5808000.00
Study on Preparation of Cellulose Micro/Nano Fibrils	675000.00	4185900.00	0.00	293284.00	4567616.00	675000.00
Total =	19289645.56	128206900.00	0.00	147496545.56	24121492.50	19289645.56

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



Place: Saharanpur
Date: 17-09-18

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

Rupendra
Goel

DIRECTOR

ADMINISTRATIVE OFFICER





SANJAY MISRA & CO.
Chartered Accountants

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE - 4 - CURRENT LIABILITIES AND PROVISIONS

Amount (₹)

S. No.	PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
A.	CURRENT LIABILITIES AND PROVISIONS		
	CURRENT LIABILITIES:		
	<u>Other Liabilities</u>		
1	Retention Money received	32792.00	32792.00
2	Security Received from Contractors	105312.00	105312.00
3	Earnest money received	213900.00	213900.00
4	Advance received for services	214855.00	214855.00
5	Security received from students	35000.00	45500.00
6	Security Received from Staff	17000.00	20000.00
		618859.00	632359.00
	TOTAL (A)	618859.00	632359.00
B.	PROVISIONS:		
1	Expenses payable	772867.00	845171.00
2	Amount Payable(others)	424131.00	138506.15
3	Pro.for gratuity & encashment of leave	82475654.00	67301867.00
4	Audit fee payable	37760.00	29500.00
5	Performance Bank Gurantee	40657.00	40657.00
6	Fellow Ship payable	23000.00	10000.00
7	Provision for CPCB	37300.00	37300.00
8	Provision for Salary & Allowes.	0.00	2003421.00
9	Income Tax Payable	7000.00	0.00
		83818369.00	70406422.15
	TOTAL (B)	83818369.00	70406422.15
	TOTAL (A+B)	84437228.00	71038781.15

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



[Signature]
DIRECTOR

[Signature]
ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULES 5 - FIXED ASSETS

Amount (₹)

Sl. No.	PARTICULARS	GROSS BLOCK		ADDITION DURING THE YEAR		SALES DURING THE YEAR	COST AT THE YEAR END	%AGE OF Dep	DEPRECIATION FOR 2017-18	NET BLOCK		
		TOTAL COST AS ON 1.4.2017	TOTAL DEPRECIATION 31.3.2017	NET VALUE ON 1.4.2017	FIRST HALF					SECOND HALF	AS AT THE 31.3.2018 YEAR-END	AS AT THE 31.3.2017 YEAR-END
A. FIXED ASSETS												
1	Land	16872204.10	0.00	16872204.10			16872204.10	0%	0.00	16872204.10	16872204.10	
2	Land Scaping Work in Prograss	487684.45	0.00	487684.45			487684.45	0%	0.00	487684.45	487684.45	
3	Building	116233639.69	102342059.73	13891579.96			13891579.96	10%	1389158.00	12502421.96	13891579.96	
4	Office Equipment	15028639.50	10654492.44	4374147.06	9200.00	135451.10	4518798.16	10%	445107.27	4073690.89	4374147.06	
5	Furniture & Fixtures	8315680.38	6700099.85	1615670.53			1615670.53	10%	161567.06	1454103.47	1615670.53	
6	Hostel Furniture	408288.06	393833.43	14454.63			14454.63	10%	1445.46	13009.17	14454.63	
7	Vehicle	2348160.40	2157638.09	190522.31	582958.44		773480.75	15%	116022.12	657458.63	190522.31	
8	Plant & Machinery	30566652.76	29205656.95	1360995.81			1360995.81	15%	204149.38	1156846.43	1360995.81	
9	Plant & Machinery at HNL	5800000.00	5717406.62	82593.38			82593.38	15%	12389.01	70204.37	82593.38	
10	Lab Equipment	235912065.54	183043214.90	52868850.64	394450.00	7946633.42	61209934.06	15%	8585492.63	52624441.43	52868850.64	
11	Equipment with NCBM	500000.00	483122.68	16877.32			16877.32	15%	2531.60	14345.72	16877.32	
12	Workshop equipment	536385.07	475099.30	61285.77			61285.77	15%	9192.87	52082.90	61285.77	
13	Instruments	211032.13	210444.67	587.46			587.46	15%	88.12	499.34	587.46	
14	D.G.Set	2094916.68	2041881.82	53034.86			53034.86	15%	7955.23	45079.63	53034.86	
15	Air Conditioner & Cooler etc.	6082632.72	4598291.60	1484341.12			1484341.12	15%	222651.17	1261689.95	1484341.12	
16	Electrical Instiall & Equipment	2589407.59	1701341.41	888066.18			888066.18	15%	133209.93	754856.25	888066.18	
17	Books and Periodicals	9986638.86	9766360.35	220278.51		4000.00	224278.51	40%	88911.40	135367.11	220278.51	
18	Computers	16285699.14	15336708.03	948991.11	96912.00	121976.00	1167879.11	40%	442756.44	725122.67	948991.11	
19	Capital work in Progress	965125.00	0.00	965125.00			965125.00	0%	0.00	965125.00	965125.00	
20	Guest House Equipment	6800.00	680.00	6120.00			6120.00	10%	612.00	5508.00	6120.00	
21	Tubewell	0.00	0.00	0.00	1298684.00		1298684.00	10%	64934.20	1233749.80	0.00	
TOTAL OF CUURENT YEAR		471231652.07	374828241.87	96403410.20	1083520.44	9506744.52	106993675.16	2.90	11888173.89	95105501.27	96403410.20	
TOTAL OF PREVIOUS YEAR		463482810.04	361703557.07	101779252.97	3293423.00	4535419.03	109528095.00	3.60	13124684.80	96403410.20	101779252.97	

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



Place: Saharanpur
Date: 17-09-18

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

Signature of Director
DIRECTOR

Signature of Administrative Officer
ADMINISTRATIVE OFFICER





SANJAY MISRA & CO.
Chartered Accountants

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

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE - 6- CURRENT ASSETS, LOANS, ADVANCES ETC.

Amount (₹)

Sl.No.	PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
		2017-18		2016-17	
	A: CURRENT ASSETS:				
1	<u>Inventories:</u>				
a.	Store & Spares	1779119.36		1994603.05	
b.	Stationery & Misc. Store	<u>520475.10</u>	2299594.46	<u>765345.49</u>	2759948.54
2	Cash balance in hand		2011.26		26842.26
3	Bank Balances:(With Scheduled Banks)				
	On Current Accounts		24153761.81		-1237952.25
	On Deposit Accounts(margin money-against letter of credit)		4344433.74		10544380.00
	On Deposit Accounts		62229791.66		61008568.66
	Accrued interest on Sweep Accounts		0.00		2387608.00
	Accrued Interest on SDR		2015202.52		2031446.34
	B: LOANS,ADVANCES AND OTHER ASSETS:				
	<u>Loan to Staff:</u>				
1	<u>Non interest bearing Advance</u>				
a	Festival Advance	11700.00		25650.00	
b	Medical Advance	<u>37479.00</u>	49179.00	<u>37479.00</u>	63129.00
2	<u>Interest bearing Advances</u>				
a	House Building Advance	1528972.00		921936.00	
b	Advance for Purchase of Vehicle	149878.00		324478.00	
c	Advances for computer	183475.00		298700.00	
d	Accrued Interest on Advances	<u>1344538.00</u>	3206863.00	<u>2071242.00</u>	3616356.00
3	<u>Advances and other amounts recoverable in cash or in kind or for value to be received</u>				
	ADVANCES:				
a	Purchase of Machinery and other work	8870185.04		8731435.04	
b	Advance Paid to IIP for Begass pith Project	125799.65		125799.65	
c	Advance Paid to DBT for Biological B.L. Project	50.00		50.00	
d	Advance to UPRNN	<u>350000.00</u>	9346034.69	<u>350000.00</u>	9207284.69
	<u>Amounts recoverable in cash or in kind</u>				
a	Amount Recoverable	1414564.00		88243.41	
b	T D S	6803959.60		5914717.60	
c	Cenvetavilment -Service Tax	0.00		33698.00	
d	Cenvetavilment -Education Cess	1363.00		1560.00	
e	Cenvetavilment - H.Education Cess	303.00		303.00	
f	Cenvetavilment - K. K. Cess	4999.00		1203.00	
g	Service Tax	660174.00		616920.00	
h	Education Cess	7102.00		7039.00	
i	H.Education Cess	3563.00		3531.00	
j	Krishi Kalyan Cess	3397.00		1477.00	
k	Swachh Bharat Cess	7423.00		5827.00	
l	IGST	59979.20		0.00	
m	Plant Equipment of CPCB	2694541.00		2694541.00	
n	Lab Equipment-IPMA/Dev. Council	1350682.00		1350682.00	
o	Earnest Money Deposit	175550.00		175550.00	
p	N.P.C.	706.75		706.75	
q	Imprest	28860.57		29974.57	
r	Advance for T.A.	286145.00		213895.00	
s	Advance for L.T.C.	544086.00		815900.00	
t	Advance for General Exp.	446246.00		372951.00	
u	Security Deposits	1752347.00		1536347.00	
v	Telephone deposit under OYT	39139.00		39139.00	
w	Advance to CPPRI ECPF TRUST	0.00		9831892.70	
x	Adv. To Commissioner workmen Compensation	89430.00		89430.00	
y	DCPPAI	11000.00		11000.00	
z	Accrued Testing fee & Lease Rent etc.	<u>12946484.67</u>	29332044.79	<u>12680916.37</u>	36517444.40
	TOTAL		136978916.93		126925055.64

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



Place: Saharanpur
Date: 17-09-18

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

[Signature]
DIRECTOR

[Signature]
ADMINISTRATIVE OFFICER



SANJAY MISRA & CO.
Chartered Accountants

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE -7-INCOME FROM INSTITUTIONAL AND CONSULTANCY FEE

Amount (₹)

S.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2017-18	2016-17
1	Testing fee	12347299.00	9619634.00
2	Consultancy fee.	8642754.00	4833896.00
3	Laboratory Fee	0.00	15000.00
4	Library Fee	2000.00	10000.00
5	M.Sc. Course Fee	502300.00	728500.00
	TOTAL	21494353.00	15207030.00

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



DIRECTOR

ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE - 8 - GOVERNMENT GRANT RECEIVED

S.No.	PARTICULARS	Amount (₹)	
		CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
1	Government of India - Plan	13162534.00	25786952.00
2(a)	Government of India through Development Council for Pulp, Paper & Allied Industries-Non Plan	99998563.00	69000000.00
(b)	Core Secretariate for Development Council PP&A Industry	1700000.00	1300000.00
3	Green Chemistry	943459.00	0.00
4	Government of India through Development Council for Pulp, Paper & Allied Industries for Cess Projects		
(a)	Continious Education Training of Tech Personal	251428.64	352301.00
(b)	Development of Protocole	0.00	1405769.00
(c)	Improvement in Selectivity of Oxygen Bleaching	678434.90	616661.00
(d)	An Integrated approach for utilization of Begasse Pith	273033.00	0.00
(e)	Statistical Data collection Cell for Indian Pulp & Paper Industry	1134081.92	1672881.08
(f)	Ozone Treatment on Indionous Paper	229721.00	317310.50
(g)	Achivement of Highest Brightness & Whiteness	0.00	544088.50
(h)	Increase in Brightness	751708.90	125000.00
(i)	Study on Technological status and potential of Productivity	167635.00	0.00
(j)	Biochemical abatement of Pollution load in Waste-water	971073.00	0.00
(k)	Utilization of Lignin as Value Added Product for Manufacturing of Rubber Product	183024.00	0.00
(l)	Capacity Building and upgradation of infrastructure for inter lab Comparison	383863.00	0.00
(m)	Study on Preparation of Cellulose Micro/Nano Fibrils	293284.00	0.00
	TOTAL	121121843.36	101120963.08

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

Place: Saharanpur
Date: 17-09-18



SANJAY MISRA & CO.
Chartered Accountants

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

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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 AT 31.3.2018

SCHEDULE 9 - FEES/SUBSCRIPTION'S.

Amount (₹)

S.No.	PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
1	Membership fees	312871.00	80000.00
2	Training fees/Registration fees	216750.00	297000.00
	TOTAL	529621.00	377000.00

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FOR SANJAY MISRA & CO.
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(SANJAY MISRA)
F.C.A., ICAI (DISA)

DIRECTOR

ADMINISTRATIVE OFFICER

Place: Saharanpur
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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE 10 - INTEREST EARNED.

Sl. No.	PARTICULARS	Amount (₹)	
		CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
	INTEREST EARNED		
1	On Term Deposite with schedule Bank	5337472.92	6338673.00
2	On Loan to staff	130610.00	186110.00
3	Interest on Refund of TDS	104177.00	0.00
	TOTAL	5572259.92	6524783.00

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FOR SANJAY MISRA & CO.
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(SANJAY MISRA)
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DIRECTOR

ADMINISTRATIVE OFFICER

Place: Saharanpur
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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE 11 - OTHER INCOME.

Amount (₹)			
SI.No.	PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
	OTHER INCOME		
1	Hostel rent	111005.00	134700.00
2	Lease rent	175000.00	50000.00
3	Licence fee	345265.00	346285.00
4	Miscellaneous income	100140.10	166299.28
5	Sale of Publications	5200.00	18843.00
	TOTAL	736610.10	716127.28

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE 12 - ESTABLISHMENT EXPENSES.

Amount (₹)			
S.No.	PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
	ESTABLISHMENT EXPENSES		
1	Salary & Allowances	80023189.65	63493288.87
2	CPF Contribution	7865698.00	5876894.00
3	Gratuity Paid	23401403.00	5014152.00
4	Encashment of leave	7617375.00	6643554.00
5	Reimbursement of medical expenses	2082087.00	2471964.00
	TOTAL	120989752.65	83499852.87

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FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



DIRECTOR

ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18

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SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2018

SCHEDULE 13 - ADMINISTRATIVE EXPENSES ETC.

Amount (₹)

S.No	PARTICULARS	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
	OTHER ADMINISTRATIVE EXPENSES ETC.		
1	To Lab & Plant Maintenance	1675655.25	4606791.80
2	To Cartage & Freight	24580.00	3025.00
3	To Electricity and water	7843535.48	7871720.00
4	To Repair & Maintenance of Assets	5670820.19	6115417.48
5	To Rent & Taxes	679760.00	609600.00
6	To Postage & Telephone & Communication	541229.52	900383.85
7	To Printing & Stationery	1110185.22	1209450.38
8	To Travelling & Conveyance Exp.	2345750.65	1831589.00
9	To Exp.on Seminar & Workshop	42840.00	450.00
10	To Membership subscription	0.00	10000.00
11	To Audit fees	37760.00	29500.00
12	To Hospitality Expenses	187499.00	234766.00
13	To Legal & Professional Exp.	259116.00	94145.00
14	To News Paper Exp.	26070.00	33506.00
15	To Training Expenses	0.00	148557.00
16	To Watch & Ward	6126731.00	3354658.00
17	To Bank charges	6740.66	18646.30
18	To Advertisement	110685.00	707395.00
19	To Testing Fee Paid	206025.00	0.00
20	To Staff Car Maint	493920.00	341563.00
21	To Liveries A/c	0.00	10625.00
22	To Hindi Diwas Exp.	5401.00	3390.00
23	To Swachh Bharat Abhiyan Exp.	622490.00	80130.00
24	To Software Exp.	3600.00	0.00
25	To Consultancy Fee Paid	172500.00	0.00
26	To Paper Ex	111418.00	0.00
	TOTAL	28304311.97	28215308.81

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



[Signature]
DIRECTOR

[Signature]
ADMINISTRATIVE OFFICER

Place: Saharanpur
Date: 17-09-18



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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 confirm 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 methods, 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.14 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 transaction:

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 Cess 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. 23401403.00 and for leave encashment is Rs. 7617375.00 payable to them based on accrual basis and as per the actuarial valuation certificate of Shri Bhudev Chatterjee.

3. Current Assets Loans & Advance:

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 31.3.2018 is Rs. 9346034.69 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.3196668.70 has been incurred as capital expenditure while as per Schedule No.5 of the Balance-sheet relating to fixed assets shows an addition of Rs.10590264.96. Regarding more capital expenditure of Rs.7393596.26, 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 exit 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)

Date: 17.09.18

Place: Saharanpur.

For SANJAY MISRA & CO.
Chartered Accountants



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



THE STAFF

Director's Secretariat

Director Incharge	Smt. Rita Tandon, M.Sc., (w.e.f. 1/9/2016 to 8/8/2017)
Director	Dr. B. P. Thapliyal, M.Sc., M.Tech., Ph.D. (w.e.f. 9/8/2017)
Private Secretary	Shri A. Arokiadoss, B.Com., PG Diploma in Business Administration (superannuated 31/1/2018)
Personal Assistant	Shri M. P. Sharma, M.A.
Technician	Shri R. K. Kapoor Shri Sunder Lal

Physical Chemistry, Pulping & Bleaching Division

Scientist-G & Head	Dr. Suresh Panwar, M.Sc., Ph.D. (superannuated on 30/4/2017)
Scientist-F & Head	Dr. M. K. Gupta, M.Sc., Ph.D. (w.e.f. 1/5/2017 to 23/04/2018)
Scientist - E I	Dr. Rajnish Tandon, M.Sc., Ph.D.
Scientist-E-II & Incharge	Dr. Priti Shivhare Lal, M.Sc., Ph.D.
Scientist - B	Dr. Arvind Kumar Sharma, M.Sc., PGDPPT (PG Diploma in Pulp & Paper Technology), Ph.D.
Technician	Shri Mussadi Lal

Paper Testing, Energy Management & Computer Maintenance Division

Head	Dr. B. P. Thapliyal, M.Sc., M.Tech., Ph.D., Passed National Certificate Examination for Energy Managers. (upto 19/12/2017)
Scientist E-II & Incharge	Dr. R. D. Godiyal, M.Sc., D.Phil.
Scientist E-I	Dr. Sanjay Tyagi, B.E. (Mechanical Engineering), M.E. (Pulp & Paper), Ph.D., Passed National Certificate Examination for Energy Managers
Technical Officer - C	Shri N. K. Naik, Diploma Engineering (Industrial Electronics)

Chemical Recovery Division

Head	Dr. B. P. Thapliyal, M.Sc., M.Tech., Ph.D. (upto 19/12/2017)
Scientist-E-II & Incharge	Dr. A. K. Dixit, M.Sc., Ph.D.
S.S.A	Shri Kumar Anupam, B.Tech. (Chemical Engineering)
Technician	Shri Avtar Singh



Bio-Technology Division

Scientist-G & Head	Smt. Rita Tandon, M.Sc. (upto 19/12/2017)
Scientist E-II & Incharge	Smt. Anuradha V Janbade, M.Sc.

International Co-operation and Wet Laboratory

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist E-I	Shri Alok Kumar Goel, M.Sc., Passed National Certificate Examination for Energy Managers
Scientist-C	Shri Satya Dev Negi, M.Sc., PGDPPT (PG Diploma in Pulp & Paper Technology)
Technician	Shri Sharma Kumar

Environmental Management Division

Scientist-G & Head	Dr. Suresh Panwar, M.Sc., Ph.D. (superannuated on 30/4/2017)
Scientist-G & Head	Smt. Rita Tandon, M.Sc. (1/5/2017 to 25/12/2017)
Scientist F Head (Air Pollution)	Dr. M. K. Gupta, M.Sc., Ph.D
Scientist E-II Incharge (ET)	Dr. Shivaker Mishra, M.Sc., Ph.D.
Scientist E-II Dy. Incharge (ET)	Dr. Nitin Endlay, M.Sc., PGDIPM (PG Diploma in Industrial Pollution Management), Ph.D.
S.S.A.	Mohammad Salim, M.Sc.
Technical Officer - C	Shri Raj Pal Singh, Intermediate, Certificate Course in Pulp & Paper Technology
Technical Officer – B	Shri Gyan Pal Singh, Certificate Course in Pulp & Paper Technology
Section Officer	Shri Y. K. Sharma, M.A., PGDM, Office Management Course from ISTMS
Technician	Shri Magan Singh



Technical Services & Co-ordination Cell (TSCC)

Scientist-G & Head	Smt. Rita Tandon, M.Sc.
Scientist-E 1	Shri Alok Kumar Goel, M.Sc., Passed National Certificate Examination for Energy Managers
Technician	Shri Gopal Singh

Library & Documentation Division

Scientist E-II & Incharge	Dr. R. D. Godiyal, M.Sc., D.Phil.
Library Officer-A	Smt. Sarita Sharma, M.A., MLISc.

Training Cell

Scientist E-II & Incharge	Dr. Nitin Endlay, M.Sc., PGDIPM, (PG Diploma in Industrial Pollution Management), Ph.D.
---------------------------	---

Patent Cell

Scientist E – II & Incharge	Dr. A. K. Dixit, M.Sc., Ph.D.
Members	Dr. Arvind Kumar Sharma, M.Sc., PGDPPT (PG Diploma in Pulp & Paper Technology), Ph.D. Shri Kumar Anupam, B.Tech. (Chemical Engineering) Shri Y. K. Sharma, M.A., PGDM, Office Management Course from ISTMS

Engineering & Maintenance Division

Scientist F & Head	Dr. M. K. Gupta, M.Sc., Ph.D.
Technical Officer E-I	Shri Brij Pal Singh, B.A., Diploma in Mechanical Engineering
Technical Officer - B	Shri Pankaj Kumar Goley, B.Tech. (Electrical Engineering) Shri R. L. Gupta, Boiler Attendant Certificate course
Driver	Shri Arvind Kumar (superannuated 30/9/2017) Shri Shri Bhagwan Sharma
Technician	Shri Dushyant Kumar Shri O. P. Kotnala Shri Soban Singh



Administration Division

Administrative Officer	Shri A. K. Saxena, M.Com.
Section Officer	Shri B. K. Negi, M.A., PG Diploma in Journalism, Passed National Certificate Examination in Supervision from N.P.C.
Technicians	Shri Nasir Ali Smt. Shivkala Thapa

Finance & Accounts Division

Incharge	Shri A. K. Saxena, M.Com
Accountant	Shri O. P. Bhatia, B.Com. (Hons.) Shri H. C. Pandey, M.Com.
Assistant	Shri Ram Bax, B.Com. Shri B. B. Chettri, M.A. Shri Naresh Kumar, B.Com.
Technician	Shri Prem Singh

Store & Purchase Division

Section Officer & Incharge	Shri B. K. Negi, M.A., PG Diploma in Journalism, Passed National Certificate Examination in Supervision from N.P.C.
Accountant	Shri L. D. Joshi, B.A.
Assistant	Shri Satya Pal Singh, B.A. (superannuated 31/7/2017) Shri J. S. Bist, B.A.
Technician	Shri Balbir Singh (superannuated on 31/7/2017)

Estate & Horticulture Department

Estate Officer	Shri B. K. Negi, M.A., PG Diploma in Journalism, Passed National Certificate Examination in Supervision from N.P.C.
Technician	Shri Gopal Dutt

Industrial Co-operation and Business Development, New Delhi

Scientist E-II & Officer-Incharge	Dr. Kawaljeet Singh, M.Sc., MBA, Ph.D.
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Superannuation (2017-18)



Dr. Suresh Panwar, Scientist-G
Date of Superannuation : 30.04.2017
Duration of Service : 01.08.1984 - 30.04.2017



Shri Satya Pal Singh, Assistant
Date of Superannuation : 31.07.2017
Duration of Service : 15.12.1981 - 31.07.2017



Shri Balbir Singh, Technician
Date of Superannuation : 31.07.2017
Duration of Service : 31.10.1981 - 31.07.2017



Shri Arvind Kumar, Driver
Date of Superannuation : 30.09.2017
Duration of Service : 24.02.1984 - 30.09.2017



Shri A. Arokiadoss, Private Secretary
Date of Superannuation : 31.01.2018
Duration of Service : 01.07.1983 - 31.01.2018



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Technical Review

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