

# **ANNUAL REPORT 2018-19**



**Central Pulp &  
Paper Research Institute**

# Annual Report

## 2018-19



### Central Pulp & Paper Research Institute

An Autonomous Organisation Registered under Societies Act under the Administrative Control of  
Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade, 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 **2018-2019** through this Annual report.

I am pleased to inform that a **GIGW (Guidelines for Indian Government Websites)** compliant website has been developed for CPPRI during this year. Further, to improve work efficiency, CPPRI has initiated process of developing **office automation software** which includes features like e-file management, administration HRMS, payroll and employee management, purchase and inventory management and on-line recruitment system.

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

This year also, CPPRI continued to successfully assist **Central Pollution Control Board (CPCB)** as third party in monitoring the environmental status of over **39 Grossly Polluting Industries (GPI) in Ganga River Basin which included Textile and Chemical Industries as well as slaughter houses.**

Interaction with UNIDO (IC-ISID) continued during the period April 2018 to March 2019 regarding the preparation of project activities of the second phase of project **Development of Appropriate Technologies for Enhancing the Productivity in Pulp and Paper Sector.** The second phase is likely to be initiated soon.

CPPRI was also approached by **Japan Paper Association (JPA)** on METI, Japan sponsored project **“Increasing the Recovered Paper Recovery Rate in India”.** CPPRI was associated in preparation of a report on **Establishment of Paper Recycling and Waste Paper Supply Chain Prevalent in the Trade of Waste Paper in India** which was submitted to JPA.

CPPRI entered into MoU with various national and international organizations like **China National Pulp & Paper Research Institute** for collaborative research work in areas of pulping and papermaking, **ENMAS Limited, Chennai** for collaborative R&D activities in the area of Chemical Recovery, **RICO Limited,**



**Gurugram** for Development of anti-friction resistant paper for two-wheeler clutches. **Kriya Labs, IIT, Delhi** for collaborative R&D in area of mechanical pulping of rice straw and optimization of process variables and **Fuma Labs Pvt. Limited, Pune** for joint co-operation in the area of product development from non conventional raw materials.

As regards to overseas consultancy, technical consultancy was provided to **PT Riau Prima Energi (April Group), Indonesia** for trouble shooting lower steam generation in their three 5000 tons solids firing recovery boilers.

CPPRI library subscribed important e-Books related to pulp & paper and allied sciences which are available on Science Direct Platform. All the subscribed books can be downloaded, saved and printed by CPPRI Library users.

CPPRI also successfully organised **Training Programme on Advancement in Pulping & Bleaching Technology including Biotechnological Application** in December, 2018 and the training programme on **Management of Air Pollution in Pulp & Paper Industry** in February, 2019. Two **Technical Meet on National Motor Replacement Program** were organized jointly with EESL in 2018. 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 ₹ 276.83 Lacs during the year 2018-19.

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, Ministry of Culture, National Archives of India etc.** The **Hindi Cell** also continued its efforts for further increase in use of Hindi in official work.

Under **Swachh Bharat Mission** of Government of India, CPPRI continued its effort proactively through organization of awareness programme, bio-composting of the felled leaves, etc.

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, National Productivity Week, Sadbhavana Diwas** etc., through organization 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 for Promotion of Industry and Internal Trade, Ministry of Commerce and**




**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 **Shri Anil Agrawal IPS, Joint Secretary, Department for Promotion of Industry and Internal Trade and Chairman, Research Advisory Committee (RAC) of CPPRI and Research Steering Committee of Development Council for Pulp, Paper & Allied Industries (RSC-DCPPAI).**

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

The dedicated efforts and team work of CPPRI's scientific, technical and non technical staff in timely execution of various activities of CPPRI is also sincerely acknowledged.

  
**Dr. B. P. Thapliyal**





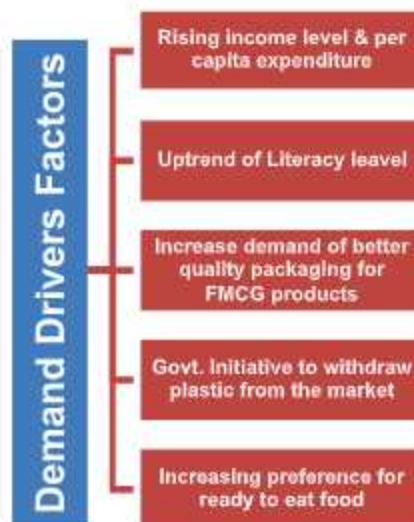
## HIGHLIGHTS OF INDIAN PAPER INDUSTRY

The demand of paper in India continued to exhibit a CAGR of 6% in the year 2018-19. Government initiatives for uplifting the well being of citizens with special focus on education has been a major driving factor for demand.

According to the data of global production of paper as given by FAO, Indian paper industry accounts for about 4.29 % of the world production of paper, paperboard and newsprint.

Domestically, the sector continues to be a major employer in the Indian hinterland, providing direct employment to 0.6 million people literally at their doorstep. It also provides indirect employment to about 1.6 million people. Further, nearly 4 million tons of production of this sector is coming from wood-based paper industry and therefore, under sustainable farm/social plantation model, this sector is playing significant role in increasing income of farmers.

Presently, the sector exhibits a turnover of Rs. 67,000 Crores with a contribution of about Rs. 8000 Crores to the exchequer.



## HIGHLIGHTS OF THE SECTOR

Being a de-licensed sector, 100% FDI inflow is allowed on the automatic route. The Industry structure comprises of more than 850 paper units, which manufacture pulp, paper, paperboard and newsprint with an installed capacity of nearly 27 million tons out of which 4.71 million tons is lying idle. As on date around 497 mills are in the operation with a total operating capacity of around 22.73<sup>1</sup> million tons (2017-18). In the year 2017-18 total capacity utilization stood at around 90% and total consumption of Paper, Paperboard, and Newsprint stood at 21.25<sup>2</sup> million tons.

There have been few moves of consolidation within the sector, but Indian paper industry remains largely fragmented, consisting of mills having capacities ranging from 05 to 1650 tons per day. In the total

production. Wood-based mills share is 18%, Agro-residues based is 09%, and Recovered fiber based mills share is 73%.

In India Per capita consumption of paper is about 14 kg, which is lower than the world average (53 kg in 2018). If the current trend of rising income level & per capita expenditure continues along with uptrend of literacy level, increase in demand of better-quality packaging for FMCG products, initiatives to withdraw plastic from the market, ready to eat food and growing formal sector, then the per capita consumption is expected to touch 20 kg in the near future. This indicates a sizeable lead room of production growth.

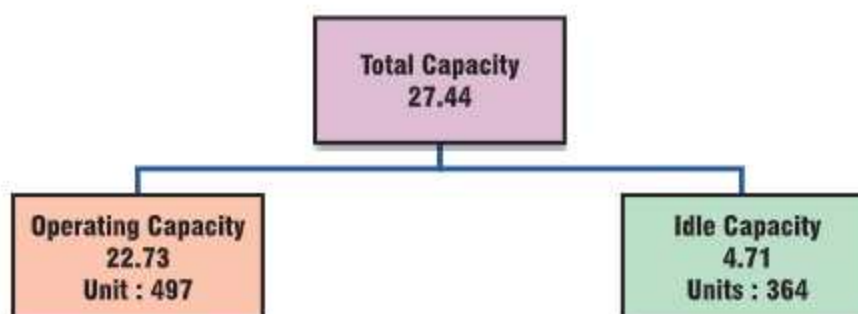
### QUICK SNAPSHOT:

A quick review snapshot of paper sector is given below:

### Indian Paper Industry Profile

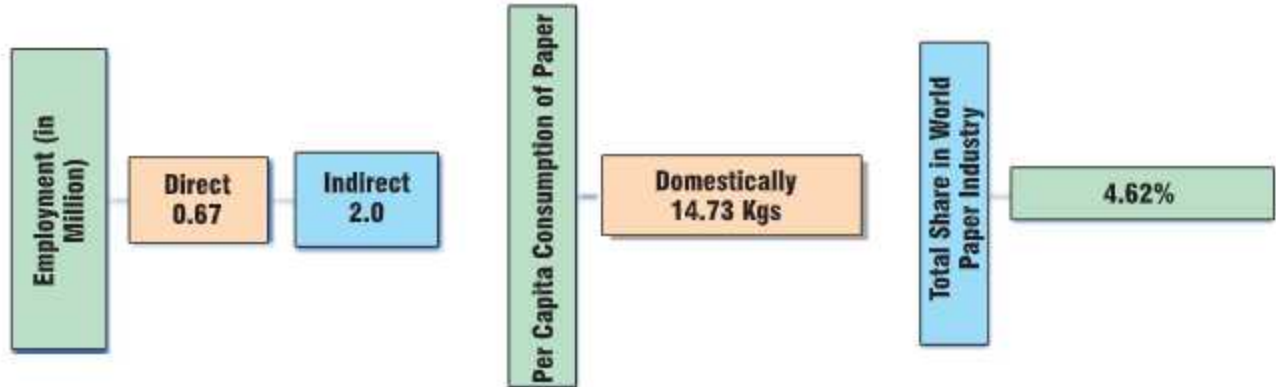


### Capacity Distribution (in million tons)

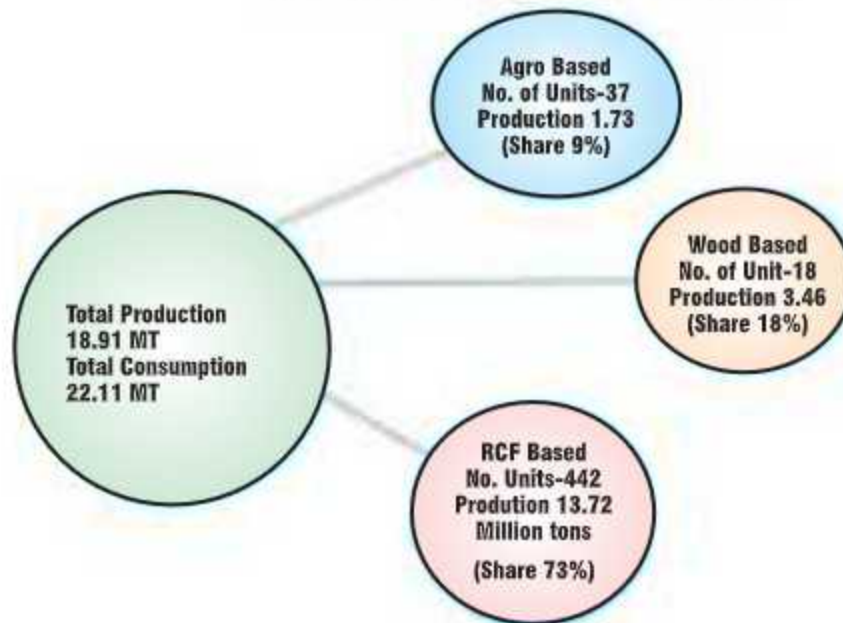




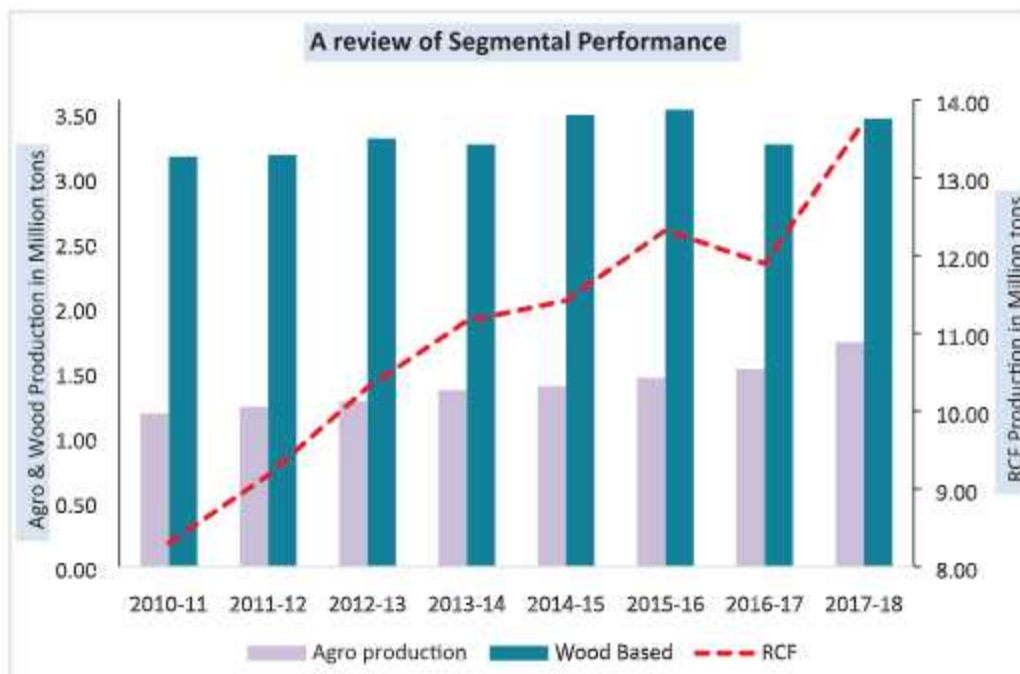
## Employment, Per Capita Paper Consumption, Total Share in World Paper Industry



## SECTORAL DISTRIBUTION



## SEGMENTAL PERFORMANCE



Source: Census Survey of India Paper Industry- CPPRI

The analysis of raw material trend over the years indicates that most of the production is shifting to utilization of waste papers as raw material, mainly due to environmental issues.

## INDUSTRIAL CLASSIFICATION

### A. Paper & Paperboard Industry

Domestic paper and paperboard segment produces almost all main varieties of paper that are in demand in the market viz. writing and printing (35%) packaging grade paper (54%), newsprint (7%) and others and speciality paper (<4 %). However, certain speciality paper such as security papers and cheque paper etc. are being imported into the country. The production of paper and paperboard in the year 2017-18 stood at 18.91 million tons<sup>3</sup> as compared to 16.91 million tons in the previous year (2016-17)<sup>4</sup>. The sharp increase in the production is because of capacity enhancement of mills as brownfield projects.

During the year 2018-19, a total of 1.88 million tons of paper and paperboard was imported under ITC chapter 48, whereas in the previous year (2017-18) this figure stood at 2.13 million tons<sup>5</sup>. This translates to a drop in imports of about 11%. On the other hand, in the year of 2018-19, 1.88 million tons of paper and paperboard was exported, which is 42% up from 2016-17.



## B. Newsprint Industry<sup>o</sup>

At present, there are 124 mills registered under the Schedule to the NCO. However, only 65 mills are active with an operating capacity of 1.59 million tons, which accounts for 63% of the total capacity of 2.5 million tons registered under the schedule. Further, 36 mills have discontinued newsprint production and 23 mills have been shut down due to various reasons. The domestic production of newsprint in 2017-18 was 1.37 million tons which is almost 30% more as compared to last year production (2016-17, 1.05 Million tons). Increase in the production can be seen due to resumption of production of 20 units which had earlier discontinued operation. But still country has to rely on the import and thus half of the country's newsprint demand is met by imports. In 2018-19, total 1.36 million tons of newsprint was imported, which is 5% lower than last year. The export of newsprint from the country was negligible.

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<sup>1</sup> Estimate, Statistical Cell, CPPRI

<sup>2</sup> Consumption= Production + Import - Export

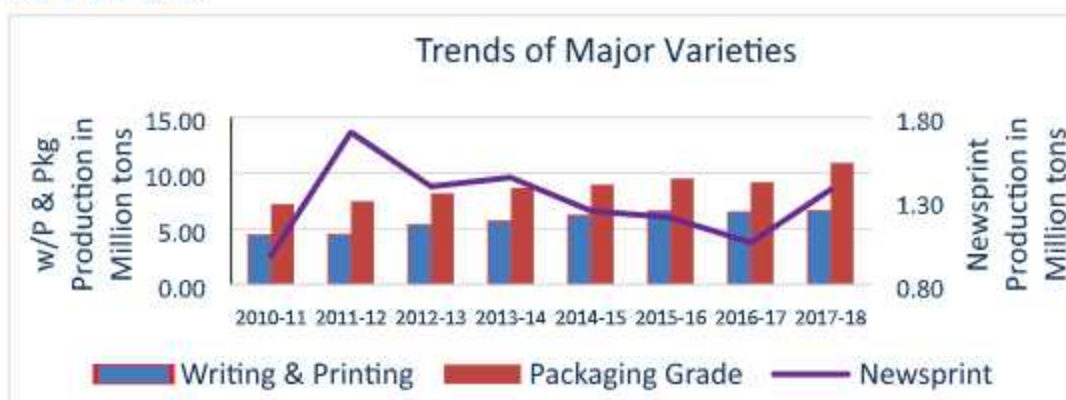
<sup>3</sup> Estimate, Statistical Cell, CPPRI

<sup>4</sup> Statistics Report, CPPRI

<sup>5</sup> Import Export Data Bank, Ministry of Commerce and Industry, Govt. of India, New Delhi

<sup>6</sup> Data taken from Indian Newsprint Manufacturers Association, New Delhi

## TREND AND OUTPUT GROWTH ANALYSIS OF MAJOR VARIETIES OF PAPER:



**Source: Census Survey of India paper Industry- CPPRI**

Data series is an eye opener for Newsprint sector. The steady production downfall seems to have been halted. Newsprint production is expected to become more viable with the withdrawal of duty exemption.

## FOREIGN TRADE

Year	Export Market (Million tons)			Import Market (Million tons)		
	Newsprint	Paper & Paperboard	Total	Newsprint	Paper & Paperboard	Total
2010-11	0.011	0.910	0.921	1.25	0.760	2.010
2011-12	0.010	0.760	0.770	1.43	0.960	2.390
2012-13	0.009	0.790	0.799	1.24	1.150	2.390
2013-14	0.004	0.830	0.834	1.38	1.190	2.570
2014-15	0.010	0.946	0.956	1.34	1.358	2.698
2015-16	0.005	0.968	0.973	1.50	1.486	2.986
2016-17	0.00042	1.040	1.040	1.58	2.726	4.306
2017-18	0.0068	1.329	1.336	1.44	2.131	3.571
2018-19	0.01272	1.889	2.016	1.36	1.889	3.249

**Source: Ministry of Commerce-data wing**



Trade balance for paper sector has become increasingly disbalanced with imports increasingly steadily. The balance has become better in 2018-19 due to increasing export to China. However, this may be a temporary trend.

## PRESENT MARKET SIZE

Varieties	In Million tons			
	Domestic Production	Import of Paper	Export	Actual Supply
Packaging Grade	10.21	1.71	0.78	11.14
Writing & Printing	6.62	0.35	0.52	6.45
Newsprint Paper	1.37	1.45	0.01	2.81
Others	0.71	0.07	0.01	0.77
<b>Total</b>	<b>18.91</b>	<b>3.58</b>	<b>1.32</b>	<b>21.16</b>

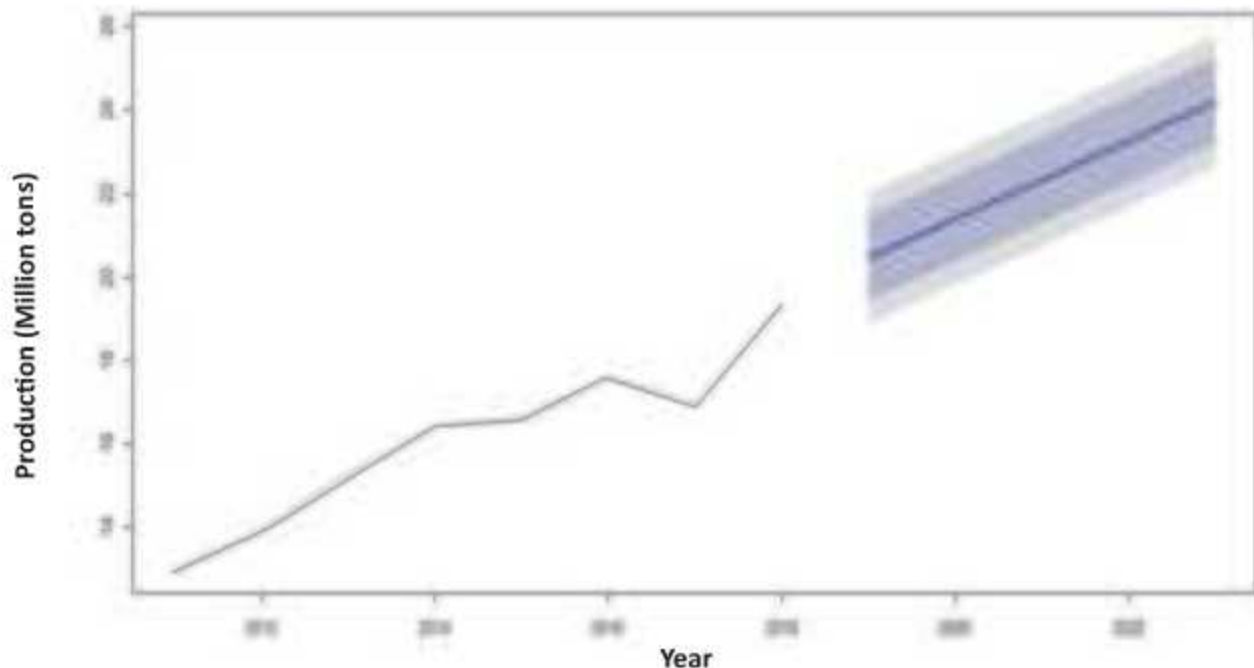
Source: Census Survey of India Paper Industry- CPPRI

The present market size of the paper sector works out to be 21 million tons, considering the total supply in the market.

## FUTURE PROJECTIONS: (HOLTZ-WINTER PROJECTION)

The Holtz-Winter projection analysis of the production data over the period 2011-2018 is presented below to forecast the production upto 2022-2023.

### Projected Production of Paper, Paperboard & Newsprint



YEAR	POINT FORECAST (IN MILLION TONS)
2019	20.47
2020	21.41
2021	22.35
2022	23.29
2023	24.23

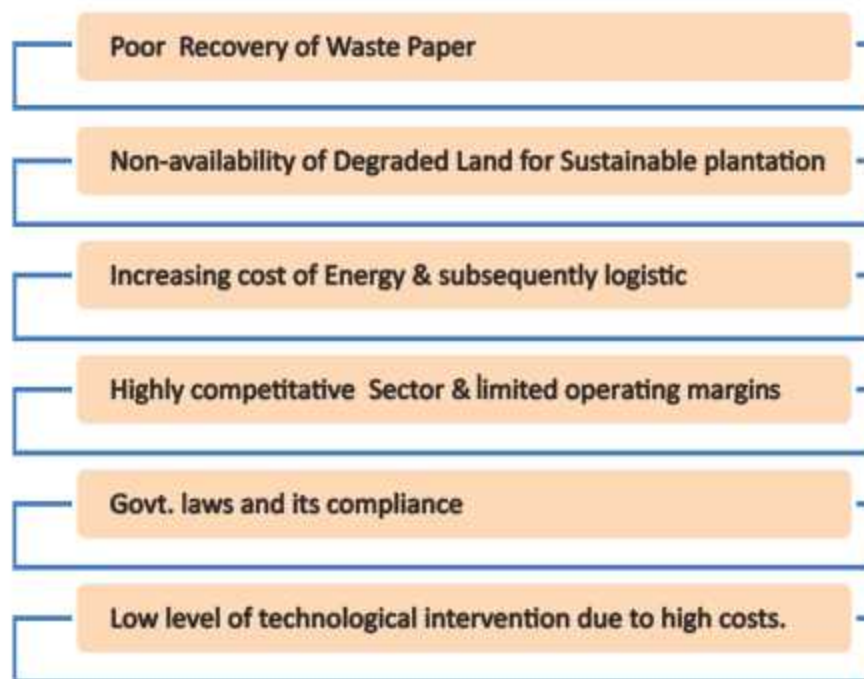
Source: Census Survey of Indian Paper Industry- CPPRI

Based on time series data, it is predicted that by 2023, nearly 24 million tons of paper, paperboard and newsprint will be produced in the country.

## WEAKNESS/THREAT ANALYSIS FLOW CHART

The chart below presents the weakness & pit falls of the sector. Since most of the production in the country comes from wastepaper, its poor recovery is a cause of concern. As regards wood-based sector, there is urgent need to provide land for plantation in the degraded forests for pulp wood plantation.

Technology obsolescence is also a major drawback affecting the overall operating efficiency.







## CHALLENGES AND THE WAY AHEAD

Non-availability of sustained supply of wood based raw materials is the major constraint hampering the growth of the Indian Paper Industry and as a result this segment has exhibited growth stagnancy. Nearly 13 million tons of production is reaching the market from RCF based mills to meet the demand. Agro based paper mills are also struggling with raw material supply and trying to maintain their share up to 10% in the production.

RCF sector is growing at fast rate and raw material demand is met by significant waste paper imports. Therefore, increasing level of recovery of indigenous waste paper becomes very important.

The demand drivers for the growth of the industry are positive and almost 2 million tons of additional production achieved by the industry reached the market after implementation of GST (16.91 million tons in 2016-17 & 18.91 million tons in 2017-18). It is estimated that production for 2019-20 may range between 19 million tons to 19.50 million tons.

**Source: CPPRI Statistical Cell.**

## MANAGEMENT

### Council of Association (CoA)

The Council of Association of Central Pulp & Paper Research Institute (CPPRI) is the supreme body consisting of 15 members having representation from **Ministry of Commerce and 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, Indian Newsprint Manufacturer's Association (INMA), Indian Agro and Recycled Paper Mills Association (IARPMA), Indian Recycled Paper Mills Association (IRPMA) and Indian Pulp and Paper Technical Association (IPPTA) etc.** The President of Council of Association of CPPRI is appointed by Government of India. At present, **Shri Ramesh Abhishek, IAS, Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is President CoA. **Shri Anil Agrawal, IPS, Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is also closely associated with the affairs of the Council. The CoA was reconstituted on 30 January, 2019.

<b>Composition of the Council of Association</b>	
President	Secretary to the Government of India, Ministry of Commerce and Industry (DPIIT)
Vice President	Joint Secretary to the Government of India, Ministry of Commerce and Industry (DPIIT)
Member Secretary	Director, Central Pulp & Paper Research Institute
Members from Government	1
Members from Academic Institutions	2
Members from Scientific Institutions	2
Members from Paper Industry	7



## MEMBERS OF COUNCIL OF ASSOCIATION OF CPPRI

1.	<b>Shri Ramesh Abhishek, IAS</b> Secretary Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	<b>PRESIDENT</b>
2.	<b>Shri Anil Agrawal, IPS</b> Joint Secretary Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	
3.	<b>Smt. Sunita Yadav</b> Director IF Wing -IPP Department for Promotion of Industry and Internal Trade (DPIIT) Ministry of Commerce and Industry, Government of India	
4.	<b>Shri Madhukar Mishra</b> Chairman Development Council for Pulp, Paper and Allied Industries and Managing Director, Star Paper Mills Limited	
5.	<b>Shri Ravinder Gaur</b> Scientist D Department of Science and Technology Ministry of Science and Technology, Government of India	
6.	<b>Dr. Rakesh Kumar</b> Director CSIR- National Environmental Engineering Research Institute, Nagpur	
7.	<b>Dr. Dharam Dutt</b> Professor IIT Roorkee (Saharanpur Campus)	
8.	<b>Shri S. D. Sharma, IFS</b> Deputy Director General (Research) Indian Council of Forestry Research and Education, Dehradun	
9.	<b>Shri Rohit Pandit</b> Secretary General Indian Paper Manufacturers Association (IPMA), New Delhi	
10.	<b>Shri R. Vijay Kumar</b> Secretary General Indian Newsprint Manufacturers Association (INMA), New Delhi	

11.	<b>Shri Pramod Agarwal</b> President Indian Agro and Recycled Paper Mills Association (IARPMA) and CMD- Rama Paper Mills Limited
12.	<b>Dr. R. C. Rastogi</b> President Indian Recycled Paper Mills Association (IRPMA) and CMD- Khatema Fibres Limited
13.	<b>Shri Sanjay K. Singh</b> President Indian Pulp and Paper Technical Association (IPPTA)
14.	<b>Shri Devesh Khaitan</b> Additional Director Wires & Fabriks (S.A.) Limited, Kolkata
15.	<b>Dr. B. P. Thapliyal</b> <b>MEMBER SECRETARY</b> Director Central Pulp & Paper Research Institute



## Research Advisory Committee (RAC)

The Research Advisory Committee (RAC) of Central Pulp & Paper Research Institute (CPPRI) comprises of prominent scientists and technologists and also representatives from **Department for Promotion of Industry and Internal Trade, 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 projects carried out by the institute under Project Based Support of DPIIT (Formerly Five-Year plan Projects). **Shri Anil Agrawal, IPS, Joint Secretary, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India** is the Chairman of RAC at present.

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

**MEMBERS OF RESEARCH ADVISORY COMMITTEE OF CPPRI**

1.	<p><b>Dr. Vandana Kumar, IDAS</b> (Upto November 2018) <span style="float: right;"><b>CHAIRPERSON</b></span>  <b>Shri Anil Agrawal, IPS</b> (From November 2018 Onwards)          Joint Secretary          Department for Promotion of Industry and Internal Trade (DPIIT)          Ministry of Commerce and Industry, Government of India</p>
2.	<p><b>Ms. Sunita Yadav</b>          Director          IF Wing –IPP          Department for Promotion of Industry and Internal Trade (DPIIT)          Ministry of Commerce and Industry, Government of India</p>
3.	<p><b>Shri A. P. Singh</b> (Upto October 2018)  <b>Dr. S. S. Gupta</b> (From October 2018 Onwards)          Senior Development Officer          Department for Promotion of Industry and Internal Trade (DPIIT)          Ministry of Commerce and Industry, Government of India</p>
4.	<p><b>Shri S. K. Jain</b>          Chairman-cum-Managing Director          Hindustan Paper Corporation Limited</p>
5.	<p><b>Professor Y. S. Negi</b>          Faculty Incharge          IIT - Roorkee (Saharanpur Campus)</p>
6.	<p><b>Shri P. S. Patwari</b>          President          Indian Newsprint Manufacturers Association (INMA)          and Executive Director - Emami Paper Mills Limited</p>
7.	<p><b>Dr. R. C. Rastogi</b>          President          Indian Recycled Paper Mills Association (IRPMA)          and CMD- Khatema Fibers Limited</p>
8.	<p><b>Dr. N. V. Satyanarayana</b>          Chief Scientist and Head,          Business Development          Indian Institute of Chemical Technology</p>



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



## STAFF

As on April 1, 2018, CPPRI's core team includes **Scientists (16), Technical Staff (21) and Administrative & Finance Staff (13)**. CPPRI staff is delicately 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 papermaking such as **Raw Material Preparation, Pulping and Bleaching, Stock Preparation and Papermaking, 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 2018-19

The major achievements of CPPRI during 2018-19 are summarised as under:

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

- Developed a *GIGW (Guidelines for Indian Government Websites)* compliant website.

### Utilization of Cellulosic Biomass

- CPPRI did extensive work for production of high yield CTMP pulp for utilization of waste biomass i.e. rice straw, cotton waste, banana stem, water hyacinth, EFB Fibre and maize plant waste for production of table wares, cup stocks and low-grade packaging products.
- Following startups were supported in development of process technology: -
  - Kriya Lab Private Limited (Incubation centre, IIT Delhi)
  - Fuma Laboratory (Incubation centre NCL, Pune)
  - Greenvale Ecoproducts Private Limited, Kolhapur
  - Inqube Innoventures, Kolkata
  - Kothari Distributors, Hyderabad

### Paper Recycling

- Technological know-how provided to the Fast-Moving Consumer Goods Companies (FMCG) - Hindustan Unilever Limited, Tetra Pak, ITC Limited etc. on repulpability and papermaking potential of used packaging material.

### Environmental Management

- Successfully monitored and prepared report on the technological and environmental status of 39 grossly polluting industries of Uttar Pradesh & Uttarakhand (including paper mills, slaughter houses, fertilizer units) located in River Ganga Basin under a project on Monitoring of Grossly Polluting Industries, sponsored by Central Pollution Control Board (CPCB).

### Biotechnological Intervention

- Enzymatic pre-bleaching of bagasse pulp using laccase enzyme was successfully demonstrated on laboratory scale. 20% reduction in chlorine consumption was achieved for target brightness. In addition improvement of burst and tensile index by over 90% and 60 % respectively was achieved.

- Successfully demonstrated the suitability of mixed enzyme for preservation of long fibre fraction and reduction of fines generation for refining of bagasse pulp. Preservation in long fibre fraction was observed in the range of 70-80%. Generation of fines also reduced by 10% in mixed enzyme treated pulp.

### Chemical Recovery

- Developed a process for efficient depithing of bagasse with residual pith content less than 7% as against 17-18% obtained in conventional method.
- Developed lignosulfonate, a valuable by product from paper mill waste. This will assist in utilization of agro waste in papermaking even in small & medium mills.
- Studies on desilication and liquor heat treatment of agro based liquor have indicated that 5-7% more green energy can be produced by these methods in an agro based pulp mill.
- Developed process for utilization of banana fibre in currency paper.

### Training / Skill Development

- Technical Meet on **National Motor Replacement Programme** jointly organized by EESL, CPPRI and EHS<sup>+</sup> Center on August 24, 2018 at India International Centre, New Delhi.
- Technical meet under GEF-UNIDO-EESL programme on **Promoting Market Transformation for Energy Efficiency in MSME's** jointly organized by EESL, UNIDO, Deloitte and CPPRI on September 12, 2018 at Muzaffarnagar (UP).
- Technical meet on **National Motor Replacement Programme** jointly organized by CPPRI, EESL & Institute of Sustainable Communities on September 24, 2018 at Kashipur, Uttarakhand.
- Training programme on **Advancement in Pulping & Bleaching Technology including Biotechnological Application** at CPPRI from December 6-7, 2018.
- Training programme on **Management of Air Pollution in Pulp & Paper Industry** organised by CPPRI at National Council for Cement & Building Materials, Ballabgarh, Faridabad, Haryana on February 7, 2019.
- Six Students of M.Sc Biotechnology from Amity University, Noida, Gautam Budh University, Noida and Gurunanak Khalsa College, Yamunanagar completed project dissertation work in the area of biotechnological applications in Paper Industry.



### Statistical Cell

- The CPPRI Statistical Cell provided regular inputs to Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry on policy issues related to paper sector. Major inputs were provided for Indo-Asean Comprehensive Economic Partnership, The Regional Comprehensive Economic Partnership (RCEP) Negotiation, Indo-Korean regional cooperation, India - Australia Free Trade Agreement (FTA) and India-Israel FTA etc.

### Technical and Consultancy Services

- Technical and consultancy services were rendered to various pulp and paper mills and allied industries, technology and chemical suppliers by way of evaluation of raw materials, pulp and paper samples, pulping additives, deinking chemicals, sizing chemicals, stickies control agents, evaluation of suitability of newer grades of imported waste paper, characterization and analysis of various fibrous and non-fibrous raw materials, environmental samples as well as providing assistance in trouble shooting, adequacy assessment, performance evaluation of various process operations, effluent treatment plant and pollution control equipments leading to internal revenue generation of around ₹ 276.83 Laacs.

### Contract Agreement / MoU Signed

- MoU signed with **Yash Papers Limited, Faizabad** for undertaking joint collaborative work on enzymatic Prebleaching and Enzymatic Refining of bagasse pulp.
- MoU signed with **China National Pulp & Paper Research Institute** for collaborative research work in areas of pulping and papermaking.
- MoU signed with **ENMAS Limited, Chennai** for collaborative R&D activities in the area of Chemical Recovery.
- MoU signed with **RICO Limited, Gurugram** for development of anti-friction resistant paper for two wheeler clutches.
- MoU signed with **Kriya Labs, IIT, Delhi** for collaborative R&D work in the area of mechanical pulping of rice straw and optimization of process variables.
- MoU signed with **Fuma Labs Private Limited, Pune** for joint co-operation in the area of product development from non-conventional raw materials.

### Research Papers Published

- 10 research papers were published in various journals during 2018-19.

## Reports Prepared

- 100 Technical / Consultancy reports were prepared during 2018-19.

## Infrastructure Development / Capacity Building

- Upgradation of infrastructure and facilities through purchase of PFI Mill, Automated Sheet Former, Microfluidizer, CHNS Analyzer, UV- Vis spectrophotometer, Visible spectrophotometer, Conductivity Meter, Distillation Unit, DO Meter, PM 10/2.5 PM Sampler, Bomb calorimeter, Centrifuge, Flame Photometer, Rheometer, COD Digester, BOD Incubator, Stack Sampler, Tensile Tester etc.



PFI Mill



Automated Sheet Former



Microfluidizer



CHNS Analyzer



UV-Visible Spectrophotometer



Visible Spectrophotometer



Conductivity Meter



Distillation Unit



DO Meter



PM 10/PM 2.5 Sampler



Digital Bomb Chalorimeter



Flame Photo Meter



Rheometer



COD Digester



BOD Incubator



Stack Sampler



Tensile Tester

### INCOME & EXPENDITURE :

During the year 2018-19, total receipts of the Institute were ₹ 2492.59 Lacs and total expenditure was ₹ 1517.19 Lacs (i.e. Revenue Expenditure ₹ 1355.74 Lacs + Capital Expenditure ₹ 161.45 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 1.4.2018	863.86	<b>A.</b>	<b>REVENUE EXPENDITURE</b>	
2.a.	Grants from Ministry of Commerce & Industry, DPIIT, Govt. of India.	89.24	1.	Grant refund to Ministry	1.36
			2.	Salary & Allowances	922.37
b.	Base level support through Development Council for pulp, paper & allied industries.	920.00	3.	Plant & Lab Maintenance	57.65
c.	Grants received from Development Council for pulp, paper & allied industries for Cess funded projects/Core Secretariat	295.73			
d.	Grants received from IPMA against DCPPIAI	2.50			
3.	Testing fees	131.60	4.	Electricity charges	72.99
4.	Consultancy fees / Membership fee	76.94	5.	Repair of Assets	151.69
			6.	Miscellaneous	131.43
			7.	Grant in AID to Participating agency	18.25
			<b>B</b>	<b>CAPITAL EXPENDITURE</b>	161.45
5.	Training fees/M.Sc. fees	7.82	<b>C</b>	<b>BALANCE WITH CPPRI</b>	975.40
6.	Miscellaneous receipts	60.47			
7.	Sale of Assets	44.43			
	<b>TOTAL</b>	<b>2492.59</b>		<b>TOTAL</b>	<b>2492.59</b>

### 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 ₹ 276.83 Lacs during the financial year 2018-19.

## SWACHH BHARAT MISSION ACTIVITIES – CPPRI INITIATIVES



Swachh Bharat Abhiyan or Swachh Bharat Mission (SBM) is a nation wide campaign in India that aims to clean up the streets, roads and infrastructure of Indian cities, town and rural area. The campaign was officially launched on **October 2, 2014** at **Rajghat, New Delhi** by **Honourable Prime Minister Shri Narendra Modi Ji**.

As per government directions Central Pulp & Paper Research Institute, Saharanpur also observed **Swachhta Pakhwada** from **November 1-15, 2018**. Following activities were carried out during the Swachhta Pakhwada:

### Organization of Seminar on Swachh Bharat Abhiyan (SSA) Initiatives

CPPRI organized a seminar on **Swachh Bharat Abhiyan**. The seminar was addressed by **Smt. Rita Tandon, Sr. Scientist, CPPRI, Honourable Mayor of Saharanpur Shri Sanjeev Walia and MLA of Rampur Maniharan Shri Devendra Nim**. The seminar was attended by scientific, technical and administrative staff of CPPRI. **Dr. Shivaker Mishra, Nodal Officer SBA, CPPRI** delivered a lecture on CPPRI initiatives towards Swachh Bharat Abhiyan. The swachhagrahis (Housekeepers and Gardeners of CPPRI) were felicitated by honourable Mayor and MLA for their commendable contribution towards achieving goals of Swachh Bharat Abhiyan. After the seminar, **Shri Sanjeev Walia, Shri Devendra Nim and CPPRI Scientists** took part in plantation programme.



*Glimpses of Swachh Bharat Abhiyan Awareness Programme*

### **Organization of Poster and Essay Competitions for CPPRI Staff and their Wards**

CPPRI organised a Poster Presentation and Essay Competition among staff members and their children on the theme “स्वच्छता ही सेवा”



*Glimpses of poster competition*

### **Organization of a Training Session for School Children to make Handmade Paper from Waste Paper for Various Uses**

A training session was organized for school children to make them aware about efficient use of paper and reuse of waste paper by preparing handmade paper from wastepaper. 40 students from City High School, Indira Colony, Saharanpur attended the programme. A lecture was delivered by Dr. Shivaker Mishra, Nodal Officer, Swachh Bharat Abhiyan, CPPRI.



*Glimpses of Training session*





### **Promotion of Tree Plantation and Cleanliness drive in CPPRI Campus**

A dedicated horticulture division has been already set up by the institute to maintain the landscape, lawn and plants in institute and residential colony premises. Cleanliness drive in the Institute campus and residential colony is carried out on regular basis by the horticulture division.

## R&D ACTIVITIES

### (A) Schemes Carried out under Project Based Support (PBS)

#### (a) Raw Material and Product Development

##### I. Bleaching Process Intensification through Short Bleaching Sequences using ECF/TCF Bleaching Technologies for Pulp Produced from Indigenous Raw Materials

###### Objective

- Evaluation of short bleaching sequences for bleaching of indigenous raw material chemical pulp to achieve desired brightness.
- Reduction in bleaching chemicals demand, bleach plant effluent load and overall bleaching cost.

###### Highlights

- Experiments were conducted to produce unbleached pulp of bagasse and wheat straw in laboratory to achieve unbleached pulp kappa number around 11-12. Both unbleached pulps were characterized for kappa number, brightness and pulp viscosity.
- Acid pre-treatment of unbleached pulp sample was carried out under optimized conditions and characterized for kappa number, brightness, viscosity and metal ions Ca, K, Fe and Mn.
- Studies initiated on intensification of oxygen pretreatment stage through pressurized peroxide treatment using 1, 2 and 3% hydrogen peroxide as a carbohydrate stabilizer to enhance brightness and pulp viscosity to achieve the brightness~65-75 % ISO.
- Unbleached and ODL agro mill pulps were collected from agro based paper mills and processed similarly in order to achieve the brightness~65-75 % ISO after intensification of acid followed by oxygen peroxide (OP) stage. Further work is under progress.



## (b) Energy Conservation and Environmental Management

### I. Implementation of Enzyme Application in Pulp and Paper Industry

#### Objective

- Development, implementation and promotion of biotechnological and enzymatic application for bioethanol production, energy conservation and pollution reduction.

#### Highlights

- **Bioremediation of paper mill effluents** – In view of the previously isolated 138 bacterial strains not resulting in desired reduction in various pollution parameters, 6 bacterial strain known to have potential for bioremediation of effluents were procured from MTCC, Chandigarh. Studies on optimization of process variables like inoculum dose, temperature, pH, aeration rate and retention time to enhance the pollution reduction efficiency were carried out. The studies revealed that even under optimized conditions, reduction in BOD, COD, colour was limited between 40–45 %. Growth kinetic studies are under progress to identify the log phase of the bacterial strains for improving the efficiency of bioremediation.
- **Bio-ethanol production from lignocellulosic biomass**- Studies on optimization of acid pre-treatment and enzymatic Saccharification condition for bioethanol production from rice straw using separate hydrolysis and fermentation processes were completed. Optimized condition of acid hydrolysis was obtained at 0.2 % acid dosage, 140°C and 90 minutes. While for saccharification process, treatment conditions were optimized at 3 % enzyme dosage for treatment time of 24 hours. Fermentation studies using yeast and two isolated fermentative strains for production of ethanol are in progress.

### II. 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

- Studies carried out on application of membrane filtration for treatment of effluent from wood based mill have indicated significant reduction in pollution parameters viz COD (20 to 50%), BOD (10 to 20 %), Color (50 to 90%) TDS (30 to 50%) which can facilitate reuse and recycle of treated effluent in pulp and paper mills and ultimately reducing the fresh water consumption by 20 to 30 %.
- Preliminary studies carried out on application of ozone treatment of effluent (Primary Clarifier Overflow and Biologically Treated Effluent) generated from agro based mill producing writing and printing paper has indicated reduction in COD (30 to 35 %), BOD (30 to 32%), Color (60 to 70%), TDS (30 to 35%) and lignin (40 to 45%).
- ETP adequacy assessment of 25 Pulp and Paper mills (including wood, agro and RCF based) were carried out. Detailed reports with recommendations and suggestions for improving the performance of ETP, achieving environmental compliance, reuse/ recycling of treated effluent were submitted to the respective mills.



**Lab scale Ozone Reactor**

## (c) Infrastructure Development and Capacity Building Activities

### I. Strengthening of CPPRI Library to Provide Quality Services to Indian Paper Industry

#### Objective

- To strengthen the CPPRI library infrastructure and collection so that good quality services can be delivered to Indian Paper Industry by adoption of modern tools and techniques.

## Highlights

- CPPRI library procured 37 e-books from Elsevier covering various areas related to pulp and paper. These books are accessible on Sciencedirect Platform within CPPRI premises only.



**Screenshot of e-books**

- Procurement of 27 Hindi books to promote Rajbhasha Hindi.
- 198 standards (BIS and ISO) and 13 books procured, accessioned and physical processing of the same has also been done.
- Renewal of 7 subscribed journals (Print and Online) for the year 2019 has been done.
- ACS Omega and Google scholar alert has been setup related to pulp & paper and the same is being forwarded to CPPRI scientists on regular basis for perusal.

## Printing coordination

- CPPRI library is also publishing the brochures and distribution material for organizing various workshops and training programmes.
- English & Hindi Version of Annual report 2017-2018 was compiled and published.

## **(B) RSC- DCPPIA Funded Projects**

### **I. Demonstration of Ozone Treatment Technology of Indigenous Raw Material Pulp at Pilot Plant Scale (CPPRI)**

#### **Objective**

- Fabrication of pilot scale ozone reactor for ozone treatment of Indigenous raw materials pulp mainly agro-based raw materials used by small and medium sized pulp and paper Mill.

#### **Highlights**

- Detailed literature survey on ozone reactor design for pilot scale was carried out and based on available design for pilot scale reactor of 2-5 kg capacity a layout of design for the fabrication was selected.
- Conceptualization of design parameters for pilot ozone reactor in consultation with various fabricators was carried out.
- A detailed exercise was also carried out on identification of suitable design and fabrication expert, who are well acquainted with simulation skill with various parameters pertaining to ozone reaction with pulp.
- Tender document for e-tendering of fabrication of pilot scale ozone reactor was prepared and is in process of publication to call bids from expert fabricator.
- Studies related to simulation work of ozone treatment are in progress to make fabrication of ozone reactor more precise.

### **II. Screening of Parents for Clonal Forestry and Hybridization for Higher Productivity in Eucalyptus (Joint Project of CPPRI-FRI-SPM-IPMA)**

#### **Objective**

- To screen and select promising provenances, families and genotypes from already established trials.
- To register selected clones/ genotypes as well as release of promising ones for commercial cultivation.



### Highlights

- Selection of 21 Nos. of promising genotypes plant from already established provenance trials using appropriate selection method was completed.
- Total 21 Nos. of samples of hard wood from the FRI and Star Paper Mill Limited, Nursery were collected for proximate chemical analysis, pulping and fibre morphology.

### III. Research on Wood Quality and Physical Properties of Pulp Wood Fiber as the basis for Development on Eucalyptus and Subabul Plantation (Joint Project of CPPRI-PAPRI-IPMA)

#### Objective

- Selection of right clones and harvesting age of identified species of eucalyptus and subabul and further characterization of wood & fibre quality of 25 promising eucalyptus and 2 subabul clones through detailed proximate analysis and chemical requirement in pulping process.

### Highlights

- In the third phase of the project, total 21 nos. of eucalyptus and subabul wood samples have been received from Pulp and Paper Research Institute (PAPRI) Rayagada, Odisha for determination of the physical and chemical properties like basic density, holocellulose, lignin content, ash content, Alcohol benzene solubility, N/10 NaOH solubility and cold & hot water solubility.
- Analysis completed and the results were shared with PAPRI.

### IV. Capacity Building and Upgradation of Infrastructure for Inter Laboratory Comparison / Calibration of Paper Testing Facilities

#### 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

- Reference samples prepared under controlled process condition at paper machine were tested for variability/reproducibility and uniform samples were sent to quality control laboratories of different paper mills.
- The reference samples tested for different test parameters by the mills were compared for any deviation from CPPRI's results tested on same reference samples.
- Based on the repeated deviation the mills have taken corrective action to calibrate their equipments.

### V. Study on Preparation of Cellulose Micro/ Nano Fibrils and Their Potential in Papermaking (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 microfluidizer.
- Characterization of prepared cellulose micro/nanofibrils.
- Evaluation of their potential for various applications in papermaking such as increased filler content, improvement in strength, refining energy reduction, improved paper quality etc.

### Highlights

- In order to prepare nano/micro fibrillated cellulose in laboratory using laboratory microfluidizer (equipment used for preparation of M/NFC), different pre-treatments were carried out on hardwood pulp.
- Both chemical and mechanical pre- treatment options were tried.
- In chemical pre-treatment method, hardwood pulp was hydrolyzed using concentrated sulphuric acid (acid hydrolysis) and then passed through microfluidizer. This gives the major generation of micro crystalline cellulose as compared to micro fibrillated cellulose.
- In mechanical pre-treatment method, the raw material i.e. hardwood was initially mechanically treated before going for conventional pulping and bleaching. The bleached pulp so prepared was passed through





microfluidizer for producing micro fibrillated cellulose.

- Out of two pre-treatment methods, the mechanical pre-treatment method has been preferred as it gives major portion of micro fibrillated cellulose.
- The MFC so prepared were characterized using SEM, XRD and TEM techniques and were checked for their effectiveness on various properties of indigenous pulps.

## **VI. Creation of Facilities for Testing of Food Packaging Paper and Board and Development of Protocol for Microbial Property (CPPRI)**

### **Objective**

- The objective of the project is creation of dedicated testing facility for food packaging paper and board as per prevailing norms and development of protocol for determining microbial purity of paper and board intended for food packaging application.

### **Highlights**

- Activities were initiated for identification of various suppliers for procurement of equipments for evaluation of chemical contaminants specified by Food Safety and Standards (Packaging) Regulations, 2018.
- Feedbacks were also obtained from FSSAI, New Delhi and Indian Institute of Packaging, New Delhi in order to understand the requirements of testing of food packaging papers and collection of food packaging paper samples.
- With the objective to identify suitable testing protocol for evaluation of microbial properties of paper and board samples, four methods for the enumeration of micro-organisms like Smearing Method- By cotton Swab, Flooding Method, Defiberizing Method and MPN Test were evaluated.
- Results indicated that Smearing Method – By cotton swab and flooding method were more suitable to measure surface contamination, Defiberizing method are representative of total microbial contamination.
- Most Probable Number (MPN) test that was negative in analysed samples, also indicated unsuitability of this test for evaluation of paper samples.

- Work for creation of testing facility for heavy metals, PCP & PCB is under progress.

## **VII. 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, papermaking chemistry, white water clarity etc. on paper machine deposition.

### **Highlights**

- CPPRI developed the protocol/ methodology for measurement of Dissolved Colloidal Matters (DCM) to control deposition on paper machine based on TOC and validated the findings with Emami Paper Mills, Balasore (for Stickies Deposition) and Century Pulp & Paper, Lalkua (for Pitch Deposition).
- The findings of EMMA Potential, determined for these mills were correlated with stickies quantification, Turbidity and charge demand measurements. The protocol of EMMA Potential measurement based on TOC is fast (5 minutes) compared to stickies quantification with conventional method of DCM extraction (6 hrs).
- Two case studies were conducted and studies have revealed that measurement of charge demand along with EMMA potential is an effective tool for quick assessment of runnability issues due to deposit formation.
- The developed protocol will help the mills to control the web breaks, machine downtime, thus improving the productivity by controlling the EMMA potential at Head Box.
- The protocol will be implemented in trouble shooting programs of interested mills for deposit control through appropriate wet end chemistry and deposit control programme.



## **VIII. Development of Protocol for Evaluating the Feasibility of Zero Liquid Discharge in RCF based Pulp & Paper Mills**

### **Objective**

- To develop methodology for facilitating validation of ZLD status of RCF based paper mills.

### **Highlights**

- The RCF based Kraft & Newsprint Paper Mill were Identified and selected for project studies. Preliminary visit to a kraft paper mill for study of process, data collection and identification of sources for sample collection, raw material & end product collection was carried out.
- Periodical visits were undertaken to the selected waste paper based kraft paper mill for collection of back water sample from various operations to study the buildup of pollution load in back water.
- Lab scale studies carried out on pulping of raw material collected from selected mills simulating mill conditions with an objective to study the generation and build up of pollution load like TDS, COD & BOD.
- Studies are under progress.

## **IX. Census Survey of the Indian Paper Industry**

### **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 utilization and product mix (wherever feasible). Consumption patterns 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 (Govt. bodies, Institutes, Academia & Paper Industry) and executing a think tank function for various trade negotiations for paper & paperboard items.

### **Highlights**

- Under this project data of operating mills, production, installed capacity, import, export, new inceptions, the status of technology updation, different projections etc. were continuously updated.

- A Sectoral Report of Indian Paper Industry was presented before Research Steering Committee (RSC-DCPPAI) held in the month of July 2018.
- Presently, studies are being carried out to put in place forecast model for key parameters using various projection methods.

#### **X. 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**

- Developed a process for efficient depithing of bagasse with residual pith content less than 7%. As against 17-18% in conventional method.
- Reduced water consumption in depithing of bagasse.
- The project studies have been successfully completed.

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

##### **Objective**

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

##### **Highlights**

Following training programme were organized under the project:

- Training Programme on **Advancement in Pulping & Bleaching Technology including Biotechnological Application** was organized at CPPRI from December 6-7, 2018.



- Training Programme on **Management of Air Pollution in Pulp & Paper Industry** was organized at National Council for Cement & Building Materials, Ballabgarh, Faridabad, Haryana on February 7, 2019.
- The programme was well attended by officials from various pulp and paper mills and academia. The faculty included Senior Consultants, Professors from IIT Delhi, Technology Suppliers and Senior Scientists from CPPRI.

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

### **Objective**

- To explore the utilization of lignin obtained as a by-product 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**

- Developed Lignosulfonate a valuable by product from paper mill waste.
- This will assist in utilization of agro waste in papermaking even in small & medium mill.
- The project studies have been successfully completed.

## **XIII. A Synergistic and Economical Approach for Treatment of Pulp and Paper Mill Effluent System using Microbes and Fly Ash Nano Particles to Achieve Minimum/ Zero Waste Discharge (Joint project of CPPRI and Amity University)**

### **Objective**

- Development of a novel eco-friendly technology at bench scale for removal of colour from paper mill effluent using bacteria along with fly ash nanoparticle with zero/ minimum waste discharge.

## Highlights

- Literature survey and characterization of effluent samples collected from paper mill have been completed.
- Further studies are under progress.

## (C) Other Projects

### I. Monitoring of Grossly Polluting Industries (CPCB Sponsored 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 39 GPIs located in Uttar Pradesh & Uttarakhand. The GPIs included pulp and paper, fertilizer, chemical and slaughter houses. CPPRI 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.

### II. Use of Whole Jute Plant in Paper Pulp (Sponsored by Jute Commissioner, Ministry of Textiles, Government of India, Kolkata)

- Freshly harvested whole jute (around 1.5 tonne) as a raw material was procured and transported from West Bengal with help of Jute Corporation, Kolkata to CPPRI, Saharanpur in September 3, 2018 to initiate the project activities.
- Studies on proximate chemical analysis of whole jute and kraft pulping of whole jute were carried out under standard conditions to obtain unbleached kappa number ~18-20. Unbleached whole jute pulp was bleached using DEpD sequence to get 80 (% ISO) brightness.
- The unbleached pulp of whole jute was blended in different proportion i.e (20:80) and (40:60) with bamboo and eucalyptus unbleached pulps. The blended pulps were also bleached using DEpD sequence to get brightness 80% ISO.
- Unbleached whole jute pulp and blended pulps were characterized for kappa number, brightness and pulp viscosity.



- 60 gsm handsheets of unbeaten and beaten unbleached, bleached whole jute and blended bleached pulps were tested for physical strength properties.
- First draft project report was compiled and submitted to Jute Commissioner, Ministry of Textiles, Government of India, Kolkata.

### **III. 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 achieve techno - economic viability of straw based black liquor to improve the chemical recovery system efficiency by desilication and liquor heat treatment.

#### **Highlights**

- Pilot scale studies on desilication and liquor heat treatment of black liquor were conducted at mill site.
- Characterisation of black liquor before and after desilication and liquor heat treatment were conducted at CPPRI.
- The studies have shown that 5-7% additional green energy can be produced in an agro based pulp mill by adopting desilication and liquor heat treatment besides addressing the technical problems in handling of black liquor.

### **IV. Exploration of Banana Fibre for Making of Currency/Security Paper (Sponsored by SPM Hoshangabad)**

#### **Objective**

- To extract fibre from banana stem and study its utilization for making currency and security paper.

#### **Highlights**

- Pulping, refining and bleaching process were carried out to produce ample quantity of pulp for evaluation of its relevant physical, optical and blending properties at mill site in Security Paper Mill, Hoshangabad.
- Utilization of banana fibre in currency paper will help in improving production of currency paper and also dependence on cotton fibre.

## PROJECTS SPONSORED BY PULP, PAPER AND ALLIED INDUSTRIES



### **Raw Material Preparation, Evaluation, Pulping and Bleaching**

#### **Improvement in Bleached Pulp Yield Followed by Pulping and Bleaching of Hardwood**

- Grasim Industries Limited, Unit-Harihar Polyfibers, Karnataka.

#### **Proximate Chemical Analysis, Density and Production of BCTMP, Bleached Pulp from Hardwood Chips**

- ITC Limited-PSPD Bhadrachalam, Andhra Pradesh.

#### **Kraft Pulping of Eucalyptus Chips in Circulatory Research Digester**

- ITC -LSTC, Peenya Industrial Area, Bengaluru, Karnataka.

#### **Utilization of Cotton Waste for Production of Pulp for Tableware**

- Green Eco Products Private Limited, Kolhapur, Maharashtra.

#### **Solvent Pulping of Mustard Plant for Production of Semi Chemical Pulp**

- BIREC Social Innovator Venture Centre NCL Pune, Maharashtra.

#### **Conventional and ECF Bleaching of Agro Residue Pulp**

- Mohit Paper Mill Limited, Bijnor, Uttar Pradesh.

#### **Mechanical Pulping Trial of Eucalyptus Chips**

- ITC Life Science & Technology Center, Bengaluru, Karnataka.

#### **Evaluation of Bagasse (Kolbu Waste) for Pulping, Bleaching and Papermaking**

- Chem Projects, New Delhi.

#### **Chemi Thermo Mechanical Pulping (CTMP) of Rice Straw**

- Kriya Labs, IIT Delhi.

#### **Pulping and Bleaching of Havea Brasiline (Rubber Wood) for Pulp and Paper Production**

- Lib Wood Energ, Hyderabad, Telangana.





### **Production of BCTMP Pulp from Eucalyptus Chips**

- ITC Limited, PSPD Bhadrachalam, Telangana.

### **Utilization of Cotton Linters for Production of Pulp**

- Atul Limited, Mumbai, Maharashtra.

### **Mechanical Pulping of Rice Straw**

- KSP Fiber Limited, Taran Taran, Punjab.

### **Evaluation of Bamboo Chips for Pulp and Papermaking**

- Hindustan Paper Corporation, Cachar, Assam.

### **Production of 1kg Unbleached Whole Jute Pulps**

- ABB India Limited, Vadodara, Gujarat.

### **Pulp/ Chemical Evaluation, Waste Paper Recycling and Papermaking**

#### **Evaluation of Pulp for various Fibre, Physical and Strength Properties**

- Adhya Enterprises, Dehradun, Uttarakhand.
- Ashirbad Enterprises, Burdwan, West Bengal.
- Brown Overseas Private Limited, J.B. Nagar, Mumbai, Maharashtra.
- Center for Biomedical Engineering, IIT Delhi, Hauz Khas, New Delhi.
- Century Pulp & Paper, Lalkua, Uttarakhand.
- Dev Priya Products Private Limited, Meerut, Uttar Pradesh.
- Everest Industries Limited, Bhagwanpur, Uttarakhand.
- ITC Limited- PSPD (Kovai), Coimbatore, Tamil Nadu.
- ITC Limited, PSPD, Bhadrachalam, Telanagana.
- JK Paper Limited, Unit:CPM, Gujarat.
- Maa Sharda Hath Kagaj, Jalaun, Uttar Pradesh.
- Nuvoca Vistas Corp. Limited, Kolkata, West Bengal.
- Orion Paper, Thane, Maharashtra.

- Paper Fiber Impex, Malviya Nagar, New Delhi.
- Saharanpur Testing Instruments Private Limited, Saharanpur, Uttar Pradesh.
- Shastri Handmade Paper Industries, Alampur, Jalaun, Uttar Pradesh.
- Shree Ajit Pulp and Paper Limited, Valsad, Gujarat.
- Somra Board, P. S. Balagarh, Hooghly, West Bengal.
- Sun Shine Hand Made Paper Industries, Jalaun, Uttar Pradesh.
- Swastik Hath Kagajam, Jalaun, Uttar Pradesh.
- Universal Engineer Corporation, Saharanpur, Uttar Pradesh.
- Urvashi Pulp & Paper Mills, Ankleshvar, Gujarat.
- Visaka Industries Limited, R.C. Puram Mandal, Patancheru, Telangana.
- V. L. S. Fibre, Sriram Nagar, Chennai, Tamil Nadu.

#### **Technical Know- How on Repulpability and Papermaking Potential of Packaging Material used by Fast Moving Consumer Goods Companies (FMCG) and Packaging Industries**

- Deluxe Recycling India Private Limited, Mumbai, Maharashtra.
- Dow Corning India Private Limited, West Mumbai, Maharashtra.
- Hindustan Unilever Limited Research Centre, Mumbai, Maharashtra.
- Hindustan Unilever Limited Research Centre, Bangalore, Karnataka.
- Intek Tapes Private Limited, Bangalore, Karnataka.
- ITC Limited PSPD (Kovai), Coimbatore, Tamil Nadu.
- Paper Fiber Impex, Malviya Nagar, New Delhi.
- Unilever Industries Limited Research Centre, Mumbai, Maharashtra.

#### **Evaluation of Noodle Soap (Deinking Chemical)**

- L. M. Industries, Balasore, Odisha.

### **Environmental Management**

#### **ETPAdequacy Assessment (Paper Units)**

- Anand Duplex Limited, Unit- I, Meerut, Uttar Pradesh.
- Prolific Papers (P) Limited, Kashipur, Uttarakhand.
- Deoria Paper Mills Limited, Deoria, Uttar Pradesh.
- Hindustan Newsprint Limited, Kottayam, Kerala.



- Katyayini Paper Mills Private Limited, Kashipur, Uttarakhand.
- Komal Paper Mills (Unit-II), Kathua, Jammu & Kashmir.
- Shree Nageshwar Papers Limited, District. - Kanpur Dehat, Uttar Pradesh.
- Naini Papers Limited, Kashipur, Uttarakhand.
- Rajlakshmi Paper & Boards Private Limited, Bazpur, Uttarakhand.
- Suyash Paper Mills, Basti, Uttar Pradesh.
- T.K. Paper Mills, Kathua, Jammu & Kashmir.
- Shree Bhageshwari Papers Limited Unit - I, Muzaffarnagar, Uttar Pradesh.
- Uttranchal Pulp & Paper Mills (P) Limited, Roorkee, Haridwar, Uttarakhand.
- Vishal Papertech (India) Limited, Village- Mubarikpur, - Derabassi, Punjab.
- OTR Papers Private Limited, Sikandrabad, Uttar Pradesh.
- Kuantum Papers Limited, Sailakhurd Khurd, Punjab.
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh.
- Shuklambra Papers Private Limited, Rudrapur, Uttarakhand.

#### **ETP Adequacy Textile Units**

- Anupam Processor, Meerut, Uttar Pradesh.
- Rama Tex Process House Private Limited, Meerut, Uttar Pradesh.

#### **ETP Adequacy Dairy Units**

- Solitaire Foods Private Limited, Meerut, Uttar Pradesh.

#### **Performance Evaluation of Existing ETP**

- Rajkumar Textiles Mills, Meerut, Uttar Pradesh.
- Pashupati Textile Prints Private Limited, Meerut, Uttar Pradesh.
- Kamal Dyeing House, Meerut, Uttar Pradesh.

#### **Zero Liquid Discharge (ZLD) Feasibility Report**

- Shri Ganga Paper Mills Private Limited, Ghaziabad, Uttar Pradesh.
- Anandeshwar Industries Private Limited, Kanpur, Uttar Pradesh.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Dev Prayag Paper Mill Private Limited, Allahabad, Uttar Pradesh.

### **CPCB Charter Progress Verification**

- Orient Paper Mills Limited, Amlai, Madhya Pradesh.

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

- 39 Units – (Textile, Dyeing, Slaughter Houses etc. in Uttarakhand & Uttar Pradesh)

### **Hazardous Waste Audit Report**

- Century Pulp & Paper Lalkua, Uttarakhand.

### **Water Balance & Material Balance Studies**

- Shree Sidhali Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.

### **Chemical Recovery**

#### **Annual Contract of Training and Auditing of Chemical Recovery**

- Satia Industries Limited, Muktsar, Punjab.
- Century Pulp & Paper, Lalkua, Uttarakhand.
- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Karur District, Tamil Nadu.
- KR Pulp and Paper, Shahjahanpur, Uttar Pradesh.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Shreyans Industries Limited, Ahmedgarh, Sangrur, Punjab.

#### **Feasibility of Installation of Lime Kiln**

- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Karur District, Tamil Nadu.
- Ruchira Papers Limited, Kala Amb, Sirmaur, Himachal Pradesh.

#### **Chemical Recovery Audit**

- Kuantum Papers Limited, Saila Khurd, Hoshiarpur, Punjab.
- PT Riau Prima Energi Pangkalan Kerinci, Kab. Pelalawan, Pekanbaru, Riau, Indonesia

#### **Black Liquor Disilication Trial**

- Naini Papers Limited, Kashipur, Uttarakhand.



## TECHNICAL AND CONSULTANCY SERVICES

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

- A.K. Enterprises, Patna, Bihar.
- Aadhya Enterprises, Dehradun, Uttarakhand.
- Abhimaani Publication Limited, Bengaluru, Karnataka.
- Aggarwal Zarda Factory Private Limited, Saharanpur, Uttar Pradesh.
- Ajit Industries Private Limited, Sonapat, Haryana.
- Alok Printers, Agra, Uttar Pradesh.
- Amar Ujala Publication Limited, Noida, Uttar Pradesh.
- Anand Duplex Limited, Meerut, Uttar Pradesh.
- Anandeshwar Industries Private Limited, Kanpur Dehat, Uttar Pradesh.
- Andhra Pradesh Social Welfare Residential Educational Institutions Society, Guntur, Andhra Pradesh.
- Andhra Pradesh Tribal Welfare Residential Educational Institutions Society, Guntur, Andhra Pradesh.
- Ankit Overseas Papers, Jaipur, Rajasthan.
- Anupam Prakashan, Mathura, Uttar Pradesh.
- Anupam Processors, Meerut, Uttar Pradesh.
- Artifacts India, Sonapat, Haryana.
- Ashoka Kraft Paper Mills L.L.P., Kamrup, Assam.
- Atul Limited, Mumbai, Maharashtra.
- Axom Sarba Shiksha Abhiyan Mission, Guwahati, Assam.
- Banwari Paper Mills Limited, Kashipur, Uttarakhand.
- Bhagwat Printing Press, Mathura, Uttar Pradesh.
- Bihar Lok Prashasan Avam Gramin Vikas Sansthan, Patna, Bihar.
- Bihar Sarkar Adhikshak Ka Karyalaya, Gaya, Bihar.
- Bihar Sarkar Samekit Bal Vikas Sewaye (ICDS), Patna, Bihar.
- Bihar Sarkar Shram Sansadhan Vibhag, Patna, Bihar.
- Bihar Skill Development Mission, Patna, Bihar.
- Bihar State Power Transmission Company Limited, Patna, Bihar.
- Bihar State Text Book Publishing Corporation Limited, Patna, Bihar.
- Bihar Vidyalya Pariksha Samiti, Patna, Bihar.
- Bindiya Enterprises, Kheda, Gujarat.
- Biofrac Technologies Private Limited, Hisar, Haryana.
- Board of School Education Haryana, Bhiwani, Haryana.
- Box Corrugators and Offset Printers, Bhopal, Madhya Pradesh.
- Brown Overseas Private Limited, Mumbai, Maharashtra.
- Burda Druck India Private Limited, Greater Noida, Uttar Pradesh.

- Cachar Paper Mill, Hailakandi, Assam.
- Central Board of Secondary Education, Delhi.
- Central Pollution Control Board, Delhi.
- Centre for Biomedical Engineering, Delhi.
- Centre for Environmental, Anna University, Chennai, Tamilnadu.
- Century Pulp and Paper, Lalkua, Uttarakhand.
- Chamunda Papers Private Limited, Meerut, Uttar Pradesh.
- Chaudhary Charan Singh University, Meerut, Uttar Pradesh.
- Chaudhary Devi Lal University, Sirsa, Haryana.
- Chem Projects Consulting Private Limited, New Delhi.
- Datatek Software Solution Private Limited, Patna.
- DCRTPP, HPGCL, Yamuna Nagar, Haryana.
- Delhi Bureau of Text Books, New Delhi.
- Delhi Paper, Delhi.
- Deluxe Recycling India Private Limited, Mumbai, Maharashtra.
- Deoria Paper Mills Limited, Deoria, Uttar Pradesh.
- Dev Priya Papers Private Limited, Meerut, Uttar Pradesh.
- Dev Priya Products Private Limited, Meerut, Uttar Pradesh.
- Directorate of Government Printing and Stationery, Gandhinagar, Gujarat.
- Directorate General of Taxpayer Services, New Delhi.
- Disha Industries Private Limited, Muzaffarnagar, Uttar Pradesh.
- DSG Papers Private Limited, Patiala, Punjab.
- Employment News (Publications Division), New Delhi.
- Everest Industries Limited, Bhagwanpur, Uttarakhand.
- Fuma Labs Private Limited, Pune, Maharashtra.
- Gala Global Products Limited, Ahmedabad, Gujarat.
- Galaxy Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Good Luck Publishers Limited, Saharanpur, Uttar Pradesh.
- Gospel Press, Lucknow, Uttar Pradesh.
- Grasim Industries Limited, Kumarpatanam, Karnataka.
- Greenvale Eco Products Private Limited, Kolhapur, Maharashtra.
- Gujarat State Board of School Textbooks, Gandhinagar, Gujarat.
- Haryana School Shiksha Pariyojna Parishad, Punchkula, Haryana.
- Himachal Pradesh Board of School Education, Dharamshala, Himachal Pradesh.
- Hindon Filters (P) Limited, Saharanpur, Uttar Pradesh.
- Hindustan Newsprint Limited, Kottayam, Kerala.
- Hindustan Unilever Limited, Mumbai, Maharashtra.
- Hitech Print Systems Limited, Pedaaatapalli, Telangana.



- Holy Faith International (P) Limited, New Delhi.
- I. Gujral Punjab Technical University, Kapurthala, Punjab.
- Indian Institute of Packaging, Mumbai, Maharashtra.
- Indian Pulp and Paper Technical Association, Saharanpur, Uttar Pradesh.
- Indira Gandhi National Open University, New Delhi.
- InQube Innoventrures Private Limited, Kolkata.
- Intek Tapes Private Limited, Bengaluru, Karnataka.
- International Paper APPM Limited, East Godavari, Andhra Pradesh.
- ITC Limited - PSPD (KOVAD) Coimbatore, Tamil Nadu.
- ITC Limited, Bengaluru, Karnataka.
- ITC Limited, Chennai, Tamil Nadu.
- ITC Limited, PSPD, Bhadradi Kothagudem, Telangana.
- J C Stationary Company Limited, Vijayawada, Andhra Pradesh.
- J K Paper Limited, Tapi, Gujarat.
- J K Paper Limited, Rayagada, Odisha.
- Jai Narayan Vyas University, Jodhpur, Rajasthan.
- Jaipur Marketing, Jaipur, Rajasthan.
- Janki Newsprint Limited, Meerut, Uttar Pradesh.
- Orion Paper Tec., Thane, Mumbai, Maharashtra.
- Jharkhand Shiksha Pariyojna, Dhanbad, Jharkhand.
- J K Paper Limited, New Delhi.
- K R Pulp and Paper Limited, Shahjahanpur, Uttar Pradesh.
- K.C. Printing and Allied Works, Mathura, Uttar Pradesh.
- Kagaj Kendra, Kanpur, Uttar Pradesh.
- Kailash Printing Press, Bhopal, Madhya Pradesh.
- Kamal Dying House, Meerut, Uttar Pradesh.
- Karalaya Bihar Sanskrit Shiksha Board, Patna, Bihar.
- Karyalya Collector Evam Zila Nirvachan, Singrauli, Madhya Pradesh.
- Karyalya Collector Evam Nirvachan, Sihor, Gujarat.
- Karyalya Collector Evam Zila Nirvachan, Rajgarh, Chhattisgarh.
- Karyalya Gramin Vikas Abhikaran, Aurangabad, Maharashtra.
- Katyayini Paper Mills Private Limited, Kashipur, Uttarakhand.
- Kaushambi Paper Mills Private Limited, Amroha, Uttar Pradesh.
- Kazmi and Associates, Allahabad, Uttar Pradesh.
- Khanna Paper Mills Limited, Amritsar, Punjab.
- Komal Paper Mills, Kathua, Jammu and Kashmir.
- Krishnanchal Pulp and Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Kriya Labs Private Limited, New Delhi.

- KSP Fibre Products Private Limited, Tarn Taran, Punjab.
- Kuantam Paper Limited, Hoshiarpur, Punjab.
- Kumar Hand Made Paper Factory, Jalaun, Uttar Pradesh.
- L M Industries, Balasore, Odisha.
- LIB Wood Energy Incorporation, Yadadari, Telangana.
- Lignoil Technologies Private Limited, Mumbai, Maharashtra.
- Lucknow Paper Distributors, Lucknow, Uttar Pradesh.
- Lucknow Printers and Publishers, Lucknow, Uttar Pradesh.
- M.P. Text Book Corporation, Bhopal, Madhya Pradesh.
- Maa Sharda Hath Kagaj Gramudyog, Jalaun, Uttar Pradesh.
- Madhya Bharat Papers Limited, Champa, Chhattisgarh.
- Madhya Pradesh Bhoj (Mukt) Vishvavidhyalaya, Bhopal, Madhya Pradesh.
- Madhya Pradesh Shram Kalyan Mandal, Bhopal, Madhya Pradesh.
- Madhyamik Shiksha Board Rajasthan, Ajmer, Rajasthan.
- Madhyamik Shiksha Mandal, Madhya Pradesh, Bhopal, Madhya Pradesh.
- Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal, Madhya Pradesh.
- Marubeni India Private Limited, New Delhi.
- Minipore Micro Products, Ghaziabad, Uttar Pradesh.
- Mittal Publishing House, Mathura, Uttar Pradesh.
- Mohit Paper Mills Limited, Bijnor, Uttar Pradesh.
- Mudran Mahal, Printers and Publisher, Agra, Uttar Pradesh.
- Mudran Tatha Lekhan Sangari Vibhag Haryana, Panchkula, Haryana.
- Mysore Sales International Limited, Bengaluru, Karnataka.
- Naini Papers Limited, Kashipur, Uttarakhand.
- Naini Tissues Limited, Kashipur, Uttarakhand.
- National Council of Education Research and Training, New Delhi.
- National Health Mission, Haryana, Panchkula, Haryana.
- National Printers, Ranchi, Jharkhand.
- New Bonanza India Limited, Meerut, Uttar Pradesh.
- New Ratan Priya, Patna, Bihar.
- North Bihar Power Distribution Company Limited, Patna, Bihar.
- Northern India Textile Research Association, Ghaziabad, Uttar Pradesh.
- Office of the Deputy Commissioner of Customs, Surat, Gujarat.
- Office of the Principal Commissioner of Customs, Kutch, Gujarat.
- Orient Paper Mills, Shahdol, Madhya Pradesh.
- OTR Papers Private Limited, Sikandarabad, Uttar Pradesh.
- Oxy Green Products, Bhagwanpur, Haridwar, Uttarakhand.
- Oyster Printers and Publishers Private Limited, Mathura, Uttar Pradesh.





- Paper Fiber Impex, New Delhi.
- Parijat Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Pashupati Textile Prints Private Limited, Meerut, Uttar Pradesh.
- Paswara Papers Limited, Meerut, Uttar Pradesh.
- Pioneer Printers, Agra, Uttar Pradesh.
- Pitambra Books Private Limited, Jhansi, Uttar Pradesh.
- Prabir Kumar Pal, Ashirbad Enterprises, Burdwan, Uttar Pradesh.
- Pralav Bhardwaj, Kashipur, Uttarakhand.
- Prashasti Printers, Patna, Bihar.
- Printex India, Allahabad, Uttar Pradesh.
- Printing and Stationery Department, Haryana, Panchkula, Haryana.
- Prolific Papers Private Limited, Kashipur, Uttarakhand.
- Pulp Paper Research Institute, Jaykapur, Rayagada, Odisha.
- Punjab National Bank, Printing and Stationery Department, Noida, Uttar Pradesh.
- Punjab National Bank, Zonal Stationery Centre, Lucknow, Uttar Pradesh.
- Punjab State Lotteries, Chandigarh, Punjab.
- RAC Papers Limited, Hapur.
- Raj Enterprises, Haldwani, Uttarakhand.
- Rajasthan Rajya Pathya Pustak Mandal, Jaipur, Rajasthan.
- Rajeev Prakashan, Allahabad, Uttar Pradesh.
- Rajlakshmi Paper and Boards Private Limited, Bazpur, Uttarakhand.
- Rama Shyama Papers Private Limited, Bareilly, Uttar Pradesh.
- Rama Tex Process House Private Limited, Meerut, Uttar Pradesh.
- Raman Eco-Friendly Initiative, North East Delhi.
- Ramraja Printers and Publishers, Jhansi, Uttar Pradesh.
- Rani Durgawati Vishvidhyalya, Jabalpur, Madhya Pradesh.
- Rayana Paper Board Industries Limited, Sant Kabir Nagar, Uttar Pradesh.
- Reliable Art Printery, Ahmedabad, Gujarat.
- Reliance Industries Limited, Vadodara, Gujarat.
- Ruchira Papers Limited, Sirmaur, Himachal Pradesh.
- Rukna Hath Kagaj Udyog, Jalaun, Uttar Pradesh.
- S.Dinesh and Company, Jalandhar, Punjab.
- Saharanpur Testing Instruments Private Limited, Saharanpur, Uttar Pradesh.
- Saiswaram Tradelinks Private Limited, Vadodara, Gujarat.
- Sakshar Bharat Mission, Lucknow, Uttar Pradesh.
- Samekit Bal Vikas Sewaye Nideshalya (ICDS), Patna, Bihar.
- Samgra Shiksha Abhiyan, Deogarh, Rajasthan.
- Satia Industries Limited, Muktsar, Punjab.

- Security Paper Mill, Hoshangabad, Madhya Pradesh.
- Security Printers of India Private Limited, Kanpur, Uttar Pradesh.
- Security Printing Press, Hyderabad, Andhra Pradesh.
- Serix Technologies, Surat, Gujarat.
- Shahjahanpur Paper and Board Private Limited, Shahjahanpur, Uttar Pradesh.
- Shaik Abdul Raheem, Chhoutuppal, Yadadari, Telangana.
- Shakti Krafts and Tissues Limited, Muzaffarnagar, Uttar Pradesh.
- Shastri Handmade Paper Industries, Jalaun, Uttar Pradesh.
- Shram Sansadhan Vibhag, Patna, Bihar.
- Shree Ajit Pulp and Paper Limited, Valsad, Gujarat.
- Shree Bhageshwari Papers Limited, Muzaffarnagar, Uttar Pradesh.
- Shree Karthik Papers Limited, Pollachi, Tamil Nadu.
- Shree Kela Jee Books Private Limited, Agra, Uttar Pradesh.
- Shree Nageshwar Papers Limited, Kanpur, Uttar Pradesh.
- Shree Rajkumar Textile Mills, Meerut, Uttar Pradesh.
- Shree Sidhballi Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.
- Shreyans Industries Limited, Ahmedgarh, Punjab.
- Shri Ganga Paper Mills Private Limited, Ghaziabad, Uttar Pradesh.
- Shriram Institute of Industrial Research, Delhi.
- Shsashtra Police Prashikshan Mahavidyalya, Sitapur, Uttar Pradesh.
- Shuklambara Papers Private Limited, Bazpur, Uttarakhand.
- Siddheshwari Industries Private Limited, Muzaffarnagar, Uttar Pradesh.
- Silverton Pulp and Papers Private Limited, Muzaffarnagar, Uttar Pradesh.
- Singhal Agencies, Lucknow, Uttar Pradesh.
- Skylark Printers and Publishers Private Limited, Mathura, Uttar Pradesh.
- Solitaire Foods Private Limited, Meerut, Uttar Pradesh.
- Somra Board, Hooghly, West Bengal.
- South Bihar Power Distribution Company Limited, Patna, Bihar.
- Southern Railway Printing Press, Chennai, Tamil Nadu.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh.
- State Health Society, Bihar, Patna, Bihar.
- State Society of Ultra Poor and Social Welfare, Patna, Bihar.
- Suchi Paper Mills Limited, Gautam Budh Nagar, Uttar Pradesh.
- Suchna Evam Jansampark Vibhag, Lucknow, Uttar Pradesh.
- Sun Shine Hand Made Paper Industries, Jalaun, Uttar Pradesh.
- Supreme Paper Mills Limited, Kolkatta, West Bengal.
- Surya Bricks Field, Sarsawa, Saharanpur, Uttar Pradesh.



- Swastik Hath Kagajam, Jalaun, Uttar Pradesh.
- T. K. Paper Mills, Kathua, Jammu and Kashmir.
- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Tamil Nadu.
- Tara Sales Corporation, New Delhi.
- Tejam Associates, Pune, Maharashtra.
- Tetra Pak India Private Limited, Gurugram, Haryana.
- The Art Gallery, Patna, Bihar.
- The Institute of Chartered Accountants of India, Noida, Uttar Pradesh.
- The Sandesh Limited, Ahmedabad, Gujarat.
- The Tribune Trust, Chandigarh, Punjab.
- Trident Limited, Ludhiana, Punjab.
- Triton International Private Limited, Mumbai, Maharashtra.
- Triveni Computer Forms, Roorkee, Uttarakhand.
- Universal Engineering Corporation, Saharanpur, Uttar Pradesh.
- Upkar Printers and Publishers, Agra, Uttar Pradesh.
- Urvashi Pulp and Paper Mills Private Limited, Ankleshvar, Gujarat.
- Uttaranchal Pulp and Paper Mills Private Limited, Haridwar.
- Vaishali Samaharnalya, Hazipur, Vaishali, Bihar.
- Vardhman Industries, Meerut, Uttar Pradesh.
- Veer Bahadur Singh Purvanchal Visvavidyalaya, Jaunpur, Uttar Pradesh.
- Veer Narmad South Gujarat University, Surat, Gujarat.
- Vikram University, Ujjain, Madhya Pradesh.
- Visaka Industries Limited, Medak, Patancheru, Telangana.
- Vishal Coaters Private Limited, Patiala, Punjab.
- Vishal Papertech (India) Limited, S.A.S Nagar (Mohali), Punjab.
- Vishwa Pariwar, Raipur, Chhattisgarh.
- Vishwa Printers, Lucknow, Uttar Pradesh.
- VLS Fibre, Chennai, Tamil Nadu.
- West Coast Paper Mills Limited, Dandeli, Karnataka.
- Wilson Printcity Private Limited, Ahmedabad, Gujarat.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Yojna Avam Vikas Vibhag, Patna, Bihar.
- Yugo Intraco Private Limited, Mumbai, Maharashtra.
- Zila Basic Shiksha Adhikari, Moradabad, Uttar Pradesh.
- Zila Basic Shiksha Adhikari, Oraia, Bihar.
- Zila Gramin Vikas Abhikaran, Kharsawa, Jharkhand.

## MEETINGS ORGANISED / ATTENDED

### Meeting of Research Steering Committee of Development Council for Pulp, Paper & Allied Industries (RSC-DCPPAI)

The first meeting of the Reconstituted Research Steering Committee of Development Council for Pulp, Paper & Allied Industries (Formerly Cess Committee) was held on July 19, 2018 in the Conference Room No 152 at Udyog Bhawan, New Delhi. The meeting was Chaired by Dr. Vandana Kumar, IDAS, Joint Secretary, Department for Promotion of Industry and Internal Trade (DPIIT). Dr. B. P. Thapliyal, Director CPPRI and Member Secretary presented the agenda of the meeting. The committee reviewed the progress of ongoing projects and new project activities proposed. The meeting was attended by members of RSC-DCPPAI, as well as special invitees from DPIIT, Ministry of Commerce and Industry and officials from IPMA, IARPMA, INMA, ACIRD, FRI and CPPRI.



*Glimpses of First meeting of the Research Steering Committee of Development Council for Pulp, Paper & Allied Industries*

### Major Meetings attended by CPPRI Scientists during 2018-19

#### Meetings at Udyog Bhawan, New Delhi

- Dr. B. P. Thapliyal and Dr. M. K. Gupta attended a meeting on Subsidy Claim of Central Capital Investment Subsidy (CCIS) Scheme under North East Industrial Policy and Promotion (NEIPP) at Udyog Bhawan, New Delhi on June 12, 2018.
- Dr. B. P. Thapliyal attended a meeting of Public Procurement Order, 2017 on June 20, 2018.
- Dr. B. P. Thapliyal attended a meeting of QCO on June 20, 2018.
- Dr. B. P. Thapliyal attended a meeting regarding stakeholders consultation relating to India's Regional Comprehensive Economic Partnership Agreement (RCEP) on July 15, 2018.



- Dr. B. P. Thapliyal and Dr. Sanjay Tyagi attended a meeting of monitoring committee on Revival and Mill Development Plan (RMDP) of NEPA Limited on November 6, 2018.
- Dr. B. P. Thapliyal attended monitoring committee meeting for evaluation of progress Revival and Mill Development Plan (RMDP) of NEPA Limited on November 13, 2018.
- Smt. Rita Tandon, Dr. M. K. Gupta and Dr. Sanjay Tyagi attended meeting of monitoring committee on Revival and Mill Development Plan (RMDP) of NEPA Limited on November 27, 2018.
- Smt. Rita Tandon attended meeting with JS (DHI) and Director (DHI) to review the progress of RMDP of NEPA Mills at Department of Heavy Industries on November 28, 2018.
- Dr. B. P. Thapliyal, Dr. M. K. Gupta and Dr. Sanjay Tyagi attended a meeting of Empowered Committee for subsidy claim under Central Capital Investment Subsidy (CCIS) scheme on December 3, 2018.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta attended a meeting of monitoring committee for evaluation of progress of Revival and Mill Development Plan (RMDP) of NEPA Limited on January 02, 2019.
- Dr. B. P. Thapliyal and Dr. Arvind Sharma attended a meeting on evaluation of Moringa Oliferea for paper making potential at MSME Office on January 3 and February 8, 2019.
- Dr. B. P. Thapliyal, Smt. Rita Tandon and Dr. Sanjay Tyagi attended a meeting of monitoring of Revival and Mill Development Plan (RMDP) of NEPA Limited on March 8, 2019.

#### **Meeting at Ministry of Environment, Forest and Climate Change, New Delhi**

- Dr. B. P. Thapliyal and Dr. Nitin Endlay attended a meeting of New Proposed Environmental Standards for Pulp and Paper Mills on July 5, 2018.
- Dr. B. P. Thapliyal and Dr. M. K. Gupta attended Environmental Appraisal Committee (EAC) meeting on September 18, 2018 and October 09, 2018.
- Dr. B. P. Thapliyal attended an Expert Appraisal Committee meeting on December 11 – 12, 2018.

### **Meetings at Indian Rubber Manufacturers Research Association (IRMRA), Mumbai**

- Dr. B. P. Thapliyal attended a meeting to discuss issues related to NABL accreditation of CPPRI and Extension Centre of CPPRI on December 14, 2018.

### **Meeting at The Energy and Resources Institute (TERI), New Delhi**

- Dr. B. P. Thapliyal attended a consultative meeting of Joint Credit Mechanism (JCM) on July 27, 2018.

### **Meetings at Reserve Bank of India, Mumbai**

- Dr. B. P. Thapliyal attended RBI Technical meet at Indian Institute of Technology, Guwahati on September 6-7, 2018.

### **Meetings at Bureau of Energy Efficiency, New Delhi**

- Dr. B. P. Thapliyal and Shri Alok Kumar Goel attended Stakeholders meeting for Energy Saving Companies (ESCO) Development in India on May 11, 2018.
- Dr. B. P. Thapliyal attended meeting on preparation of Energy Manual on July 6, 2018.
- Dr. B. P. Thapliyal attended 10<sup>th</sup> Sectoral Expert Technical Committee meeting on March 12, 2019.

### **Meeting at Central Pollution Control Board, Delhi**

- Dr. Shivaker Mishra and Dr. Nitin Endlay attended a video conference with CPCB and participating institutions for discussions on activities and work progress under CPCB Project - Monitoring of Grossly Polluting Industries at Pollution Control Research Institute (PCRI), BHEL at Haridwar on May 14, 2018 and August 2, 2018.
- Dr. B. P. Thapliyal and Dr. Nitin Endlay attended meeting on New Proposed Environmental Standards for Pulp & Paper Mills at Central Pollution Control Board, Delhi on July 24, 2018.

### **Others**

- Dr. B. P. Thapliyal, Dr. Priti S. Lal and Dr. Arvind Sharma attended a meeting with Reliance officials in connection with sponsored project at CPPRI, Saharanpur on April 18 – 20, 2018.



*Glimpses of meeting with Reliance officials*

- Dr. B. P. Thapliyal attended a Core group meeting of Recovered Paper Project in India at Indian Paper Manufacturers Association (IPMA) Office, New Delhi on May 17 and 31, 2018.
- Dr. Priti S. Lal attended Satia Paper Mills Limited Board meeting at Muktsar, Punjab on May 30 and August 9, 2018.
- Dr. B. P. Thapliyal and Shri Alok Kumar Goel attended a meeting with CGM, EESL regarding finalization of MoU and about workshop to be organized jointly by EESL & CPPRI at Energy Efficiency Services Limited (EESL), Noida on June 19, 2018.
- Dr. B. P. Thapliyal, Dr. M. K. Gupta, Dr. R. D. Godiyal, Dr. A. K. Dixit and Dr. Sanjay Tyagi attended a meeting with officials from EESL and Star Paper Mills Limited to discuss implementation of Energy Efficiency projects in the mill at CPPRI, Saharanpur on August 1, 2018.



*Glimpses of meeting of CPPRI, EESL and Star Paper Mills Limited*

- Dr. B. P. Thapliyal and Dr. M. K. Gupta attended a meeting on disposal of pilot scale paper machine at Forest Research Institute (FRI), Dehradun on October 29, 2018.
- Smt. Anuradha V. Janbade, Km. Shailja Pant, Shri Vikas Kumar and Shri Vijay Kumar attended a meeting with Km. Akansha Singh and Km. Kajal Saini from Team Innovations, Yash Papers Limited in connection

- with the joint collaborative work on enzymatic prebleaching and refining at CPPRI on December 14, 2018.
- Dr. B. P. Thapliyal and Dr. R.D. Godiyal attended SPMCIL meeting on review and relook at the present specification of Commemorative Stamp Paper on December 17, 2018 & January 2, 2019 at New Delhi.
- Dr. R. D. Godiyal attended a meeting at RICO, Auto Industries Limited, Gurugram, Haryana to discuss signing of MoU on December 18, 2018.
- Dr. B. P. Thapliyal attended a meeting with Invest India and Chinese delegation at Vigyan Bhawan, New Delhi on January 15, 2019.
- Dr. B. P. Thapliyal and Dr. R.D. Godiyal attended a meeting of Paper Specification Committee at Security Printing Press, Hyderabad on January 19, 2019.
- Dr. B. P. Thapliyal attended a meeting with ENMAS officials at Chennai on January 21, 2019.
- Dr. B. P. Thapliyal attended a meeting of core group at PHD Chamber IPMA for waste paper utilization at New Delhi on February 14 and 26, 2019.
- Dr. Sanjay Tyagi attended a meeting on framing up the standard operating procedure for drawing of samples of Passport Paper at Indian Security Press, Nasik on February 15, 2019.
- Dr. B. P. Thapliyal, Smt. Rita Tandon, Dr. M. K. Gupta and Dr. Sanjay Tyagi attended a meeting with officials from PAPCEL, Tata Consulting Engineers and NEPA Limited, Neapanagar at New Delhi on March 06, 2019.
- Dr. B. P. Thapliyal and Dr. K. Singh attended a meeting of Working Group for Establishment of Paper Recycling System in India. Organised by Japan Paper Association, under METI sponsorship.



*Glimpses of meeting of working group for establishment of paper recycling system in India*





## **CELEBRATION OF NATIONAL DAYS AND OTHER IMPORTANT DAYS AT CPPRI**

### **Independence Day**

CPPRI celebrated the Independence Day on August 15, 2018 with usual fanfare and gaiety. After the guard of honour from CPPRI Security Staff, Dr. B. P. Thapliyal, Director, CPPRI hoisted the national flag followed by singing of national anthem. Director, CPPRI addressed the staff and their family members, reminisced the sacrifices of our freedom fighters, highlighted the activities and achievements of CPPRI and unveiled the future plans for growth of CPPRI. Meritorious children of CPPRI staff were awarded for their excellent performance in Class X and XII examination. CPPRI building was illuminated on this occasion.



*Independence Day Celebrations & Lighting of the CPPRI Building on Independence Day*

## Republic Day

CPPRI celebrated the Republic Day on January 26, 2019 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, reminisced the contribution of our national leaders in progress and development of our nation and highlighted the activities and achievements of CPPRI.



*Glimpses of Republic Day Celebrations*



### Yoga Day

Third International Yoga Day was observed at CPPRI on June 21, 2018 to promote the practice of yoga and meditation in daily life. The Yoga Day was organized 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.



*Glimpses of International Yoga Day at CPPRI*

### Rajbhasha Hindi Mah

Rajbhasha Hindi Mah was observed in CPPRI from September 01-30, 2018 to promote the use of Hindi in day-to-day work as well as in the scientific and technical work. To mark the occasion a meeting chaired by Dr. B.P. Thapliyal, Director was convened on September 14, 2018. 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 use of Hindi in CPPRI were deliberated upon. To promote use of Hindi, essay competition and poster competition were organized for CPPRI staff as well as for their wards in different categories.

### Teachers Day

Teacher's Day was celebrated by M.Sc. (Cellulose & Paper Technology) students on September 5, 2018 with organization of a cultural programme and felicitation of the CPPRI faculty.



*Glimpses of Teachers Day Celebration*

## Vigilance Awareness Week

In pursuance of the directions of Central Vigilance Commission, the Vigilance Awareness Week 2018 was observed by the Institute from October 29, 2018 to November 3, 2018 with the theme "**Eradicate Corruption – Build a New 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.

The message of Hon'ble **President of India, Shri Ram Nath Kovind** for this occasion was also read out. The flex banners depicting the observance of Vigilance Awareness Week-2018 were displayed at all prime locations in the office premises. Banners of slogans were displayed at various strategic points/places in the Pilot Plant, Library and laboratories of the Institute. Dr. B. P. Thapliyal, Director gave a special address on the occasion. He emphasized the need for self-driven moral values, good practise, self-discipline, good working culture etc. The programme was coordinated by Shri M. P. Sharma.

Debate, Poster and Slogan competition were organized to create an awareness against corruption among the employees. Km. Gursimran Kaur Bagga, Shri Vikash Saini and Shri Amritendu Panchadhyayee; Km. Gunjan and Km. Arti; and Shri Kumar Anupam were winners in M. Sc. (CPT) students, JRF and staff category respectively.



*Glimpses of Vigilance Awareness Week Celebrations at CPPRI*



### National Productivity Week

**National Productivity Week** was celebrated by **Central Pulp and Paper Research Institute, Saharanpur, U.P.** on February 12 -18, 2019. To mark the occasion a programme was organised in CPPRI on **National Productivity Day** on **February 12, 2019.**

The programme was initiated by Dr. B. P. Thapliyal, Director CPPRI with a presentation on the given theme of productivity week i.e. **“Circular Economy for Productivity & Sustainability”** The presentation was aimed to create an awareness among CPPRI staff on the concept of Circular economy, its advantages / benefits, implementation, initiatives by various industrial sectors for implementation of circular economy to improve productivity and sustainability, policy interventions by Government of India to promote adoption of circular economy etc.

A poster presentation and speech competition on the theme were organised for staff members and M.Sc. (Cellulose and Paper Technology) students. The winners were felicitated with certificates and mementos. The programme was co-ordinated by Dr. Nitin Endlay, Sr. Scientist CPPRI.



*Glimpses of National Productivity Week*

## WORKSHOPS/TRAINING PROGRAMMES ORGANISED

CPPRI organized following training programmes/workshops during the year 2018-2019:

- Technical Meet on **National Motor Replacement Programme** jointly organized by EESL, CPPRI and EHS<sup>+</sup> Center on August 24, 2018 at India International Centre, New Delhi.



*Glimpses of Technical Meet on National Motor Replacement Programme*

- Technical meet under GEF-UNIDO-EESL programme on **Promoting Market Transformation for Energy Efficiency in MSME's** jointly organized by EESL, UNIDO, Deloitte and CPPRI on September 12, 2018 at Muzaffarnagar (UP).



*Glimpses of Technical Meet on Market Transformation for Energy Efficiency in MSME's*

- Technical meet on **National Motor Replacement Programme** jointly organized by CPPRI, EESL and Institute of Sustainable Communities on September 24, 2018 at Kashipur.



*Glimpses of Technical Meet on National Motor Replacement programme*

- RSC- DCPPIAI training programme on **Advancement in Pulping and Bleaching Technology including Biotechnological Application** was organized on December 6-7, 2018 at Central Pulp and Paper Research Institute, Saharanpur.



*Glimpses of RSC- DCPPIAI Training programme on Advancement in Pulping and Bleaching Technology including Biotechnological Application*

- RSC-DCPPIAI Training Programme on **Management of Air Pollution in Pulp & Paper Industry** was organized on February 7, 2019 at National Council of Cement and Building Materials, Ballabhgarh, Haryana



*Glimpses of RSC- DCPPIAI Training programme on Management of Air Pollution in Pulp and Paper Industry*

## PARTICIPATION IN SEMINAR, WORKSHOP AND TRAINING PROGRAMME

CPPRI scientists attended following seminars, workshops and training programme during 2018-19 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:

- Stakeholder's workshop on **UNIDO- India Country Programme**, India International Centre, New Delhi, April 24, 2018 - Dr. B. P. Thapliyal.
- **Hands on Training on Electron Microscope**, National Physical Laboratory, New Delhi, May 21, 2018 to June 1, 2018 - Dr. R. D. Godiyal.



*Hands on training on Electron Microscope*

- Workshop on Enabling **Energy Services Performance Contract Catalyzing the ESCO Market through Business Facilitation**, India Habitat Centre, New Delhi, June 20, 2018 – Shri Alok Kumar Goel.
- 3<sup>rd</sup> CII National Conference on **Pulp and Paper Understanding the Trade-offs in Water and Waste Water Management for Taking Informed Decisions**, New Delhi, June 29, 2018 - Dr. B. P. Thapliyal, Dr. Kawaljeet Singh and Dr. Nitin Endlay.



*Dr. B.P. Thapliyal addressing the Inaugural Session of CII Conference, New Delhi*



- Training on **Laboratory Management System as per ISO / IEC 17025: 2017 and Internal Auditing**, Indian Rubber Manufacturers Research Association, Mumbai, July 3 - 6, 2018 - Dr. R. D. Godiyal, Dr. A. K. Dixit and Dr. Shivaker Mishra.



*Training on NABL ISO 17025: 2017*

- Training programme on **Emotional Intelligence at Workplace**, Centre for Organization Development, Hyderabad, August 06-10, 2018 – Dr. M. K. Gupta
- IPPTA Zonal Seminar and Workshop on **Developing Efficient & Environment Friendly Operation at Waste Paper & Agro Based Unit - Thrust on Export & Value Addition**, Muzaffarnagar, August 17-18, 2018 - Dr. B. P. Thapliyal, Dr. M. K. Gupta, Dr. Shivaker Mishra and Dr. Nitin Endlay.



*Participation of CPPRI at IPPTA Zonal Seminar & Workshop, Muzaffarnagar*

- Technical Meet on **National Motor Replacement Programme**, India International Centre, New Delhi, August 24, 2018 – Dr. B. P. Thapliyal, Dr. Kawaljeet Singh, Dr. A. K. Dixit, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Pankaj Kumar Goley and Shri Kumar Anupam.
- **CII National Award Ceremony for Excellence in Energy Management 2018**, Hyderabad International Convention Centre, Hyderabad, August 28 – 29, 2018 - Dr. B. P. Thapliyal.

- 12<sup>th</sup> CII Paper Tech Conference on **Make Indian Pulp & Paper Industry World Class**, Hyderabad International Convention Centre, Hyderabad, August 29-31, 2018 - Dr. B. P. Thapliyal and Dr. Nitin Endlay.



*CPPRI Scientist at CII Paper Tech Conference, Hyderabad*

- Technical Meet on **Promoting Market Transformation for Energy Efficiency in MSME's, Muzaffarnagar**, September 12, 2018 – Dr. B. P. Thapliyal, Dr. A. K. Dixit, Dr. Sanjay Tyagi, Shri Alok Kumar Goel, Shri Pankaj Kumar Goley and Shri Kumar Anupam.
- Training programme on **Designing of ETP**, New Delhi, September 14-15, 2018 – Dr. M. K. Gupta and Mohd. Salim.
- Technical meet on **Awareness and Capacity Building Programme on National Motor Replacement Programme**, Kashipur, September 24, 2018 - Dr. B. P. Thapliyal, Dr. A. K. Dixit, Shri Pankaj Kumar Goley and Shri Kumar Anupam.
- Training on **Advances in Application of Nanotechnology**, ICAR- Central Institute for Research on Cotton Technology, Mumbai, September 24-28, 2018 – Mohd. Salim and Shri Kaniska Salwan.
- National workshop on **Protein Purification and its Sustainable Application in Drug Designing and Agro Management**, Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad, October 8, 2018 - Dr. Arvind Kumar Sharma and Shri Deepak Sharma.
- **Annual Convention of Central Information Commission**, Pravasi Bhartiya Kendra, New Delhi, October 12, 2018 - Dr. M. K. Gupta and Shri Y.K. Sharma.
- **Paperex South India 2018 - Technical Conference on Pulp, Paper and Allied Industries, Chennai Trade Centre**, Chennai, November 15-17, 2018 - Dr. B. P. Thapliyal, Dr. Kawaljeet Singh and Dr. Sanjay Tyagi.
- Workshop on **Economic & Social Transformation through Gram Panchayat Development Plan (GDP) for states in Indo-Gangetic Plain (Punjab, Haryana, Uttar Pradesh, Bihar, Madhya Pradesh and West Bengal)**, Lucknow, December 7-8, 2018 - Smt. Rita Tandon and Dr. M. K. Gupta.

- **23<sup>rd</sup> Rubber Conference and International Workshop**, Mumbai, December 14, 2018- Dr. B. P. Thapliyal and Dr. A. K. Dixit.
- **Round Table Conference on the Paints and Paper Industry**, New Delhi, December 18, 2018 - Dr. B. P. Thapliyal.
- Advance level training programme on **Hazardous Waste Management Rules and its Application**, Delhi, December 21 – 22, 2018 - Smt. Rita Tandon and Dr. M. K. Gupta.
- Training on **Measurement Uncertainty-Chemical and Mechanical Measurement**, organised by Indian Rubber Manufacturers Research Association (IRMRA) at CPPRI, December 24-25, 2018 - Dr. B. P. Thapliyal, Dr. A. K. Dixit, Dr. R. D. Godiyal, Dr. S. Mishra, Dr. Nitin Endlay, Dr. Sanjay Tyagi, Mohd. Salim, Shri Kumar Aupam, Shri Amitabh Tripathi, Shri Abhishek Tyagi, Shri Deepak Sharma, Km. Namita, Smt. Nidhi Sharma, Smt. Manju Bisht, Shri Manoj Kumar and Shri Kanishk Salwan.
- **19<sup>th</sup> Annual Session Awards function of the Indian Paper Manufacturers Association (IPMA)**, New Delhi, January 11, 2019 – Dr. B. P. Thapliyal.
- Workshop on **Public Procurement, E-Procurement, Govt. E-Marketplace (GeM) and PFMS**, Hotel Jaypee Sidharth, New Delhi, January 17 – 19, 2019 - Shri Alok Kumar Goel and Shri N. K. Naik
- Training programme on **Laboratory Management System as per ISO / IEC 17025: 2017 and Internal Auditing**, IRMRA Chennai Centre, Chennai, January 22-25, 2019 – Dr. B. P. Thapliyal and Dr. Sanjay Tyagi.
- Training programme for scientists and technologists on **Emotional Intelligence at Workplace**, Centre for Organization Development, Hyderabad, February 16 - 23, 2019 - Dr. Arvind Kumar Sharma



*Glimpse of Training Programme on Emotional Intelligence at Workplace*

- Training Programme on **Laboratory Management System as per ISO / IEC 17025: 2017 and Internal Auditing**, IRMRA Chennai Centre, Chennai, March 5-8, 2019 – Dr. Nitin Endlay, Shri Alok Goyal and Mohd. Salim.



## **PAPERS PRESENTED AND LECTURES DELIVERED**

During the year 2018-2019, CPPRI Scientists presented the following papers in seminar and workshops:

**IPPTA Zonal Seminar and Workshop on Developing Efficient and Environment Friendly Operation at Waste Paper and Agro Based Unit – Thrust on Export and Value Addition, Muzaffarnagar on August 17-18, 2018.**

- Validation of Feasibility of Zero Liquid Discharge in a RCF based Kraft Paper Mill: A Case Study – Dr. Nitin Endlay.

**Workshop on Protein Purification and its Sustainable Application in Drug Designing and Agro Management at Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad on October 8, 2018.**

- Utilization of Agro Waste for Various Grade of Pulp Product - Dr. Arvind Kumar Sharma

**Technical Conference on Pulp, Paper and Allied Industries (South India Paperex 2018) at Chennai Trade Centre, Chennai on November 15 - 17, 2018.**

- Trade Flow of Recovered Paper in India and its Impact on the Paper Sector – Dr. Kawaljeet Singh
- Performance Evaluation of Packaging Paper using Short Compression Test – Dr. Sanjay Tyagi



## **REPRESENTATION IN EXTERNAL COMMITTEE**

### **Ministry of Environment, Forests and Climate Change, New Delhi**

- Member, Environment Appraisal Committee (EAC) Industry –I of Ministry of Environment, Forest and Climate Change (MOEFCC), Government of India - Dr. B. P. Thapliyal.

### **Ministry of Home Affairs, New Delhi**

- Chairman, Nagar Rajbhasha Karyanvan Samiti, Saharanpur - Dr. B. P. Thapliyal.

### **Development Council for Pulp, Paper & Allied Industries, Govt. of India**

- Member Secretary, Development Council for Pulp, Paper and Allied Industries - Dr. B. P. Thapliyal.
- Member Secretary, Research Steering Committee of Development Council for Pulp, Paper and Allied Industries (earlier Cess Committee) - Dr. B. P. Thapliyal.

### **Bureau of Indian Standards (BIS), New Delhi**

- Chairman, BIS Paper and its Products Sectional Committee, CHD 15 - Dr. B. P. Thapliyal.
- Convener of various panels constituted under CHD 15 of BIS - Smt. Rita Tandon.
- Member of Sectional Committee CHD-15 on of Paper and its Product, BIS, New Delhi – Smt. Rita Tandon, Alok Kumar Goel and Dr. Sanjay Tyagi.
- Member, Sectional Committee CHD-16 on Paper Board and its Product, BIS, New Delhi - Dr. Sanjay Tyagi.
- Member of various panels constituted under CHD 15 and CHD-16, BIS, New Delhi – Dr. Sanjay Tyagi.

### **Bureau of Energy Efficiency**

- Chairman, Sector Expert Committee (Pulp and Paper) Bureau of Energy Efficiency, New Delhi - 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**

- Editor- In- Chief, Journal of Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.
- Chairman, Technical Committee, Journal of Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.
- Member, Executive Committee, Indian Pulp & Paper Technical Association (IPPTA) - Dr. B. P. Thapliyal.

### **National Council for Cement and Building Materials, Faridabad**

- Member, NCCBM Technical Committee for energy efficient unit award – Dr. B. P. Thapliyal.

### **Others**

- Chairman, Core Group, Delhi Waste Paper Recycling Working Group – Dr. B. P. Thapliyal.
- Member, RBI, Technical Committee for Evaluation of Security Features in Indian Bank Notes – Dr. B. P. Thapliyal.
- Member, Technical Advisory and Paper Purchase Committee (TAPPC), IGNOU, New Delhi – Dr. B. P. Thapliyal.
- Technical member of a committee to review the specification of Commemorative Stamp Paper and Other Security Paper, Security Printing Press, Hyderabad (a unit of SPMCIL Ministry of Finance, GoI) - Dr. B.P. Thapliyal & Dr. R.D. Godiyal
- Member of Technical Monitoring Committee to review the progress of Revival and Mill Development Programme Plan (RMDP) of NEPA Limited – Dr. B.P. Thapliyal
- Additional Director (Independent) Board of Directors of Satia Industries Limited Muktsar, Punjab - Dr. Priti Shivhare Lal.



- Member of Technical committee for framing up of Standard Operating Procedures (SOP) for drawing and testing of passport and stamp papers constituted by Indian Security Press (ISP), (a unit of SPMICL, Ministry of Finance, GoI), Nashik Road, Maharashtra - Dr. Sanjay Tyagi.
- Reviewer of the technical paper of Journal of Applied statistics and IPPTA - Dr. Sanjay Tyagi.

## PUBLICATIONS

- Kumar, Arun; Zarka Afroz; Singh, Kawaljeet and Thapliyal, B. P. *Trade Flow of Recovered Paper in India and its Impact on the Paper Sector*. Proceeding of 4<sup>th</sup> Paperex South India, Chennai, pp 35 - 44, 2018.
- Deepika; Kumar Anupam and Lal, Priti Shivhare. *Melia Dubia Valorization at 4, 5- and 6-year Age for Pulp and Paper Production*, International Journal of Science and Research 8 (2), pp 613 - 623, 2019.
- Deepika; Kumar Anupam; Sharma, Arvind; Lal, Priti Shivhare and Thapliyal, B. P. *Blending of Melia Dubia with Eucalyptus Tereticornis and Casurina for Evaluation of Pulp and Paper Making Potential*, IPPTA Journal 30 (4), pp 81 – 85, 2019.
- Dixit, A. K.; Kumar Anupam; Varma, M.; Tarun; Anand, S. and Thapliyal, B. P. *A Novel Approach to Utilize Straw Black Liquor from Mills Producing Unbleached Packaging Grade Paper*. IPPTA Journal 30 (2), pp 50 - 53, 2018.
- Dixit, A. K.; Tarun; Kumar Anupam and Thapliyal, B. P. *New Green Initiative by CPPRI for Cleaner and Green Energy Generation*. Inpaper India 21 (2), pp 6 - 11, 2018.
- Endlay, N.; Mishra, Shivaker; Mohd. Salim and Thapliyal, B. P. *Validation of Feasibility of Zero Liquid Discharge in a RCF based Kraft Paper Mill—A Case Study*. IPPTA Journal, 30 (2) pp 129 – 132, 2018.
- Kumar Anupam; Deepika; Swaroop, Vinay and Lal, Priti Shivhare. *Antagonistic, Synergistic and Interaction Effects of Process Parameters during Oxygen Delignification of Melia Dubia Kraft Pulp*. Journal of Cleaner Production, 199, pp 420 – 430, 2018.
- Sharma, Arvind; Lal, Priti Shivhare and Thapliyal, B. P. *Utilization of Agro Waste for Various Grade of Pulp Product*. Proceedings of National Workshop on "Protein Purification and Its sustainable Application in Drug Designing and Agro Management" at Sara Higginbottom University of Agriculture, Technology and Sciences (SHUATS), Allahabad on October 8, pp 145 – 156, 2018.
- Singh, Meenu; Pant, Millie; Godiyal, R. D. and Sharma, Arvind Kumar. *Selection of Raw Material for Pulp and Paper Making through an Integrated MCDM and Soft Computing Approach*, 26<sup>th</sup> Conference on Computer Methods in Materials Technology (KomPlasTech 2019), Zakopane (Poland) on January 13 - 16, pp 68 – 75, 2019.
- Tyagi, Sanjay; Godiyal, R. D. and Thapliyal, B P. *Performance Evaluation of Packaging Paper using Short Compression Test*. Proceeding of 4<sup>th</sup> Paperex South India, Chennai, pp 121 – 126, 2018.





## REPORTS PREPARED

During the year 2018-19 various reports related to Pulping, Bleaching, Waste Paper Processing, Environmental Management, Chemical Recovery etc. were prepared. The details are as under -:

### **Pulping and Bleaching**

- Use of whole jute plant in paper pulp submitted to Jute Commissioner, Ministry of Textiles, Government of India, Kolkata.
- Evaluation of bagasse (Kolhu Waste) for pulping, bleaching and papermaking submitted to Chem Projects, New Delhi under sponsored project.
- Evaluation of bamboo chips for pulp and papermaking submitted to Hindustan Paper Corporation, Cachar, Assam.
- Pulping and bleaching of Havea Brasiline (Rubber Wood) for pulp and paper production submitted to Shri Randolph Cooper Lib Wood Energ, Hyderabad.
- Chemi Thermo Mechanical Pulping (CTMP) of Rice Straw submitted to Kriya Labs, IIT Delhi.
- Conventional and ECF bleaching for agro residue pulp submitted to Mohit Paper Mills Limited, Bijnor, Uttar Pradesh.
- Evaluation of water hyacinth and jute fibre blend for pulp and paper production submitted to Innoventures Pvt. Limited, Kolkata, West Bengal.
- Implementation of TCF bleaching sequence Q/Z(EOP) on ODL mill pulp submitted to Naini Paper Mills Limited, Kashipur, Uttarakhand.

### **Wet End Chemistry/Waste paper Processing**

#### **Repulpability and Paper Making Potential of Packaging Material used by Fast Moving Consumer Goods Companies (FMCG) and Packaging Industries**

- Deluxe Recycling India Private Limited, Mumbai, Maharashtra.
- Dow Corning India Private Limited, West Mumbai, Maharashtra.
- Hindustan Unilever Limited Research Centre, Mumbai, Maharashtra.
- Hindustan Unilever Limited Research Centre, Bengaluru, Karnataka.
- Intek Tapes Private Limited, Bangalore, Karnataka.
- ITC Limited PSPD (Kovai), Coimbatore, Tamil Nadu.
- Paper Fiber Impex, Malviya Nagar, New Delhi.
- Unilever Industries Limited Research Centre, Mumbai, Maharashtra.

#### **Evaluation of Noodle Soap (Deinking Chemical)**

- L. M. Industries, Balasore, Odisha.

## Environment Management

### ETP Adequacy Assessment (Paper Units)

- Anand Duplex Limited, Unit- I, Meerut, Uttar Pradesh.
- Prolific Papers Private Limited, Kashipur, Uttarakhand.
- Deoria Paper Mills Limited, Deoria, Uttar Pradesh.
- Hindustan Newsprint Limited, Kottayam, Kerala.
- Katyayini Paper Mills Private Limited, Kashipur, Uttarakhand.
- Komal Paper Mills (Unit-II), Kathua, Jammu & Kashmir.
- Shree Nageshwar Papers Limited, Distt. Kanpur Dehat, Uttar Pradesh.
- Naini Papers Limited, Kashipur, Uttarakhand.
- Rajlakshmi Paper & Boards Private Limited, Bazpur, Uttarakhand.
- Suyash Paper Mills, Basti, Uttar Pradesh.
- T. K. Paper Mills, Kathua, Jammu & Kashmir.
- Shree Bhageshwari Papers Limited Unit - I, Muzaffarnagar, Uttar Pradesh.
- Uttranchal Pulp & Paper Mills Private Limited, Roorkee, Haridwar, Uttarakhand.
- Vishal Papertech (India) Limited, Village- Mubarikpur, - Derabassi, Punjab.
- OTR Papers Private Limited, Sikandrabad, Uttar Pradesh.
- Kuantum Papers Limited, Sailakhurd Khurd, Punjab.
- Star Paper Mills Limited, Saharanpur, Uttar Pradesh.
- Shuklambra Papers Private Limited, Rudrapur, Uttarakhand.

### ETP Adequacy Textile Units

- Anupam Processor, Meerut, Uttar Pradesh.
- Rama Tex Process House Private Limited Meerut, Uttar Pradesh.

### ETP Adequacy Dairy Units

- Solitaire Foods Private Limited, Meerut, Uttar Pradesh.

### Performance Evaluation of Existing ETP

- Rajkumar Textiles Mills, Meerut, Uttar Pradesh.
- Pashupati Textile Prints Private Limited, Meerut, Uttar Pradesh.
- Kamal Dyeing House, Meerut, Uttar Pradesh.



### **Zero Liquid Discharge (ZLD) Feasibility Report**

- Shri Ganga Paper Mills Private Limited, Ghaziabad, Uttar Pradesh.
- Anandeshwar Industries Private Limited, Kanpur, Uttar Pradesh.
- Star Kraft Papers Private Limited, Meerut, Uttar Pradesh.
- Dev Prayag Paper Mill Private Limited, Allahabad, Uttar Pradesh.

### **CPCB Charter Progress Verification**

- Orient Paper Mills Limited, Amlai, Madhya Pradesh.

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

- 39 Units – (Textile, Dyeing, Slaughter Houses etc in Uttarakhand and Uttar Pradesh)

### **Hazardous Waste Audit Report**

- Century Pulp & Paper Lalkua, Uttarakhand.

### **Water Balance & Material Balance Studies**

- Shree Sidhali Paper Mills Limited, Muzaffarnagar, Uttar Pradesh.

### **Chemical Recovery**

#### **Annual Contract of Training and Auditing of Chemical Recovery**

- Satia Industries Limited, Muktsar, Punjab.
- Century Pulp & Paper, Lalkua, Uttarakhand.
- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Karur District, Tamil Nadu.
- KR Pulp and Paper, Shahjahanpur, Uttar Pradesh.
- Yash Papers Limited, Faizabad, Uttar Pradesh.
- Shreyans Industries Limited, Ahmedgarh, Sangrur, Punjab.

#### **Feasibility of Installation of Lime Kiln**

- Tamilnadu Newsprint and Papers Limited, Kagithapuram, Karur District, Tamil Nadu.
- Ruchira Papers Limited, Kala Amb, Sirmour, Himachal Pradesh.

#### **Chemical Recovery Audit**

- Kuantum Papers Limited, Saila Khurd, Hoshiarpur, Punjab.
- PT Riau Prima Energi Pangkalan Kerinci, Kab. Pelalawan, Pekanbaru, Riau, Indonesia

### **Black Liquor Disilication Trial**

- Naini Papers Limited, Kashipur, Uttarakhand.

### **Others**

- Field visit report on Central Capital Investment Subsidy Claim of Bhabani Print and Publications under NEIPP-2007 submitted to Ministry of Commerce and Industry, DPIIT, GoI, New Delhi.
- Report on Review of progress of Revival and Mill Development Plan (RMDP) of Nepa Limited, Neapanagar submitted to Dept. of Heavy Industries, Ministry of Heavy Industries, GoI, New Delhi,
- Field visit report on Central Capital Investment Subsidy Claim of M/s Purbanchal Timber Industries Limited, Mirza Palasbari, Assam submitted to Ministry of Commerce and Industry, DPIIT, GoI, New Delhi.



## OVERSEAS VISIT

Dr. B. P. Thapliyal, Director along with Dr. A. K. Dixit, Sr. Scientist visited **Riau Andalan Pulp and Paper, Indonesia** from October 28, 2018 to November 6, 2018 to conduct an audit of Chemical Recovery system in the mill. The mill was facing the problem of low steam generation per ton of dry solids. Looking into the problem, mill approached CPPRI to assess the problem and solve the issue. The scope of audit was:

- Listing out factors affecting steam generation.
- Impact of each factor on steam generation.
- Analysis of liquor characteristic with respect to steam generation.
- Analysis of recovery boiler/ evaporator operation data.
- Carry out heat and mass balance for recovery boilers.

The findings of the study were presented to mill officials during the visit.

## **VISITS TO PULP AND PAPER MILLS & OTHER ORGANISATION**

During the year 2018 – 2019 CPPRI Scientists visited many pulp and paper mills to provide technical and consultancy services. The scientists also visited various academic and scientific institutes and organizations, 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**

- Yash Papers Limited, Faizabad – Smt. Anuradha V. Janbade and Ms. Shailja Pant.
- Trident Industries, Barnala - Dr. R. D. Godiyal, Dr. Sanjay Tyagi and Shri Alok Kumar Goel.
- Naini Papers Limited, Kashipur, Uttarakhand - Dr. M. K. Gupta, Dr. Arvind Kumar Sharma and Shri Vinay Swaroop.
- Jute Corporation of India (JCI), Kolkata - Dr. Arvind Kumar Sharma.
- Shanker Gramodyog, Hapur, Uttar Pradesh - Dr. Priti S. Lal, Dr. Arvind Kumar Sharma and Ms. Gunjan Dhiman.

### **ETPAdequacy Assessment**

- Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited 14 Pulp and Paper Mills in Meerut, Kashipur, Deoria, Kathua, Kanpur Dehat, Bazpur, Basti, Muzaffarnagar, Roorkee, Derabassi, Sailakhurd Khurd for ETP adequacy assessment.

### **ETPAdequacy of Textile and Dairy Units**

- Dr. Shivaker Mishra visited Two Textile units and One Dairy unit in Meerut for ETP adequacy assessment.

### **Performance Evaluation of Existing ETP**

- Dr. Shivaker Mishra and Dr. Nitin Endlay visited 3 textile units in Meerut for performance evaluation of existing ETP.

### **Zero Liquid Discharge Feasibility**

- Dr. M. K. Gupta, Dr. Shivaker Mishra, Dr. Nitin Endlay, Mohd. Salim, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited 7 pulp and paper mills in Ghaziabad, Kanpur, Meerut, Allahabad, Aghwanpur and Greater Noida for evaluation of feasibility of Zero Liquid Discharge.



### **Inspection and Monitoring of Grossly Polluting Industries (CPCB Project)**

- Dr. Shivaker Mishra, Dr. Nitin Endlay, Shri Pankaj Goley, Shri Abhishek Tyagi and Shri Amitabh Raj Tripathi visited 39 units of Pulp and Paper, Fertilizer, Chemical and Slaughter Houses in Uttarakhand and Uttar Pradesh.

### **CPCB Charter Progress Verification**

- Orient Paper Mills Limited, Amlai, Madhya Pradesh - Dr. Nitin Endlay and Shri Amitabh Raj Tripathi

### **Hazardous Waste Audit**

- Century Pulp & Paper, Lalkua, Uttarakhand – Dr. Nitin Endlay and Shri Raj Pal Singh

### **Field visit for Verification of Subsidy Claim of the mill under Central Capital Investment Subsidy (CCIS) Scheme**

- Purbanchal Timber Industries Limited, Mirza Palasbari, Assam – Dr. M. K. Gupta and Shri S. D. Negi
- Bhabani Print & Publications, Hatisila Panikhati, Assam – Dr. M. K. Gupta and Dr. Sanjay Tyagi

### **Evaluation of Current Status of Revival and Mill Development Plant (RMDP)**

- NEPA Limited, Nepanagar, Burhanpur – Smt. Rita Tandon, Dr. M. K. Gupta and Dr. Sanjay Tyagi

### **Process Evaluation**

- Akar Shakti Limited, Yamunanagar - Dr. R. D. Godiyal and Dr. A. K. Dixit.
- Security Printing & Minting Corporation of India Limited (SPMICL) Corporate Office, New Delhi - Dr. B. P. Thapliyal and Dr. R. D. Godiyal.
- Indian Security Press, Nasik - Dr. Sanjay Tyagi.
- Shanker Gramodyog, Hapur, Uttar Pradesh - Dr. B. P. Thapliyal, Dr. A. K. Dixit, Shri Alok Kumar Goel and Dr. Sanjay Tyagi.
- Bank Note Paper Mill Limited, Mysuru - Smt. Rita Tandon and Dr. M. K. Gupta.

### **Scientific /Academic Institutes and other Organisations**

- Food Safety and Standards Authority of India (FSSAI), New Delhi – Smt. Anuradha V. Janbade.
- National Institute of Food Technology Entrepreneurship and Management (NIFTEM), Kundli - Smt. Anuradha V. Janbade.

- Indian Institute of Packaging, New Delhi - Smt. Anuradha V. Janbade.
- Forest Research Institute, Dehradun – Dr. R.D. Godiyal and Shri Pankaj Kumar Goley.
- Terminal Ballistic Research Laboratory (TBRL), Ramgarh - Dr. Sanjay Tyagi and Shri Alok Kumar Goel.
- RICO Auto Industries, Gurugram - Dr. R. D. Godiyal and Dr. Sanjay Tyagi.
- Bry Air Industries Limited, New Delhi - Dr. Sanjay Tyagi and Shri Alok Kumar Goel.
- Sterling Security Systems, New Delhi - Dr. B. P. Thapliyal, Dr. A. K. Dixit and Dr. Sanjay Tyagi.
- Avantha Centre for Industrial Research & Development (ACIRD), Yamunanagar - Dr. R. D. Godiyal, Dr. A. K. Dixit and Dr. Sanjay Tyagi.
- Indira Gandhi National Open University (IGNOU), New Delhi - Dr. B. P. Thapliyal and Shri Alok Kumar Goel.
- University of Delhi (North Campus), Delhi and SVI Instruments, Gurugram - Dr. A. K. Dixit, Shri Alok Kumar Goel and Shri Kumar Anupam.

### **Collection of Paper Samples**

- Banwari Paper Mills Limited, Kashipur - Shri Alok Kumar Goel and Dr. Arvind Kumar Sharma.
- Pragati Paper Industries, Handsara, Mohali, Punjab - Shri Alok Kumar Goel and Shri Satya Dev Negi.
- Supreme Paper Mills Limited, Nadia, West Bengal - Shri Alok Kumar Goel and Dr. Sanjay Tyagi.
- Silverton Pulp & Paper Private Limited, Muzaffarnagar - Shri Alok Kumar Goel and Shri Satya Dev Negi.





## **M.Sc. (Cellulose and Paper Technology)**

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

### **Activities**

Final year course for the students of Seventh Batch (2017 -2019) 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 testing, paper recycling, chemical recovery, environmental management and biotechnological applications were imparted to the students by CPPRI scientists.

The students also undertook two-month compulsory industrial training at Century Pulp and Paper, Lalkua, Yash Papers Limited, Faizabad, Shreyans Industries Limited, Ahmedgarh and Ballarpur Industries Limited, Yamunanagar as a part of curriculum and also carried out project work in various areas of papermaking.

The students celebrated **Teachers Day** on September 5, 2018 and organised a cultural programme in honour of CPPRI faculty.

The students also participated in the debate and poster competition organised to commemorate **Hindi Week 2018, Vigilance Awareness Week 2018, Swachhta Pakhwada 2018** and **National Productivity Week 2019**.

The students have got placement in Orient Paper Mills Limited, Amlai, Yash Papers Limited, Faizabad, Kuantum Paper Limited, Hoshiarpur and Shreyans Industries Limited, Ahmedgarh.

### **List of Students**

Shri Akshay Airy, Shri Amritendu Panhadhyayee, Shri Ammar Ali Khan, Km. Gursimran Kaur Bagga, Km. Garima Singla, Shri Kunal, Shri Kundan Singh, Km. Olimpiya Biswas, Shri Pallab Mandal, Km. Sakshi Mishra, Shri Shivam, Shri Vikas Saini and Km. Vineeta Basera.

# **Financial Report**

**2018-19**





**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 31.3.2019 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 31.03.2019, and
- ii) In the case of Income & Expenditure Account of the deficit for the year ended on 31.03.2019.

**For SANJAY MISRA & CO.**  
**Chartered Accountants**

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

Date: 26-09-2019  
Place: Saharanpur.



**SANJAY MISRA & CO.**  
Chartered Accountants

118, New Area Vikas Colony  
Delhi Road, Saharanpur  
Phone-(0132) 2769642

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**BALANCE SHEET AS AT 31.3.2019**

Amount (Rs.)

PARTICULARS	Schedule	Current Year	Previous year
		2018-19	2017-18
<b>CAPITAL FUND AND LIABILITIES</b>			
CAPITAL FUND	1	132888049.50	121955036.19
UN-UTILISED SP. PROJECTS& CONSULTANCY	2	1124.25	1570689.51
UNUTILISED GRANTS	3	37675039.80	24121492.50
CURRENT LIABILITIES AND PROVISIONS	4	65680110.49	84437228.00
<b>TOTAL</b>		<b>240102824.01</b>	<b>232064418.20</b>
<b>ASSETS</b>			
FIXED ASSETS	5	88512194.93	95105501.27
CURRENT ASSETS, LOANS, ADVANCES ETC.	6	151590629.08	136978916.93
<b>TOTAL</b>		<b>240102824.01</b>	<b>232064418.20</b>

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: 26-09-2019



**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

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of the Ministry of Commerce & Industry (Govt. of India)  
POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.3.2019**

Amount (Rs.)

PARTICULARS	SCHEDULE	CURRENT YEAR 2018-19	PREVIOUS YEAR 2017-18
<b>A: INCOME</b>			
Income from Institutional & Consultancy fee	7	22405985.00	21494353.00
Grants from Govt. of India	8	102519511.76	121121843.36
Fees/Subscription	9	126000.00	529621.00
Interest earned	10	5010593.57	5572259.92
Other income	11	761545.53	736610.10
Closing Stock-Store Spares & Stationery		2237845.39	
<b>TOTAL (A)</b>		<b>133061481.25</b>	<b>149454687.38</b>
<b>B: EXPENDITURE</b>			
Opening Stock		2299594.46	
Establishment expenses	12	75691341.00	120989752.65
Administrative Expenses etc.	13	49241586.36	28304311.97
Depreciation for current year	5	11062943.32	11888173.89
<b>TOTAL (B)</b>		<b>138295465.14</b>	<b>161182238.51</b>
Excess of Expenditure over Income (B-A)		5233983.89	11727551.13
Excess of Income over Expenditure(A-B)			

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**



Place: Saharanpur  
Date: 26-09-2019

**FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE**

**DIRECTOR**

**ADMINISTRATIVE OFFICER**



**CENTRAL PULP & PAPER RESEARCH INSTITUTE**  
POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR  
RECEIPT & PAYMENT ACCOUNT FOR THE YEAR ENDED 31.3.2019

Amount (Rs.)

RECEIPTS	CURRENT YEAR	PREVIOUS YEAR	PAYMENTS	CURRENT YEAR	PREVIOUS YEAR
<b>Opening Balance:</b>			<b>Grant Refunded to Ministry</b>	135542.00	0.00
To Cash Balance	2011.26	26842.26	<b>Establishment Expenses:</b>		
To Bank Balance on current account	24153761.81	-1237952.25	By Salary & Allowances	55754445.00	70729902.00
To Deposit Accounts (Margin money against letter of Credit)	4344433.74	10544380.00	By CPF Contribution	5397758.00	7865698.00
To Deposit Accounts	62229791.66	61008968.66	By Encashment of Leave	8179557.00	5908575.00
<b>Grant Received:</b>			By Gratuity paid	14450797.00	9936416.00
To Grant in Aid, MOI, GOI	8924000.00	14550000.00	By Reimbursement of Medical Exp.	1880096.00	2054767.00
To Grant in Aid, Development council	121572761.00	113656900.00	<b>Other Administrative Expenses:</b>		
Grant through IPMA against DCPPI	225000.00	0.00	By Lab & Plant Maintenance	5272367.55	1374325.50
<b>Interest Received:</b>			By Cartage & Freight	108000.00	19570.00
To Int. from Staff on Convey. adv.&HBA	719405.00	857314.00	By Electricity and water	7599031.79	7843535.48
To Interest received from bank	4419515.00	720364.74	By Repair & Maintenance of Assets	14218140.93	5047864.90
To Interest Received on refund of TDS	0.00	104177.00	By Rent & Taxes	785176.00	617984.00
<b>Other Income:</b>			By Postage & Telephone & Communication	349287.58	529629.52
To Sale of Publication	8500.00	5200.00	By Printing & Stationery	1112912.67	1105098.22
To Testing fee	13160307.00	11634904.00	By Travelling & Conveyance Exp.	2458854.00	2374838.00
To Consultancy fees	7893629.00	7636885.70	By Testing Fee	905120.00	206025.00
To Training fees	86000.00	216750.00	By Consultancy Expenses.	0.00	172500.00
To Membership fee	40000.00	312871.00	By Hospitality Expenses.	136248.00	187499.00
To Lease rent	98000.00	175000.00	By Legal & Professional Exp.	420128.80	230522.00
To Hostel rent	146450.00	111005.00	By Audit fees	37750.00	29500.00
To Miscellaneous Receipt	198668.53	106539.10	By Training Expenses	625660.00	0.00
To Licence Fee	309927.00	345265.00	By Watch & Ward	6997112.00	5962123.00
To Festival Advance	11700.00	49950.00	By Bank charges	25664.94	6740.66
To House Building Advance	1200008.00	392964.00	By Advertisement	576182.00	94608.00
To Conyance Advance	96550.00	204600.00	By Exp.onSeminar & Workshop	169637.00	76911.00
To Computer Advance	104175.00	240225.00	By Membership subscription	20000.00	0.00
To Service Tax	0.00	897640.00	By News Paper	38537.00	26070.00
To Education cess	29.00	237.00	By Staff Car Maintenance	267925.00	476444.00
To H.Education cess	13.00	24.00	By Hindi Diwas Exp.	11523.00	5401.00
To Swachh Bharat Cess	0.00	31460.00	By swachh Bharat Abhiyan Exp.	246307.00	613300.00
To K.K.Cess	0.00	31352.00	By Raj Bhasha Expenses	16900.00	0.00
To SGST	60397.88	334215.66	By Paper ex	161185.00	111418.00
To CGST	60397.88	334215.66	By Software expenses	866013.00	3600.00
To IGST	1148684.70	1923298.50	By Auction Charges	149872.00	0.00
To Fellowship	0.00	13000.00	By Expenditure on NABL	384925.00	0.00
To TDS Refund	0.00	1096613.00	By Grant in Aid to Participating Agency	1825000.00	0.00
To Security from Staff	5000.00	0.00	By Fixed Assets/ Capital work in Progress	8418012.48	10510757.96
To Security from Student	6000.00	25000.00	<b>Other Payments:</b>		
To Msc. Course Fee	696200.00	502300.00	By Adv.for Assets & Misc Purchase	3877876.00	654473.00
To Laboratory Fee	15000.00	2000.00	By T.D.S.	6705009.00	11369967.00
To Library Fee	6000.00	0.00	By Service Tax	0.00	1159454.00
To Sale of Assets	4443460.50	0.00	By Sawachh Bharat Cess	0.00	47940.00
To Earnest Money refund	175500.00	0.00	By K.K.Cess	0.00	41077.00
To Amount Recoverable	1414564.00	0.00	By SGST	41555.00	292660.66
To CPPRI ECPF Trust for staff payment	0.00	300000.00	By CGST	21097.00	173168.66
To CPPRI ECPF Trust	0.00	9831892.70	By IGST	314478.00	1668799.70
To Sundry Debtors	3144651.17	0.00	By Convatavilment Service Tax	0.00	158458.00
To Refund of Security Deposit	300697.00	0.00	By Convatavilment K.K.Cess	0.00	10659.00
To Refund of Advance for IIP	125799.65	0.00	By Input Tax credit (CGST)	0.00	139950.00
To Scholarship for M.Sc. Student	50000.00	0.00	By Festival Advance	0.00	36000.00
			By House Building Advance	840000.00	1000000.00
			By Conyance Advance	0.00	30000.00
			By Computer Advance	50000.00	125000.00
			By Advance to Staff for Expenses	114991.15	0.00
			By Amount Payable-Other	300000.00	0.00
			By Security Deposit	0.00	216000.00
			By Trade Tax	42650.00	22807.00
			By Security Refunded to Student	0.00	35500.00
			By SECURITY REFUNDED TO STAFF	0.00	3000.00
			By Fellowship	10000.00	0.00
			By Refund of Security	23100.00	0.00
			By Refund of Earnest Money	120000.00	0.00
			By Amount Recoverable	4142.00	1407266.00
			<b>Closing Balances:</b>		
			By Cash Balance	0.00	2011.26
			By Bank Balance on current account	37905254.49	24153761.81
			By Deposit A/c(Margin money against L.C.)	11387698.74	4344433.74
			By Deposit Accounts	6003462.66	62229791.66
<b>TOTAL</b>	<b>261397091.78</b>	<b>243473801.73</b>	<b>TOTAL</b>	<b>261397091.78</b>	<b>243473801.73</b>

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

DIRECTOR ADMINISTRATIVE OFFICER  
As per our separate report of even dated Annexed.  
FOR SANJAY MISRA & CO.  
CHARTERED ACCOUNTANTS

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

Place: Saharanpur  
Date : 26-09-2019



**SANJAY MISRA & CO.**  
Chartered Accountants

11E New Avas Vikas Colony  
Delhi Road, Saharanpur  
Phone (0132) 2780642

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**SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.19**

**SCHEDULE 1 - CAPITAL FUND**

Amount (Rs.)

PARTICULARS	CURRENT YEAR 2018-19		PREVIOUS YEAR 2017-18	
	<b>CAPITAL FUND</b>			
Balance as at the beginning of the year	121855008.19		130485890.82	
<b>Add:</b>				
1. Grants towards Capital Fund	1333751.00		1298524.00	
2. Ceas project(Capital purpose)	15514264.20		1897324.70	
3. Sponsored Project	1500000.00		0.00	
	155130002.39		133622559.52	
<b>less:-</b>				
Balance of net expenditure transferred from the income & expenditure account	5233983.89	132866049.50	11727351.13	121855008.19
<b>BALANCE AS AT THE YEAR - END</b>		<b>132866049.50</b>		<b>121855008.19</b>

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**





**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

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

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

Amount (Rs.)

Sl. No	NAME OF PROJECT	CURRENT YEAR	PREVIOUS YEAR
		2018-19	2017-18
		AMOUNT	AMOUNT
1	CPCB	0.00	13024.26
2	DBT-Technological improvement of Process	1124.25	1124.25
3	Green Chemistry	0.00	1556541.00
		<b>1124.25</b>	<b>1570669.51</b>

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)

Place: Saharanpur  
Date: 30.09.2019

**DIRECTOR**

**ADMINISTRATIVE OFFICER**



BANJAY NISRA & CO.  
Chartered Accountants

116, Kirti Kote Village Colony  
Delhi Road, Saharanpur  
Phone-(0152) 2782642

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**  
An autonomous organization established under Section 3 of the Administrative Control  
of the Ministry of Commerce & Industry (P. U. S. No. 14)  
POST BOX - 171, PAPER MILL ROAD, NEHRU BAGH, SAHARANPUR

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE - 3- DETAILS OF UN-UTILIZED GRANT**

Amount (Rs.)

PARTICULARS	BALANCE		GRANTS RECEIVED & UTILISED DURING 2018-19			UNSPENT BALANCE		
	1.4.2018	31.3.2018	RECEIVED	REFUNDED	NET FUNDS	UTILISED	31.3.19	31.3.18
	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
Plan Grant	24720.00	200000.00	1354.00	287240.00	277000.00	101850.00	24720.00	
<b>BASIC LEVEL SUPPORT (NON-PLAN)</b>	1437.00	3200000.00	0.00	2200437.00	8006641.00	11004896.00	1437.00	
Case Project project								
Project to study effect of Paper Accumulation on the growth of Pulp	592350.00		0.00	592350.00	2206382.00	0.00	592350.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	517000.00	0.00	517000.00	240000.00	277000.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	100000.00	0.00	100000.00	100000.00	0.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	672000.00		0.00	672000.00	100000.00	0.00	672000.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	50000.00	0.00	50000.00	25000.00	0.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	141000.00		0.00	141000.00	170000.00	24000.00	141000.00	
Study on the effect of Paper Accumulation on the growth of Pulp	100000.00		0.00	100000.00	100000.00	0.00	100000.00	
Study on the effect of Paper Accumulation on the growth of Pulp	700000.00		0.00	700000.00	150000.00	550000.00	700000.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	250000.00	0.00	250000.00	250000.00	0.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	100000.00	0.00	100000.00	45000.00	55000.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	100000.00	0.00	100000.00	100000.00	0.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	220000.00	0.00	220000.00	150000.00	70000.00	0.00	
Study on the effect of Paper Accumulation on the growth of Pulp	0.00	100000.00	0.00	100000.00	25000.00	75000.00	0.00	
<b>Total</b>	<b>241200.00</b>	<b>3274670.00</b>	<b>1354.00</b>	<b>5472271.50</b>	<b>1705767.10</b>	<b>5767000.00</b>	<b>241200.00</b>	

As per our certificate report of above date  
FOR BANJAY NISRA & CO.  
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



*[Signature]*  
DIRECTOR

*[Signature]*  
ADMINISTRATIVE OFFICER



**SANJAY MISRA & CO.**  
Chartered Accountants

11B, New Anas Vikas Colony  
Della Road, Saharanpur  
Phone-(0132) 2780642

**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

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE - 4-CURRENT LIABILITIES AND PROVISIONS**

Amount (Rs.)

S.No	PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
		2018-19		2017-18	
<b>A.</b>	<b>CURRENT LIABILITIES AND PROVISIONS</b>				
	<b>CURRENT LIABILITIES:</b>				
	Other Liabilities				
1	Relation Money received	12722.00		12719.00	
2	Security Received from Contractors	82772.00		108312.00	
3	Forward money received	10160.00		21580.00	
4	Advance received for services	214053.00		214055.00	
5	Security received from students	41060.00		35200.00	
6	Security Received from Staff	23050.00		17000.00	
7	CGST	60267.00		0.00	
8	CGST	60267.00		0.00	
9	GST	148864.70		0.00	
10	Scholarships for MSC Student	50000.00		0.00	
			1809239.46		618859.00
	<b>TOTAL (A)</b>		<b>1809239.46</b>		<b>618859.00</b>
<b>B.</b>	<b>PROVISIONS:</b>				
1	Expenses payable	1364547.00		772867.00	
2	Amount Payable/other	0.00		424131.00	
3	Pro. for gratuity & encashment of leave	35300347.00		62475254.00	
4	Audit fee payable	37760.00		37760.00	
5	Performance Bank Guarantee	85657.00		40357.00	
6	Telco/Ship payable	13050.00		25200.00	
7	Provision for CPFB	0.00		37300.00	
8	Income Tax Payable	20060.00	67754071.00	7000.00	33218039.00
	<b>TOTAL (B)</b>		<b>67754371.00</b>		<b>63618359.00</b>
	<b>TOTAL (A+B)</b>		<b>69560610.46</b>		<b>84437228.00</b>

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



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

DIRECTOR

ADMINISTRATIVE OFFICER



**BARJAY MISRA & CO**  
Chartered Accountants

113, New Area, Vikas Colony,  
Batali Road, Saharanpur  
Phone: (0137) 270067

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**  
An autonomous organization registered under section 42 of Under the administrative control of the Ministry of Commerce & Industry (Govt. of India)  
POST BOX - 174 RAJPUR M.I. ROAD, LIGNAT NAGAR, SAHARANPUR

SCI SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31.03.19

**SCHEDULE 3 - FIXED ASSETS**

Amount (Rs.)

Sl No	PARTICULARS	GROSS BLOCK			DEPRECIATION @ 10%		CUMULATIVE DEPRECIATION	NET BLOCK	NET BLOCK	
		TOTAL	LESS: DEPRECIATION	NET	31.03.18	31.03.19			31.03.18	31.03.19
1	Land	1657324.40	0.00	1657324.40			1657324.40	1657324.40		
2	Land Building, Work in Progress	457244.48	0.00	457244.48			457244.48	457244.48		
3	Building	1065522.80	1065522.75	95899.05	1065522.80	1065522.75	1065522.80	1065522.75	1065522.80	
4	Plant & machinery	1517332.60	1166952.71	350379.89	1517332.60	1166952.71	350379.89	1517332.60	1166952.71	
5	Tools, dies	261822.56	866182.01	(604359.45)	261822.56	866182.01	(604359.45)	261822.56	866182.01	
6	Transportation	457244.48	56572.80	400671.68			400671.68	457244.48	400671.68	
7	Vehicle	225111.84	225111.81	30000.33			30000.33	225111.84	225111.81	
8	Particulars - Staff quarters	276122.72	276122.88	(604359.45)	276122.72	276122.88	(604359.45)	276122.72	276122.88	
9	Particulars - Staff H	57222.66	57222.85	(1305.19)			(1305.19)	57222.66	57222.85	
10	Particulars - Furniture	57222.66	48888.28	8333.38			8333.38	57222.66	48888.28	
11	Workshop power	55522.67	45422.17	10100.50			10100.50	55522.67	45422.17	
12	Particulars	21122.15	21122.79	(604359.45)			(604359.45)	21122.15	21122.79	
13	Other	22422.66	24422.06	(1999.40)			(1999.40)	22422.66	24422.06	
14	Particulars - Stock	65222.72	45222.77	20000.00	65222.72	45222.77	20000.00	65222.72	45222.77	
15	Particulars - Stock	22422.66	18422.54	40000.12			40000.12	22422.66	18422.54	
16	Particulars - Stock	65222.66	66222.75	(10000.09)			(10000.09)	65222.66	66222.75	
17	Particulars	1657324.40	177422.47	1491901.93	1657324.40	177422.47	1491901.93	1657324.40	177422.47	
18	Particulars - Power	55522.66	0.00	55522.66			55522.66	55522.66	0.00	
19	Particulars - Power	55522.66	1322.00	54200.66			54200.66	55522.66	1322.00	
20	Total	10417416	1177422	9240000	10417416	1177422	9240000	10417416	1177422	
21	TOTAL OF GROSS BLOCK	10417416	1177422	9240000	10417416	1177422	9240000	10417416	1177422	
22	TOTAL OF NET BLOCK	9240000	0.00	9240000	9240000	0.00	9240000	9240000	0.00	

Report prepared by MCA 21 system  
FOR BARJAY MISRA & CO  
CHARTERED ACCOUNTANTS

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



*[Signature]*  
DIRECTOR

*[Signature]*  
MANAGING OFFICER



**SANJAY NIGRA & CO.**  
Chartered Accountants

116, New Area Vihar Colony  
Post Bag Road, Saharanpur  
Phone-(0132) 2700042

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

An autonomous organization registered under section 30-A of the Income Tax Act, 1961 and the term "Institute" defined in sub-section (3) of section 2 of the Income Tax Act, 1961.  
POST BOX - 74, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

SCHEDULE III FORMING PART OF BALANCE SHEET AS AT 31.3.2019

SCHEDULE III - C - CURRENT ASSETS, LOANS, ADVANCES ETC

Amount (Rs.)

Sl.No.	PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
		2018-19		2017-18	
<b>A: CURRENT ASSETS:</b>					
1	Inventory				
2	Stock & Spares	1751064.00		1779119.39	
3	Banking & Misc. Sundry	456283.70	2237846.30	500471.10	2206694.46
2	Debit balance sundries		0.00		2611.28
3	Bank Balance with Financial Institutions				
	Debit Credit Accounts		32408261.74		2414731.71
	Cr. Deposit Accounts (margin money against bills of exchange)		11387508.74		434433.74
	Debit Credit Accounts		343796.94		1225731.68
	Accrued Interest on SDR		148710.72		2016236.52
<b>B: LOANS, ADVANCES AND OTHER ASSETS:</b>					
<u>Loans to Staff</u>					
1	Maximum Loaning Advance				
4	Fundial Advances	300		1730.00	
5	Miscellaneous Advances	300	0.00	277.00	1877.00
2	Interest bearing Advances				
4	Maximum Fundial Advances	1132584.00		1008879.00	
5	Advances for purchase of Vehicle	5220.00		14500.00	
5	Advances for computer	12580.00		13270.00	
1	Accrued Interest on Advances	301545.00	2163437.00	134835.00	3206235.00
3	Advances and other amounts recoverable in cash or in kind or in value to be received				
<b>ADVANCES:</b>					
4	Provision of Machinery from other bank	16896333.1		8370135.01	
5	Advance Paid to P.N. Bhargava for P.N. Bhargava	300		12799.00	
5	Advance paid to J.B. Bhatnagar for J.B. Bhatnagar	50.00		50.00	
1	Advances to UPFNN	35000.00	11000358.04	35000.00	8348034.60
	Advances to members of staff or other				
3	Amount Recoverable	4742.00		141534.00	
4	T.D.S.	847250.00		6802890.00	
5	Advance from Education Dept	1937.00		153.00	
3	Overseas from I.L.D. (DOP) Dept	280.00		370.00	
2	Cash Advance - K. K. Chak	4899.00		4899.00	
1	Study Facilities	1654471.70		1336179.27	
2	Plant, Equipment, etc. (P.N. Bhargava)	284611.00		224611.00	
1	Loan Equipment (P.N. Bhargava) Council	220682.00		100082.00	
1	Patrol Motor Transport	50.00		10000.00	
1	NPFA	300.00		300.00	
1	Interest	10420.00		28020.00	
1	Advance to D.P.R. Dept	828245.10		1206477.00	
10	Security Deposits	124168.30		124000.00	
1	Telephone deposit under UP	29739.00		29739.00	
3	Advances to members of staff or other	0.00		86435.00	
3	Loans	11000.00	2329561.77	11000.00	2902044.79
	<b>TOTAL</b>		<b>15158069.08</b>		<b>138878918.90</b>

Sanjay Nigra & Co. Chartered Accountants  
FOR SANJAY NIGRA & CO.  
CHARTERED ACCOUNTANTS



FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE

*[Signature]*  
DIRECTOR

*[Signature]*  
ADMINISTRATIVE OFFICER



**SANJAY MISRA & CO.**  
Chartered Accountants

116, New Avas Vikas Colony  
Delhi Road, Saharanpur  
Phone-(0132) 2780642

**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

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE -7-INCOME FROM INSTITUTIONAL AND CONSULTANCY FEE**

Amount (Rs.)

S.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2018-19	2017-18
1	Testing fee	13727565.00	12347299.00
2	Consultancy fee.	7961220.00	8642754.00
3	Laboratory Fee	15000.00	0.00
4	Library Fee	6000.00	2000.00
5	M.Sc. Course Fee	696200.00	502300.00
	<b>TOTAL</b>	<b>22405985.00</b>	<b>21494353.00</b>

As per our separate report of even date. **FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE**  
**FOR SANJAY MISRA & CO.**  
**CHARTERED ACCOUNTANTS**



(SANJAY MISRA)  
F.C.A. (SA(DISA))

Place: Saharanpur  
Date: 26-09-2019

**DIRECTOR**

**ADMINISTRATIVE OFFICER**



**SANJAY MISRA & CO.**  
Chartered Accountants

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

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

An autonomous organisation registered under section 8(c) under the administrative control of the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE - 8 - GOVERNMENT GRANT RECEIVED**

Amount (Rs.)

S.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2018-19	2017-18
1	Government of India - Plan	7748321.00	13162534.00
2(a)	Government of India through Development Council for Pulp & Paper & Allied Industries Non Plan	20996671.00	99996563.00
(a)	Core Sector Grants for Development Council PPA Industry	0.00	1700000.00
3	Green Chemistry	58541.00	943459.00
4	Central Pollution Control Board (CPCB)	53374.78	0.00
5	Government of India through Development Council for Pulp, Paper & Allied Industries for Core Projects		
(a)	Continuous Educational Training of Tech Personnel	1938376.00	251428.64
(b)	Development of Protocols	1000127.00	0.00
(c)	Improvement in Shortage of Oxygen Bleaching	0.00	675434.90
(d)	An integrated approach for utilization of Rogasson Pith	1314787.00	273033.00
(e)	Statistical Data collection Cell for Indian Pulp & Paper Industry	1129172.00	1134061.92
(f)	Ozone treatment on odorous Paper	0.00	229721.00
(g)	Anti-ventilation - highest Brightness & Whiteness	231471.50	0.00
(h)	Increase in Brightness	0.00	751708.60
(i)	Study on Technological status and potential of Productivity	0.00	167636.00
(j)	Biochemical abatement of Polluting load in Wastewater	531000.00	971073.00
(k)	Utilization of Lignin as Value Added Product for Manufacturing of Rubber Product	1114070.00	133024.00
(l)	Capable Building and upgrading of Infrastructure for Industrial Complexes	1182004.00	383863.00
(m)	Study on Preparation of Cellulose Micro/Nano Fibres	1077053.00	293264.00
(n)	Construction of Testing Facilities for Food Packaging paper	1456510.00	0.00
(o)	Advanced and Economical approach for treatment of Pulp & Paper Mill	1575000.00	0.00
(p)	Screening of Papers for Green Chemistry Hybrid approach for paper production	380000.00	0.00
(q)	Dematerialisation of Ozone Treatment Technology	758082.00	0.00
	<b>TOTAL</b>	<b>102519511.76</b>	<b>121121843.36</b>

As per separate report of even date  
M/s. SANJAY MISRA & CO.  
CHARTERED ACCOUNTANTS



**FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE**

*[Signature]*  
DIRECTOR

*[Signature]*  
ADMINISTRATIVE OFFICER



**SANJAY MISRA & CO.**  
Chartered Accountants

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

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

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of the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR.

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE 9 - FEES/SUBSCRIPTION'S.**

Amount (Rs.)

S.No.	PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
		2018-19	2017-18
1	Membership fees	40000.00	312871.00
2	Training fees/Registration fees	86000.00	216750.00
	<b>TOTAL</b>	<b>126000.00</b>	<b>529621.00</b>

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

**FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE**



Place: Saharanpur  
Date: 26-09-2019

DIRECTOR

ADMINISTRATIVE OFFICER





**SANJAY MISRA & CO.**  
Chartered Accountants

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

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

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POST BOX - 174, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

**SCHEDULE 10 - INTEREST EARNED.**

Amount (Rs.)

Sl. No.	PARTICULARS	CURRENT YEAR 2018-19	PREVIOUS YEAR 2017-18
	<b>INTEREST EARNED</b>		
1	On Term Deposite with schedule Bank	4833781.57	5337472.92
2	On Loan to staff	176812.00	130610.00
3	Interest on Refund of TDS	0.00	104177.00
	<b>TOTAL</b>	<b>5010593.57</b>	<b>5572259.92</b>

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

**FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE**



Place: Saharanpur  
Date: 26-09-2019

**DIRECTOR**

**ADMINISTRATIVE OFFICER**



**SANJAY MISRA & CO.**  
Chartered Accountants

115, 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 - 71, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

SCHEMULI ES FORMING PART OF BALANCE SHEET AS AT 31.3.2019

### SCHEDULE 11 - OTHER INCOME

Amount (Rs.)

Sl.No.	PARTICULARS	CURRENT YEAR 2018-19	PREVIOUS YEAR 2017-18
	<b>OTHER INCOME</b>		
1	Hostel rent	148450.00	111005.00
2	Lease rent	98000.00	175000.00
3	Licence fee	300027.00	345265.00
4	Miscellaneous income	198668.53	100140.10
5	Sale of Publications	8500.00	5200.00
	<b>TOTAL</b>	<b>761545.53</b>	<b>736610.10</b>

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

FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE



DIRECTOR

ADMINISTRATIVE OFFICER



**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 - 171, PAPER MILL ROAD, HIMMAT NAGAR, SAHARANPUR

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2019

**SCHEDULE 12 - ESTABLISHMENT EXPENSES.**

Amount (Rs.)

S.No.	PARTICULARS	CURRENT YEAR 2018-19	PREVIOUS YEAR 2017-18
	<b>ESTABLISHMENT EXPENSES</b>		
1	Salary & Allowances	62290961.00	80023189.65
2	CPF Contribution	5397758.00	7865698.00
3	Gratuity Paid	2748840.00	23401403.00
4	Encashment of leave	3336199.00	7617375.00
5	Reimbursement of medical expenses	1917575.00	2082087.00
	<b>TOTAL</b>	<b>75691341.00</b>	<b>120989752.65</b>

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)

Place: Saharanpur  
Date: 20-09-2019

**DIRECTOR**

**ADMINISTRATIVE OFFICER**



**SANJAY MISRA & CO.**  
Chartered Accountants

116, New Anand Vikas Colony  
Delhi Road, Saharanpur  
Phone-(0152) 2760842

**CENTRAL PULP & PAPER RESEARCH INSTITUTE**

An undertaking incorporated under section 3 of the Companies Act, 1956 and registered with the Ministry of Commerce & Industry (Govt. of India)

POST BOX - 174, PAPER MILL ROAD, HEMVAT NAGAR, SAHARANPUR

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2019

**SCHEDULE 13 - ADMINISTRATIVE EXPENSES ETC**

Amount (Rs.)

S.No	PARTICULARS	Amount (Rs.)	
		CURRENT YEAR 2018-19	PREVIOUS YEAR 2017-18
	<b>OTHER ADMINISTRATIVE EXPENSES ETC.</b>		
1	o Lab & Plant Maintenance	578542.55	1671515.35
2	o Cartage & Freight	14075.00	34505.00
3	o Electricity and water	7295051.75	7845535.48
4	o Repair & Maintenance of Assets	576573.12	5670520.19
5	o Rent & Taxes	273376.00	679760.00
6	o Postage & Telephone & Communication	66097.04	641229.52
7	o Printing & Stationery	1119818.00	110128.72
8	o Traveling & Conveyance Exp.	201744.00	2145710.85
9	o Export Seminar & Workshop	35069.55	4247.00
10	o Membership subscription	2000.00	0.00
11	o Audit fees	37760.00	37760.00
12	o Hospitality Expenses	64248.00	157495.00
13	o Legal & Professional Exp.	191756.80	259116.00
14	o News Paper Exp	38237.10	26570.00
15	o Training Expenses	81724.10	0.00
16	o Watch & Worn	78373.00	812871.00
17	o Bank charges	25682.94	6740.58
18	o Advertisement	572359.00	10885.00
19	o Taxing Fee Paid	59581.00	206025.00
20	o Staff Car Maint.	243739.00	453820.00
21	o Fuel & Diesel Exp.	1023.00	640.00
22	o Swasth Pratishthan Exp	245057.10	622410.00
23	o Software Exp	11000.00	1000.00
24	o Consultancy Fee Paid	0.00	172500.00
25	o Paper Exp	78165.00	11415.00
26	o Raj Bhasha Exp	2680.00	0.00
27	o Auction Charges	15872.00	0.00
28	o Expenditure on NABL	281925.00	0.00
29	o Trade Tax	42629.10	0.00
30	o Grant in Aid Paid	1829031.10	0.00
31	o Administrative Charges	20000.00	0.00
	<b>TOTAL</b>	<b>49241586.36</b>	<b>28304311.97</b>

As per our separate report of even date FOR CENTRAL PULP & PAPER RESEARCH INSTITUTE  
FOR SANJAY MISRA & CO.  
CHARTERED ACCOUNTANTS



*[Signature]*  
DIRECTOR

*[Signature]*  
ADMINISTRATIVE OFFICER



**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.)**

### **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. 2748848.00 and for leave encashment is Rs. 3336199.00 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 31.3.2019 is Rs. 11030083.94 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.16145025.20 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.8914071.48. Regarding more capital expenditure of Rs.7230953.72, it is stated by the management that it is due to adjustment of suppliers bills and from letter of credits in the current year.



7. The management has confirmed that:
- 7.1 The provisions of all known income, expenditure and liabilities have been made.
  - 7.2 No contingent liability exist on the date of Balance-sheet.
  - 7.3 No significant event has occurred from the date of Balance-sheet and audit.

**For Central Pulp & Paper Research Institute**

A handwritten signature in blue ink, appearing to be 'D. S. S.', written over a horizontal line.

(ADMINISTRATIVE OFFICER)

A handwritten signature in blue ink, appearing to be 'S. Misra', written over a horizontal line.

(DIRECTOR)

**For SANJAY MISRA & CO.  
Chartered Accountants**



(SANJAY MISRA)  
F.C.A., I.S.A. (DISA)

Date: 26-09-2019  
Place: Saharanpur.

## THE STAFF

### Director's Secretariat

Director	Dr. B. P. Thapliyal, M.Sc., M.Tech., Ph.D., Accredited Energy Auditor
Personal Assistant	Shri M. P. Sharma, M.A. (Superannuated on 31.12.2018)
Technician	Shri R. K. Kapoor Shri Sunder Lal

### Physical Chemistry, Pulping and Bleaching Division

Scientist-G & Head	Smt. Rita Tandon, M.Sc. (w.e.f. 23.04.2018)
Scientist E-I	Dr. Rajnish Tandon, M.Sc., Ph.D. (Superannuated on 31.12.2018)
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 and Paper), Ph.D.
Technician	Shri Mussadi Lal Semwal

### Stock Preparation and Papermaking Division

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 and Paper)
Technician	Shri Sharma Kumar

### Paper Testing, Energy Management and Computer Maintenance Division

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. Accredited Energy Auditor
Technical Officer - C	Shri N. K. Naik, Diploma in Engineering (Industrial Electronics)
S.S.A.	Mohd. Salim, M.Sc.

### Chemical Recovery Division

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 Negi





### **Environmental Management Division**

Scientist F & Head	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.
Technical Officer - C	Shri Raj Pal Singh, Intermediate, Certificate Course in Pulp & Paper Technology (Superannuated on 31.10.2018)
Technical Officer – B	Shri Gyan Pal Singh, Certificate Course in Pulp & Paper Technology (Superannuated on 31.01.2019)
Section Officer	Shri Y. K. Sharma, M.A., PGDM, Office Management Course from ISTMS
Technician	Shri Magan Singh (Superannuated on 31.03.2019)

### **Bio-Technology Division**

Scientist E-II & Incharge	Smt. Anuradha V. Janbade, M.Sc.
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### **Technical Services & Co-ordination Cell (TSCC)**

Scientist-E-I	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.
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### **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 and Paper), Ph.D. Shri Kumar Anupam, B.Tech. (Chemical Engineering) Shri Y. K. Sharma, M.A., PGDM, Office Management Course from ISTMS

### **Engineering and Maintenance Division**

Scientist F & Head	Dr. M. K. Gupta, M.Sc., Ph. D (Upto 8.1.2019)
Scientist E-II & Head	Dr. Shivaker Mishra, M.Sc., Ph. D (w.e.f. 8.1.2019)
Technical Officer E-I	Shri Brij Pal Singh, B.A., Diploma in Mechanical Engineering (Superannuated on 30.04.2018)
Technical Officer - B	Shri Pankaj Kumar Goley, B.Tech. (Electrical Engineering) Shri R.L. Gupta, Boiler Attendant Certificate Course (Superannuated on 30.06.2018)
Driver	Shri Shri Bhagwan Sharma
Technician	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. (Superannuated on 30.09.2018)
Technicians	Shri Nasir Ali Smt. Shivkala Thapa (Superannuated on 28.02.2019)

### **Finance and Accounts Division**

In charge	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. (Superannuated on 30.06.2018) Shri B. B. Chettri, M.A. Shri Naresh Kumar, B.Com. (Superannuated on 31.03.2019)
Technician	Shri Prem Singh (Superannuated on 31.12.2018)

### **Store and 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. (Superannuated on 30.09.2018)
Incharge (Stores)	Shri A. K. Saxena, M. Com. (w.e.f. 01.10.2018)
Incharge (Purchase)	Shri Alok Kumar Goel, M.Sc., Passed National Certificate Examination for Energy Managers (w.e.f. 27.09.2018)



Accountant	Shri L. D. Joshi, B.A. (Superannuated on 30.04.2018) Shri J. S. Bist, B.A.
Technician	Shri Dushyant Kumar

### **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. (Superannuated on 30.09.2018)
Estate Officer	Shri A. K. Saxena, M. Com. (w.e.f. 01.10.2018)
Technician	Shri Gopal Dutt

### **Industrial Co-operation and Business Development, New Delhi**

Scientist E-II & Officer-Incharge	Dr. Kawaljeet Singh, M.Sc., Ph.D.
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