ANNUAL REPORT 2020 - 21

# NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION

*(Linked to Ministry of Textiles, Government of India)*

**Sector – 23, Raj Nagar, Ghaziabad – 201 002 (India)**

# ANNUAL REPORT
# 2020-21


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**(Linked to Ministry of Textiles, Govt. of India)**

**SECTOR-23, RAJ NAGAR, GHAZIABAD-201 002 (INDIA)**

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# MESSAGE FROM THE CHAIRMAN
# COUNCIL OF ADMINISTRATION

Dear Patron,

It is a matter of great pleasure for me to address as the Chairman of NITRA, which is one of the leading textile research associations in the country. NITRA has not only been providing R&D and other technical support to Indian textile and clothing industry since its inception in 1974 but is also continuing to serve the industry in a diversified & sustained manner year after year. The best part of NITRA is that without getting complacent for what they have achieved, their pursuit for excellence is continuous hence the organization is growing at a steady pace. I duly credit NITRA's esteemed patrons, valued clientele and efficient workforce for these achievements.

This Financial Year 2020-21 has been an unprecedented one for the whole world following the spread of Covid-19. The pandemic casts a shadow and resulted in massive adverse impact on every sphere of life such as the health, economy, social structure, trade & business and many more. Every industry, including the T&A industry, has also suffered a jolt following different phases of lock-down during the year. However, with the vaccination process in full swing, I strongly believe, life and business will be normalized in near times to come.

As for NITRA, we are happy to inform that we could manage to resume some of our emergency testing services and Inspection services for medical textile products on a restricted manner even during the initial lockdown phase with special permission from the authorities. Seeing the need of the hour NITRA established a sophisticated Microbiology Laboratory on an emergency basis and started conducting testing and certification of Synthetic Blood Penetration Test for Body Coveralls for COVID 19. Ministry of Textiles Govt. of India also approved these facilities subsequently. NITRA provided these important services (inspection and testing), when they were most needed, hence we at NITRA feel very proud to have contributed to the nation's fight against Covid -19. In this context, it is also worth mentioning that NITRA's Inspection Services are also accredited against ISO/IEC 17020:2012 by NABCB for textiles and apparel.

Another notable development was for enriching the knowledge of T&A industry professionals during phased lockdown period. NITRA experts conceived and organized a series of six technical webinars on various contemporary issues having direct bearing with this industry. All the webinars were full-house and highly appreciated by the participating professionals. Furthermore, two important MoU, one with Centre for Indian Bamboo Research & Technology, New Delhi and another with University of Huddersfield, UK has been signed.

It is again a matter of great satisfaction that even during this trying period NITRA is acknowledged for contributing to the Indian textile industry and awarded three patents. The first one is for extraction of fibres from pine needles. This is the result of a research project “Development of value added products from different fibres in Himalayan region”, sponsored by MoT, GoI. The second one is for “A short manufacturing process for semi-finished and/or finished products using a loom” and the latest one being, “An apparatus to determine heat and light cutting ability of curtains.” With having awarded three patents during this turbulent fiscal, I once more feel proud as the chairman of NITRA and endorse this success to the team of dedicated NITRA scientists.

I am also pleased to inform that during the reported period NITRA scientists have carried out 9 R&D projects out of which 3 is completed and 6 in the pipeline. In addition to this, 6 need-based projects are also proposed to various GoI and other agencies. As many as 26 research papers are published and presented by NITRA scientists during the reported period. The other activities of NITRA i.e. technical consultancy, material quality evaluation, third party inspection and manpower training have also been quite satisfactory during the last financial year.

NITRA’s academic wing **NITRA Technical Campus,** established in 2011-12, has done well during the reported period and is successfully conducting two 4-year B. Tech programs on Textile Technology and Computer Science & Engineering. The institute is affiliated to AKTU, Lucknow and approved by AICTE. This is also accredited by the Engineering Council of India and is an ISO 9001 facility. The first six batches of students have passed out with excellent results and are placed in renowned textiles and IT companies pan India. We are also happy that for the fourth consecutive year our students featured in university top ten for textile category and won gold and silver medals.

I express my sincere gratitude to the textile and garment industries, Ministry of Textiles, Government of India, Ministry of Agriculture and Farmers Welfare, Government of India, U.P. State Government and various para-military forces for patronizing NITRA’s facilities. I assure that, NITRA would continue to serve all its stakeholders in most fruitful manner in the coming times.

**DINESH NOLKHA**

# FROM THE DIRECTOR GENERAL'S DESK

During the financial year 2020-21, NITRA has done commendable work to support the Indian textiles & garment industry. Following are the highlights:

**Activities at a glance (2020-21)**

| | |
|---|---|
| **R&D** | |
| Projects completed | 03 |
| Projects ongoing | 06 |
| Research papers | 26 |
| **Consultancy services** | |
| Technical consultancies | 211 |
| Technical opinions & defect analysis | 8 |
| **Testing services** | |
| Quality evaluation in NITRA labs | 6136 |
| **Training services** | |
| Manpower training programs | 18 |
| Personnel trained by NITRA | 782 |

| | |
|---|---|
| **Clientele** | |
| Clients served | 1243 |
| New clients inducted | 141 |
| **PLSCs** | |
| Technical assistance/consultancies | 72 |
| Design developed | 24 |
| Liaison visits/Survey carried out (No. of units covered) | 2849 |
| Sample tested | 2922 |
| Persons trained | 315 |
| Clients served | 400 |
| New clients added | 40 |

**1. Research & Development Cell**

Govt. Sponsored On-going Projects:

- Development of value added products from different fibres in Himalayan Region
- Development of air cleaner home textiles to reduce indoor air pollution
- Development of regenerated cellulosic fibres from Indian bamboo

Proposed Projects submitted to Govt. Agencies:

- Development of low cost and handy indigenous device for textile fibre and small irregular shape density measurement (submitted to Deptt. of Science & Technology, Govt. of India)
- Socio economic development of SC/ST by providing training, technology and market to convert local resources to industrial products (submitted to Deptt. of Science & Technology, Govt. of India)

Publications: 8 (2 with CQE)

Technical Consultancy: 19 (including with others)

## 2. Chemical & Quality Evaluation Division

Govt. Sponsored On-going Project:

- New approaches to reduce water consumption in textile wet processing

Industry Sponsored Completed Projects:

- Development of coat combat disruptive
- Development of technical textile products in the field of feminine hygiene

Industry Sponsored On-going Projects:

- Development of antibacterial and antifungal properties in cotton and lotus fabric
- Development of FR knitted fabric for anti-flash hood for Indian army

Proposed Projects submitted to Govt. Agencies:

- To develop protective work-wear for sewage and sanitary workers (submitted to Deptt. of Science & Technology, Govt. of India)
- Development of manhole cover and drainage cover slab using agricultural waste (submitted to Deptt. of Science & Technology, Govt. of India)
- Development of indigenous bacterial filtration efficiency tester for surgical face mask (submitted to Deptt. of Science & Technology, Govt. of India)
- Development of NCI (Natural Compression Imprint) Machine for Textile Substrate (submitted to Deptt. of Science & Technology, Govt. of India)

Publications: 12 (2 with R&D Cell)

Technical Consultancy: 3 (including with others)

Training Programs: 2 (including with others)

## 3. Engineering Division

Publications: 1

Technical Consultancy: 6 (including with others)

Training Program: 2

## 4. Environmental Engineering Division

Completed Project:

- Setting up of Common Effluent Treatment Plant (CETP) - 150 KLD at Ajrakhpur, Bhuj (Sponsored by Ministry of Textiles, Govt. of India)

## 5. Garment Centre

Technical Consultancy: 25 (including with others)

Training Programs: 13 (including with others)

**6. Marketing & Publication Division**

Technical Consultancy: 60 (including with others)

**7. Mechanical Processing (Spg. & Wvg.) Division**

Technical Consultancy: 79 (including with others)

**8. Physics & Quality Evaluation Division**

Technical Consultancy: 34 (including with others)

**9. Polymer & Technical Textile Division**

Technical Consultancy: 1 (with other)

**10. Software Development Centre**

Publications: 7

Training Program: 3 (including with others)

**Quality Evaluation at NITRA Laboratories**

Altogether 6,136 samples were tested at NITRA's NABL accredited laboratories during 2020-21. Following is the laboratory-wise break up for the same:

| | | |
|---|---|---|
| Physical Quality Evaluation Laboratory | - | 2220 samples |
| Chemical Quality Evaluation Laboratory<br>Heat & Flame Testing Laboratory | - | 3096 samples |
| Polymer & Technical Textiles Laboratory | - | 636 samples |
| Environment Laboratory &<br>Eco Laboratory | - | 184 samples |

In addition to above, 8 fabric defect/damage analysis was carried out in various NITRA laboratories. More than 250 R&D samples were also tested in PQE and CQE labs.

**Publications**

In the year under review, 26 research & technical papers are published/presented in technical journals and forums.

**Memorandum of Understanding Signed**

- With M/s. Centre for Indian Bamboo Research & Technology, New Delhi for cooperation in conducting a R&D project, sanctioned by Ministry of Agriculture & Farmer's Welfare, Govt. of India on 25th August, 2020.

- With M/s. Solidaridad Regional Expertise Centre (SREC), New Delhi on 7th September 2020 for work towards sustainable growth of Panipat Cluster

**Mutual non-disclosure agreement signed with University of Huddersfield, UK**

- A mutual non-disclosure agreement signed with University of Huddersfield, UK on 2nd September for detail discussion on carrying out joint project with NITRA.

**Power loom Service Centres**

In order to strengthen the decentralized power loom sector, NITRA rendered various value added services through eight Power Loom Service Centres located at Tanda, Kanpur, Meerut, Gorakhpur, Varanasi (all in U.P.), Panipat (Haryana), Ludhiana (Punjab) and Bhilwara (Rajasthan). (For details refer chapter Power loom Service Centres).

**Patents**

Following patents obtained during the year:

- An apparatus to determine heat and light cutting ability of curtains. Patent No.350763 dated 3.11.2020 (Inventor: Dr. M.S. Parmar)

- A process for fiber extraction from Pine Needles (Perul). Patent No.355691 dated 12.01.2021(Inventors: Shri Ajay Tamta, Ms. Shweta Chauhan and Dr. Arindam Basu)

- A short manufacturing process for semi-finished and/or finished products using a loom. Patent No.357432 dated 01.02.2021 (Inventors: Dr. J.V. Rao & Shri A.K. Pandey)

**Important Events and Happenings during 2020-21***

- Research Advisory Committee Meeting at NITRA
- Prof. Vineet Kansal, Pro Vice Chancellor, AKTU visits NITRA Technical Campus
- NITRA Technical Campus students bag gold and silver medal for four consecutive years
- Industrialist Sh. Dinesh Nolkha takes over as NITRA's New Chairman

**For details please refer chapter Important Events and Happenings during 2020-21.*

**Dr. ARINDAM BASU**

## NITRA's SERVICES TO ITS CLIENTS - AT A GLANCE

NITRA always believes in satisfying its clients. That is why it has been able to retain most of its existing clients and at the same time include new clients. Many clients have availed NITRA's services time and again. Data given below provides the information related to services rendered by NITRA to its clients during 2020-21.

| | | |
|---|---|---|
| Total clients served | : | 1243 |
| New Clients added | : | 141 |

Approx. 21% of the clients at NITRA have availed services 5 times or more during the year.

- **Units availed services more than 100 times**

| Unit | No. of Services |
|---|---|
| Tuv Sud South Asia Pvt. Ltd., Gurgaon | 137 |

- **Units availed services more than 50 and less than or up to 100 times**

| Unit | No. of Services |
|---|---|
| Arihant Spinning Mills, Malerkotla | 81 |
| G.M. Trading Co., Haridwar | 77 |
| Aeronav Industrial Safety Appliances, Noida | 70 |
| Pilkhuwa Water Proofing Co. Pvt. Ltd., Ghaziabad | 57 |
| Ordnance Clothing Factory, Shahjahanpur | 54 |

- **Units availed services more than 30 and less than or up to 50 times**

| Unit | No. of Services |
|---|---|
| Amar India Woollen Mills, Amritsar | 40 |
| HLL Life Care Limited, Kerala | 40 |
| K.K.K. Mills, Ludhiana | 38 |
| Sunil Industries Limited, Mumbai | 38 |
| Sheela Foam Pvt. Ltd., Noida | 34 |
| Geo Chem Laboratories (P) Ltd., Gurgaon | 33 |
| Khadi Village Industries Comm., New Delhi | 32 |

- **Total number of services availed by clients at NITRA**

| | |
|---|---|
| Testing | 3495 |
| Consultancy/Training etc. | 182 |
| Total Services availed | 3677 |

# ORGANISATION: FINANCIAL PERFORMANCE & MEMBERSHIP

## Government Grant

Ministry of Textiles (MoT), Govt. of India, deserves special thanks for helping NITRA by releasing timely grant for recurring expenditure. MoT released a grant of Rs.150.00 lacs towards recurring expenditure. NITRA have received grant of Rs.122.00 lacs from Office of the Textile Commissioner, Mumbai for continuing the activities of Power Loom Service Centres at Tanda, Meerut, Ludhiana, Kanpur, Gorakhpur, Panipat, Bhilwara & Varanasi.

NITRA received Rs.20.00 lacs grant for a project namely Development of regenerated cellulosic fibre from Indian Bamboo from National Bamboo Mission, Department of Agriculture.

## Council of Administration

The management of the Association is entrusted to the Governing Council. At the 44th Annual General Meeting (virtual) of the Association held on 25th September 2020, the new Council of Administration was constituted as given in Annex-1. The Council met three times during the year.

## Finance & Administrative Sub-committee

The Finance & Administrative Sub-Committee continued to look into the administrative and financial matters. All matters relating to administrative procedures, staff, matters relating to the members of association and financial matter were brought before this committee for discussion, guidance and approval. This committee met twice during this period. A list of the members of Finance & Administrative Sub-Committee is given in Annex-2.

## Research Advisory Committee

Research Advisory Committee virtual meeting was held on 19th December 2020. This is an annual event at NITRA with a view to assess the progress of NITRA's ongoing R&D projects and to make necessary modification on those, if required. The committee also suggests areas to be considered for NITRA's future R&D activities. A list of the members of Research Advisory Committee is given in Annex-3.

## NITRA Membership

As on 31st March 2021, 129 textile and garment units have registered as NITRA members. The list of members is given in Annex-4.

# RESEARCH & DEVELOPMENT ACTIVITIES

As a policy matter, the aim for NITRA's research and development activities is to help the industry. So, at NITRA, ideas for most of the R & D projects are conceived only after interaction with the industry. Need based projects are earmarked for carrying out research and special emphasis is given to those projects which have industry acceptance as well as commercial viability.

In the year 2020-21, NITRA worked on nine projects. Out of which three have been successfully completed during the period whilst work is in progress for the six projects.

Work done in the area of R&D during the year 2020-2021 is categorized as below:

## 1. GOVERNMENT SPONSORED PROJECTS

### 1.1 Completed projects

**(i) Project title** : Setting up of Common Effluent Treatment Plant (CETP) -150 KLD at Ajrakhpur, Bhuj (Sponsored by Ministry of Textiles, Govt. of India)

**Objectives** :
- Environment protection
- Ground water saving
- Energy conservation through reduction in ground water lifting
- To increase investment opportunity
- Creation of employment opportunities through overall business growth

**Scope of work** :
- Preparation of DPR with detailed BOQ
- Preparation of drawings, tendering & tender evaluation
- Supply, construction, installation of all civil units as per the design and drawing
- Supply & installation of electro-mechanical equipment as per the design and specification
- Piping work and Hydraulic testing
- Setting-up of testing lab
- Commissioning of CETP and performance analysis
- Training of manpower
- 6 months hand holding

The foundation stone of the Common Effluent Treatment Plant (CETP) was laid on March 18, 2017 by Union Textile Minister Smt. Smriti Zubin Irani.

**Research Outcome** :
- Detailed project report (DPR) has been prepared, contract awarded through tendering
- Prepared environmental impact assessment report
- Environmental clearance (EC) obtained
- Consent to Establish (CTE) has been granted by the Gujarat Pollution Control Board

- Electromechanical work including fabrication of tanks have been completed
- Civil work completed
- Project is completed
- Pictures of CETP Bhuj are shown in Fig.1 to Fig.4

Fig.1: Reaction Tank & Settler-1

Fig.2: Secondary Clarifier and MBBR cum Aeration Tank

Fig.3: Secondary Clarifier & Settler-2

Fig.4: Washing of clothes with treated water

## 1.2 Ongoing projects

**(i) Project title :** New Approaches to Reduce Water Consumption in Textile Wet Processing (Sponsored by Ministry of Textiles, Govt. of India)

**Objectives :**

- To conduct preliminary trials to test suitability for various dyes, used for textile material
- Designing and fabrication of equipment for dyeing and standardization
- Conducting dyeing trial on various types of textile materials
- To compare dyed material out of new approach and conventional dyeing method in terms of quality and consumption of water

**Progress of work :**

- Water conservation/consumption study has been carried out in various mills
- Various approaches of dyeing are being tested to conserve water
- Brief of approaches adopted are given below:

**Approach-1: Exploring Possibilities of Dyeing Cotton Hank Using Soft Flow Dyeing Machine**

Cotton dyeing is one of the most water consuming processes in dyeing industry; major load on ETP is only due to cotton treatment. Conventional cabinet Hank dyeing machine consume water in the range of 1:15 to 1:20 MLR. The salt, soda and other chemicals auxiliaries are used as per the MLR of machine. If MLR is high, the consumption of chemicals will also on higher side. It was thought to use soft flow dyeing machine for dyeing cotton hank so the MLR can be reduce to 1:6 to 1:10. It will not only reduce consumption of water but also reduce chemical auxiliaries consumption and load on ETP. Also provide an option to the dyer having soft flow dyeing machine to dye yarn in hank form. Some of the dyeing trials taken using soft flow dyeing machine to dye cotton yarn in hank form are given below in the Table-1:

**Table 1 : Results of some of the Dyeing trials**

| Trial | Material to liquor ratio | Total water consumption (liter/kg) | Observation |
|---|---|---|---|
| Trial 1 | 1:15 | 161 | Even shade, high entanglement |
| Trial 2 | 1:10 | 107 | Even shade, high entanglement |
| **Trial 3** | **1:8** | **88.5** | **Achieved even dyeing** |
| Trial 4 | 1:7 | 77.5 | Due to poor liquor circulation dyeing was uneven, entanglement |

This study shows (Trial 3) that cotton hank can be dyed in soft flow dyeing machine using 1:8 MLR as shown in Fig.5 and Fig.6 below:.

Fig.5: Soft flow dyeing machine used for cotton hank dyeing

Fig.6 : Dyed Cotton hanks

**Approach-2: Dyeing Cotton Fabric in Solid Shade Using Disperse Dye**

To dye cotton fabric, reactive dye is one of the best suitable methods. It also gives good fastness properties as required. For cotton dyeing with reactive dye requires 5 to 6 washes after dyeing to remove the unfixed dye. Due to high colour discharge and chemical in effluent it increases the load on ETP and cost of treatment. In this approach we have tried to develop a solid shade using disperse dye on cotton fabric.

In disperse dyeing the amount of color and chemical in effluent is comparatively less than reactive dye. It also saves time during dyeing and required less number of washes to remove unfix dye. The lab trials results are shown below in Fig.7 below:

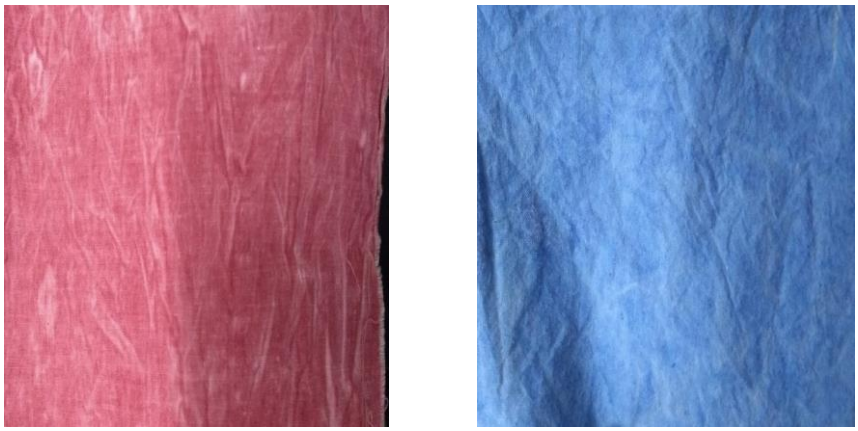

Fig.7 : Cotton Fabrics dyed in solid shades using disperse dye

**Approach-3: Creating Denim Effect using Disperse Dye on Cotton Fabric**

Denim industry is one of the most water consuming industry. Mostly vat and sulphur dyes are used to produce denim fabric. It has a limitation to produce different shades. In this approach we use **Pad-Cure-Dyeing** method to produce denim effect using **Disperse dye** on different twill fabric. Result are shown in Fig.8 below:

Fig.8 : Cotton Fabrics having denim effect created by using disperse dye

**Approach-4: Fabrication of Hank Dyeing machine working in low material to liquor ratio**

Under this approach a pilot model hank dyeing machine is fabricated. With this machine, yarn in hank form can be dyed in 1:8 MLR. The trials on this machine are still going on (see Fig.9).

Fig.9 : Pilot model Hank Dyeing Machine

**(ii) Project title** : Development of value added product from different Fibres in Himalayan Region (Sponsored by Ministry of Textiles, Govt. of India)

**Objectives** :

- To standardize a method for extraction of fibers from Pine Needles, Indian Flax, Nettle etc.
- Development of machines for extraction of fibres
- To produce yarn with pure fibres and blends by optimizing mechanical parameters
- To develop various kinds of fabric utilizing those yarns
- To develop final value added products / home textile using these fabrics

**Progress of work** :

- Cultivation of flax fibres has been done
- Extraction of fibre from Pine leaves has been standardized
- Machinery manufacturer has been identified and purchase process has been completed
- A patent has been obtained regarding extraction of textile grade fibre obtained from pine needles
- Products have been developed (Refer Fig.10)


Fig.10 : Some of the value added products developed

**Background**:

High level of poverty in hills persists due to low employment opportunities. Average monthly income of agricultural households in Uttarakhand is around Rs.4,700/- per month as compared to around Rs.8,800/- per month in neighboring Himachal Pradesh.

Considerable migration of people from hills to plains in search of livelihood affecting development of hills. As per report of Economic times (06.05.2018) approx 4 lakh people have migrated in past 10 years from their native villages of Uttarakhand. Problem is that opportunities available in this region is not exploited.

The fact is that Himalayan region has been bestowed with enormous nature's fibre wealth, including pine needles. These have been used by the locals for their needs. These natural fibres can be exploited to improve the livelihood of hill people. But on the other hand the most negative and damaging impact is that many times, pine needles (perul), lying in the Himalayan region in abundance, catch fire and become highly combustible after these get dry. And this leads to a forest fire causing huge losses to the people living in the region. So its better to exploit the use of natural fibres to bring the happiness to the hill people by upbringing their livelihood and earnings. Considering this need, NITRA got involved in development of value added products using the fibres extracted from Pine needles and from different other fibrous plants, which are available or can be grown in Himalayan region such as Ramie (Boehmeria Nivea), Flax (Linum usitatissimum) and Hemp (Cannabis sativa), pine needle etc. It has been observed that the products developed from these fibres have very high domestic and export demand. Indigenous flax fibres have very good probability of replacing flax fibres which are imported from European countries. Huge demand of high value garments produced from flax fibres can be a boost for the local people of Himalayan region.

Experiments were carried out for exploring the possibilities of using natural fibres abundantly available in Himalayan region. Brief details of experiments are given below.

**Experimental work**:

The pine needles were collected from the ground of Almora, Uttarakhand and neighbouring areas where Pine forests are abundantly available. Those needles were brought to NITRA, Ghaziabad and extraction of fibres was attempted. Various chemical combinations were tried to get the best textile grade fibres. Sodium hydroxide (NaOH) solution was used for preliminary treatment and then Aluminium chloride ($AlCl_3$) solution was used for final treatment. After a number of trials, optimum time, temperature and concentration(gpl) were finalised. Then the fibres were extracted by mechanically rubbing the treated leaves and dried.

For producing Indian Flax proper seeds were required. It was observed that Central Research Institute for Jute & Allied Fibres (CRIJAF) under ICAR had undertaken some trials and they have developed a variety of JRF2 which gives good result in Indian atmosphere. But large scale trials were not been taken for commercialization. NITRA procured seeds from them and planted in around 7 acres of land during 2017-18. Five acres of land was at G.B. Pant University of Agriculture & Technology, Pantnagar, Uttarakhand and around 2 acres of land was at NITRA, Ghaziabad. The sowing time was November end to beginning December 2017 and the plants were harvested during April, 2018. Fibres were extracted after retting and scutching was done.

**Results & Discussion**:

The properties of the extracted pine needle fibres were assessed. These are shown in Table-2 “Physical properties of Pine needle fibres”. As the fibres have low tenacity value it was blended with cotton fibre and yarns were spun. The SEM photographs of the cross section of the pine needle fibres and longitudinal structure have been shown in Fig.11 to Fig.14. Both Fig.11 and Fig.12 show the cross-sectional view of pine needle fibres at different magnifications. The figures show a hollow structure which is different from conventional natural fibres used in common. The Fig.13 and Fig.14 show the longitudinal view of pine needle fibres which are not fully cylindrical and somehow looks rough. It was observed that it has high moisture regain value (around 12%). It is expected that this hollow structure will result in products with high thermal resistance value and good water absorbency.

**Table 2: Physical Properties of Pine needle fibres**

| Parameters | Pine needles |
|---|---|
| Tenacity (g/den) | 1.10 |
| Min. | 0.32 |
| Max. | 3.63 |
| Average | 1.10 |
| CV% | 66.80 |
| Elongation% | 5.94 |
| Min. | 0.80 |

| | |
|---|---|
| Max. | 10.10 |
| Average | 5.94 |
| CV% | 41.25 |
| Count (Denier/Ne) | 87.69/60.61 |
| Bundle strength (g/tex) | 5.64 |
| Elongation% | 6.9 |

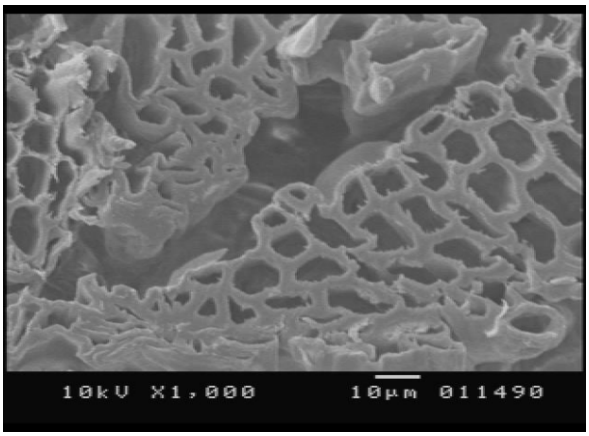


Fig. 11

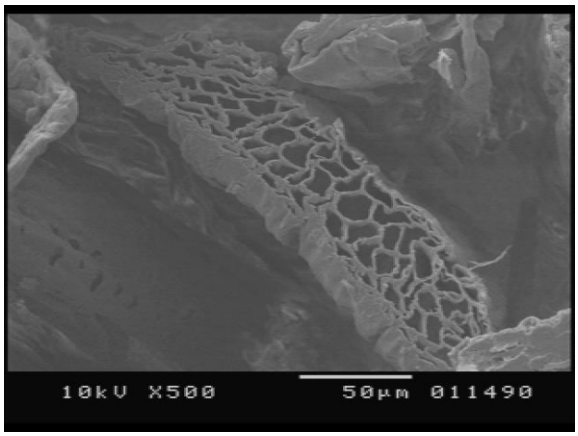


Fig. 12

Fig.11 and Fig.12 show the cross-sectional view of pine needle fibres at different magnifications.

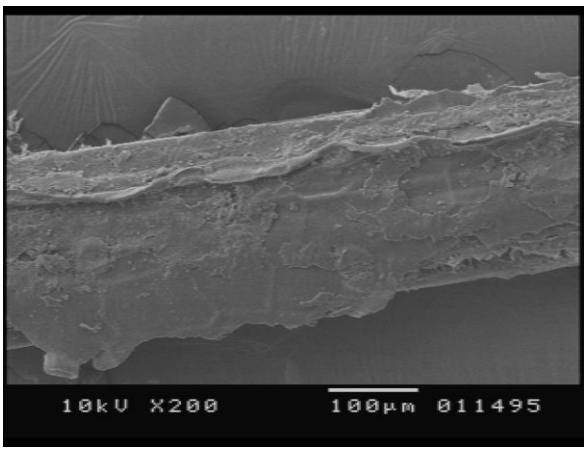


Fig. 13

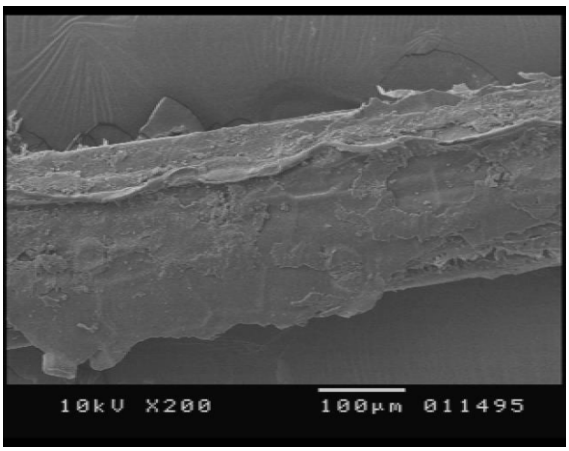


Fig. 14

Fig.13 and Fig.14 show the longitudinal view of pine needle fibres.

The flax fibres, produced in India, were assessed for their various properties and the same were compared with the some of the European flax, sourced from a commercial fabric manufacturer. The SEM photographs of the flax fibres are shown in Fig. 15 to 18. Both Fig.15 and Fig.16 show the cross sectional view of the flax fibres and different magnification. It can be seen that the fibres are mature and similar to available fibres elsewhere. The Fig.17 and Fig.18 show the longitudinal view of Indigenous flax fibres at different magnifications. The properties are shown in Table-3. It can be seen from the Table that there is no significant difference in properties of these fibres. However, single

fibre tenacity of Indian flax is lower than imported fibre, but the bundle strength of Indian fibre is higher. The appearance shows small difference and the Indian variety looks little harsher. This may be the reason for having higher bundle strength as compared to the bundle strength of imported fibres.

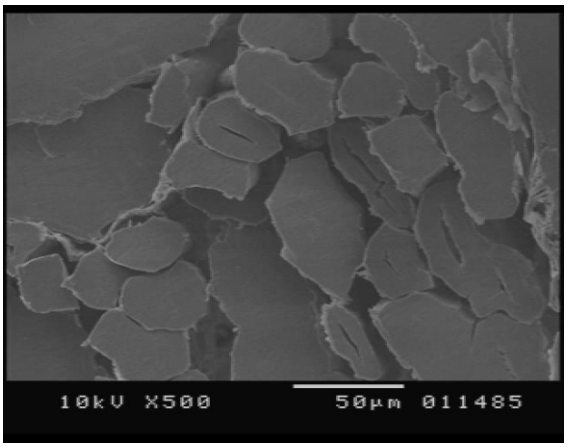


Fig. 15

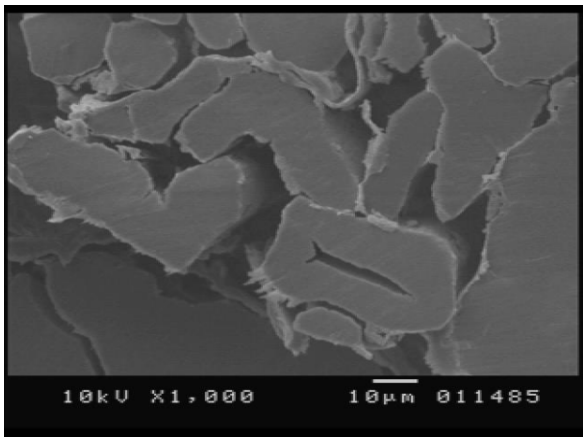


Fig. 16

Fig.15 and Fig.16 show the cross sectional view of the flax fibres and different magnification.

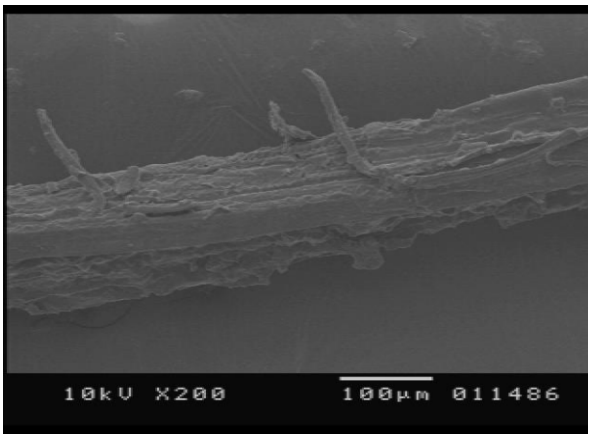


Fig. 17

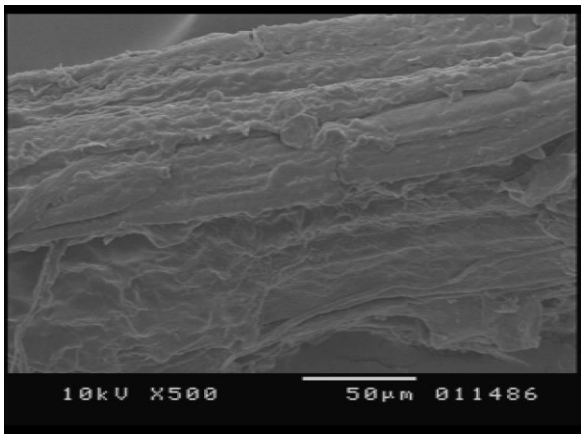


Fig. 18

Fig.17 and Fig.18 show the longitudinal view of Indigenous flax fibres at different magnifications

**Table 3: Physical Properties of Flax fibres**

| Parameters | Indian flax | Imported flax |
|---|---|---|
| Tenacity (g/den) | 3.43 | 4.18 |
| Min. | 0.56 | 0.86 |

| | | |
|---|---|---|
| Max. | 7.34 | 7.19 |
| Average | 3.43 | 4.18 |
| CV% | 48.77 | 42.05 |
| Elongation% | 2.11 | 2.26 |
| Min. | 0.70 | 0.70 |
| Max. | 4.50 | 4.40 |
| Average | 2.11 | 2.26 |
| CV% | 41.38 | 35.12 |
| Count (Denier/Ne) | 40.81/130.24 | 38.52/137.98 |
| Bundle strength (g/tex) | 63.49 | 40.82 |
| Elongation% | 0.61 | 0.75 |

The pine needle fibres (PNF) have been blended with cotton in different ratios and it was found difficult to spin yarn as the percentage of PNF fibres increases. Also it is observed that there is preferential loss of PNF in carding, resulting in less PNF percentage in resultant yarn. The yarns with 70:30 Cotton: PNF (actual in yarn stage) was successfully spun and yarns were sized and woven into fabrics using loom. The fabrics have unique look and it will be useful to produce home textiles and apparels.

The Indian flax fibres were processed in very small scale in a commercial company in Eastern India which is the leader in flax processing. The fabric produced in small scale was found as good as that of produced from imported flax fibre. This preliminary small scale trial showed that yield is much lower (to the extent of 50%) during spinning operation. This is due to improper extraction of fibre and scutching of Indian flax fibre. The scutching was done using crude manual method which needs to be improved to get better yield of yarn from fibre.

**Findings of experiment:**

The results show that there is a very good possibility of producing high value textile products using Pine needles which are abundantly available as plant waste and can help improve the economy of Himalayan region. Also it will help in reduction of forest fire which is the cause of huge loss of human and animal life.

Flax fibre produced in India can replace the use of imported flax fibre, thereby, reducing import and generating income for the people living in the Himalayan region.

**(iii) Project title** : Development of air cleaner home textiles to reduce Indoor air pollution (Sponsored by Ministry of Textiles, Govt. of India)

**Objectives** :

- Understanding nature of air pollutions in the indoor places using primary and secondary data and preparing research design
- To evaluate various finishing chemicals/materials having characteristics to absorb/reduce air pollution
- To select suitable fabrics and apply selected finishing chemicals using various techniques
- To evaluate finished fabrics for various physico-chemical and performance properties
- To take field trial of developed fabric in actual practice and modify, if required

**Progress of work** :

- Details of air pollutants present in indoor air using primary and secondary data has been collected
- Identification of finishing chemicals required to reduce indoor pollution are going on through available sources
- Procurement of some finishing chemicals has been done
- Application of various finishing chemicals on fabric has been done.
- Preliminary trial of application of finishing chemicals was done.
- Identified some other's substances in respect to absorb air pollutant gases. Trials are under process with these substances.
- Preliminary testing has been done using different methods.
- Fabrication of testing instrument for pollution absorbing textile has been completed (Refer Fig.19)
- Air quality monitoring system has been procured
- Design of pollution absorption box (a part of instrument) finalized and ordered for fabrication

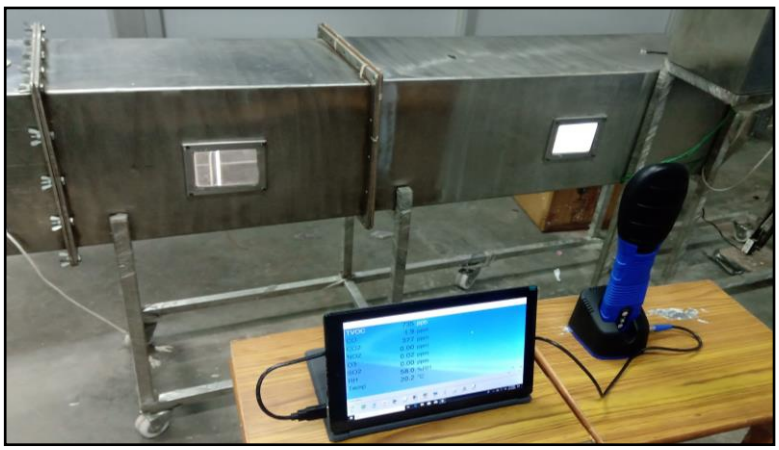

Fig.19: Fabricated Testing Instrument

**(iv) Project title** : Development of regenerated cellulosic fibres from Indian bamboo (Sponsored by Ministry of Agriculture & Farmers Welfare, Govt. of India)

**Objectives** :

- To collect data of all bamboo species available in India
- To collect bamboo of each species available in different part of India
- To Extract fiber from each type of collected bamboo
- To compare and study fiber property of each specie of bamboo fiber including silica content
- To develop a process for removing silica from extracted fiber
- Product development from the extracted fiber

**Progress of work** :

- Data regarding the bamboo production in different states of India and regarding bamboo varieties has been collected
- Pulping unit has been setup
- Bamboo pulping has been done
- Microbiological analysis of bamboo chips and bamboo pulp has been done.
- Bamboo of different varieties procurement is in progress for comparative study and to find the optimum one for fiber
- production from Indian varieties
- Wet spinning system has been procured
- Wet spinning machine commissioning is in progress
- Refer Fig.20 to Fig.25

**PULPING**

Fig.20: Bamboo

Fig.21: Bamboo Cutter

Fig.22: Digester

Fig.23: Beater

Fig.24: Refiner

Fig.25: Wet Spinning Machine

## 2. INDUSTRY SPONSORED PROJECTS

### 2.1 Completed Project:

(i) Development of coat combat disruptive

(ii) Development of technical textile products in the field of feminine hygiene

### 2.2 On-going Projects:

(i) Development of FR knitted fabric for anti-flash hood for Indian Navy

(ii) Development of antibacterial and antifungal properties in cotton and lotus fabric

## 3. PROPOSED PROJECTS

| | | | |
|---|---|---|---|
| **(i)** | **Project title** | **:** | To develop protective work-wear for sewage and sanitary workers |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |
| **(ii)** | **Project title** | **:** | Development of low cost and handy indigenous device for textile fiber and small irregular shape density measurement |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |
| **(iii)** | **Project title** | **:** | Socio economic development of SC/ST by providing training, technology and market to convert local resources to industrial products |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |
| **(iv)** | **Project title** | **:** | Development of Manhole Cover and Drainage Cover slab using agricultural waste |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |
| **(v)** | **Project title** | **:** | Development of indigenous bacterial filtration efficiency tester for surgical face mask |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |
| **(vi)** | **Project title** | **:** | Development of NCI (Natural Compression Imprint) Machine for Textile Substrate |
| | **Sponsoring Agency** | **:** | Department of Science & Technology, Govt. of India |

## CONSULTANCY SERVICES

Technical consultancy is another important aspect of NITRA's multifarious activities. NITRA provides assistance to the industry in the form of technical consultancy for resolving their operational problems. The areas of expertise where NITRA offers consultancy solutions are third party inspection, feasibility study, system certification, infrastructure set up, valuations, manpower rationalization, energy audits, water audit, inspection and product/process & design development etc.

Major areas of consultancy services offered during the period 2020-21 are given below:

### Areas of Consultancies

- Third party inspection of blankets, T-shirts, Gabardine, Coat combat, Serge/BD, Jersey, Thermal vest, Angola shirtings, Cloth Gabardine disruptive, Woolen jersey, Terry Towel, Sleeping Bag, Rain cape, Vest cotton, Under pant thermal, Serge 50/50, Woolen blanket, Kit Bag, Plastic bottle, Full Body Protector, PPE Kits/Coverall, Nycofabric, Anti-riot Helmet, Water proof Nylon Fabric, Balaclava etc.
- Machinery maintenance audit
- Evaluation of assessment agencies for empanelment
- Energy audit of Dairy Farm
- Manpower Rationalization of Dye House
- Technical consultancy of HVAC system
- Technical consultancy for Civil structure verification
- Manpower Assessment Study
- Study on Dynamics of Social Auditing
- Specifications of CRPF
- Sectoral Guidelines Notes for Textile and Apparel Industry for ZED model
- Evaluation of High Visibility Wearing Clothings

*Consultancy projects undertaken in the year 2020-21 are given in Annex-8.

# TESTING SERVICES

Testing or quality evaluation is one of the most important activities in the entire value chain of textile and garment industry. NITRA offers a wide range of testing facilities for fibre, yarn, fabrics, garments, dyes, chemicals and effluent in its well equipped NABL accredited six laboratories i.e. Physical lab, Chemical lab, Heat & Flame Testing lab, Polymer & Technical Textiles lab, Eco lab and Environment lab. NITRA continues to emphasize on doing accurate evaluation and delivering time-bound test results to its clients.

## PHYSICAL QUALITY EVALUATION LABORATORY

**No. of Commercial Samples Tested**: 2220

In addition to this, around 50 R&D samples were also tested.

**Type of Samples Received**:

Cotton, Polyester, Viscose, Nylon, Polypropylene, Jute, Bichhue Ghas, Hollow Fibres, Wool, Polyester wetting, Leaf & bark fibres, Silk, Cotton and Blended yarn, Sliver, Cord, Ropes, Filament yarn, Sewing threads, Industrial threads, Kite flying thread, Lycra belt, Tape, Cotton & Blended fabric. National flags, Canvas, Automotive fabrics, Laminated fabrics, T-shirts, Vest, Drawers, Biref, Blanket, Jersey, Serge, Sarees, Cardigan, Gloves, Mosquito net, Pillow, Quilt, Furnishing fabric, Socks, Jacket, Felton cloth, Carpet, Webbing, Towel, Bed sheets, Wool top, Mat, Rain coat, Garments, Protective Garments, Trousers, Non-woven fabrics, Lycra yarn, Topper pad, Scarf, Pile fabric, Felt, Rugs, Foam, Laminated foam fabric, Caps, Geo grid, Filter fabrics, 3 layer breathable fabric, Composites, Geo-textiles etc.

**Type of Tests Conducted**:

Fibre length, Denier, Strength, Tenacity, Crimp%, Fibre shrinkage, Fibre diameter, Fineness, Trash%, Neps/gm., Elongation, Cotton, Maturity, Fused Fibre, Yarn count, Yarn CSP, Twist, RKM, Hairiness, Uster Imperfections, Appearance Grade, Co-efficient of friction of yarn to yarn and yarn to metal surface, No. of filaments in yarn, Thermal shrinkage, Fabric/Garment's dimensional measurement, Thickness, GSM, Yarn count, Ends/picks, Coarse/Wales, Base/Biase, Fabric strength, Elongation, Tear & bursting strength, Stretch & Recovery, Puncture resistance, Seam strength/Seam slippage, Bond & Peel strength, Weave analysis, Stiffness, Abrasion, Pilling, Yarn on yarn abrasion, Yarn slub analysis, Crease recovery angle, Drape, Snagging, Pore size of filter media, Air permeability, Constant/variable load Elongation, Spirality in garments, Wool fineness, Fineness Grade of wool fibre, Fibre hollowness, Fabric streak analysis, Fabric sheet friction, Wide width tensile strength, Blade cut resistance, Yarn/fabric type identification, Fabric defect analysis etc.

## CHEMICAL QUALITY EVALUATION (CQE) AND HEAT & FLAME LABORATORY (H&F)

**No. of Commercial Samples Tested**: 3096

In addition to this, around 200 R&D samples were also tested.

**Type of Samples received**:

**CQE**: Fibres, Yarns, Fabrics, Garments, Technical Textiles (Protech, Nonwoven, Automotive etc.), Dyes & Chemical Auxiliaries

**H&F**: Personal protective clothing, Upholsteries, Automotive fabrics, Floor coverings, Fabric for Railways

**Type of Tests Conducted**:

**CQE**:

- Colour Fastness properties
- Wax Content/ Oil Content/ Blend composition etc.
- Total Colour difference, Yellowness/ Whiteness Index & Dye powder strength evaluation by Computer Colour Matching System/ UV-Spectrophotometer
- Various properties for automotive fabric
- Fluoroscent & reflective tape, Flammability fabric, Waterproof material

**H&F Lab**:

Ease of ignition of vertically oriented specimen, Flame spread properties of vertically oriented specimen, 45$^{o}$ (inclined) Flammability, Vertical flammability test, Horizontal flammability test, Limited flame spread test, Convective heat test, Radiant heat test, Molten metal splash test, Contact heat test, Impact of spatter test, Electrical resistance, High visibility, Ignitability of vertically oriented specimen, Flame spread vertically, Smoldering cigarette test, Match flame test & Crib test, Oxygen index, Smoke visibility test, Toxicity index, Fire resistance test, Methanamine table test, Hot metal nut test, Vertically oriented specimen etc.

**POLYMER & TECHNICAL TEXTILES LABORATORY**

**No. of Commercial Samples Tested**: 636

**Type of Samples received**:

Coated / Laminated, Formed fabrics, Garments, Rubber, Plastic, Leather, Polymer products, Zipper, Slide fastener, Adhesives and Polishes, Buttons and Tapes, Canvas, Leather, Rubber, Plastic and Safety shoes, Composites, Medical Textiles, Geo-textiles, Automotive materials, Protective clothing, Wooden block, Rubber block etc.

**Type of Tests Conducted**:

Adhesion strength, Ash content, Bending resistance, Bound organic substances, Chromium content, Compression set, Adhesion tests for shoes, Cut growth, Degree of tannage, Differential number, Dimensional change, Flammability test, Smoke visibility test, Fire resistance, Flexing endurance, Hydrogen sulphide resistance, Ignitability test, Melt flow index, Nitrogen content, Proofing content, Resistance to damage by flexing, Polymer content, Stretch test of elastic tape, Tensile strength & elongation, Tear strength, Thermal conductivity, UV protection factor, Performance test on zipper, Water vapour permeability of leather. Seam fatique test, Toxicity index, FTIR, Melting point, Ash content etc.

## ECO LABORATORY

**Number of samples analyzed**: 129

**Type of samples received**:

Fabric, Yarn, Fibers, Thread, Garment, Carpet, Blanket, Bath Rugs, Rain Capes, Melt Sheet, Automobile Components, Research samples etc.

**Type of analyses conducted**:

- Carcinogenic Aromatic Amines released from Azo dyes
- Hazardous Substances- Cd, Pb, Hg & CrVI
- Free and released Formaldehyde
- Toxic Heavy Metals- Cd, Cu, Co, Cr, Hg., Ni, Pb, Zn etc.
- Other metals- Fe, Mn, Ca, Mg, Na, K, etc.
- Residual Chlorine
- Penta Chloro Phenol (PCP)
- pH of Aqueous Extract

## ENVIRONMENT LABORATORY

**Number of samples analyzed**: 55

**Type of samples received**:

Raw Water, Treated Water, De-mineralized Water, Drinking Water, RO Feed Water, RO Treated and Reject Water, UF Feed and Treated Water, Process House Water, Condensate Water, Industrial Effluents, ETP Inlet, Intermediate and Outlet water, STP Inlet and Outlet Water, Research and Consultancy Samples etc.

**Type of analyses conducted**:

- Physicochemical analysis of water including Color, Odor, Turbidity, pH, Conductivity, Total solids, TDS, TSS, Alkalinity, Hardness, Ca, Mg, Na, Cl, $SO_4$, $NO_3$, $PO_4$, $HCO_3$, $CO_3$, $SiO_2$, Fe, B, F, Residual $Cl_2$ etc.
- Drinking water parameters including bacteriological analysis (MPN Coliform/100 ml) and heavy metals like Cd, Co, Cu, Cr, Pb, Hg, Ni, Zn etc.
- Effluent parameters like pH, TDS, TSS, COD, BOD, O/G, SAR, $NH_3$, S, Cr, Res. $Cl_2$ and heavy metals etc .
- pH, Solids, Moisture content and Heavy Metals (Cd, Cu, Co, Cr, Hg., Ni, Pb, Zn etc.) in ETP Sludge.

**New Clients Added in Testing Services**:

Eternity India, Ghaziabad; Shyam Waterproof Works (P) Ltd., Kolkata; Devyani Food Industries Ltd., Mathura; FDDI, Noida; Triyash Enterprises P. Ltd., New Delhi; Saloni Coir Pvt. Ltd., Sikandrabad; Harihar Comfort, Karnal; R.P.Auto, Dehradun; Favourite Fruit P. Ltd., Agra; Uttar Pradesh Medical Supplies, Lucknow; Raman Laminators,

Sonepat; Victory Mattresses P. Ltd., Hyderabad; Signet Garment P. Ltd., Ghaziabad; Paras Enterprises, Meerut; Diya Apparels, Delhi; Kishan Chand & Sons, New Delhi; Uttam Fashion House, Ghaziabad; Kishkindha Group, Ghaziabad; Self Shield INC., Mumbai; Frontier Protective Wear P. Ltd., Kolkata; Karigar Niryat P. Ltd., Noida; Sidka Enterprises, Delhi; Loften India P. Ltd., Delhi; Shipra Enterprises, Prayagraj; Indicut Lifestyle, Gujarat; Radcliffe Hygiene P. Ltd., Gurugram; Sampati Packaging, Dehradun; Silver Apparels Industries P. Ltd., Noida; Vevina Apparels, Jaipur; Jay Pee Knit Fab, Faridabad; Eco Polypack P. Ltd., Noida; V & V Consulting Group, New Delhi; Etex Health Care P. Ltd., Delhi; Vastra Mahal, Bareilly; Karam Safety P. Ltd., Sitarganj; SND INC, Noida; Medisurg, Greater Noida; Bioquest Pharmaceuticals P. Ltd., Delhi; Moda Cocktail, Noida; Unity Healthcare, New Delhi; Paragoan Apparels, Noida; Deepali Design & Exhibits P. Ltd., Ghaziabad; Jagannath Industries P. Ltd., Jaipur; Sogo Fashions P. Ltd., Gautam Budh Nagar; Flexo Foam P. Ltd., Gurgaon; Hospital Linen India, Delhi; R.P. Brothers, Tronica City; Expo Combine, New Delhi; Acme Mobility Solutions P. Ltd., New Delhi; Palkin Knitwear, Ludhiana; Hi-tech International, Ludhiana; Piranha International, Ludhiana; Indian Council of Forestry Research and Education, Dehradun; Jaipur Rugs, Jaipur; Katsaal, Noida; Jodh Hosiery Works, Ludhiana; Vrishabh Industries, Sonepat; Goden days Creations P. Ltd., Delhi; RKGD Clothing Pvt. Ltd., New Delhi; Sri Rameo Spinners, Ghaziabad; WFB Band & Co., Erode; Aktion Safety Solutions P. Ltd., Delhi; Anamika Fabs, Sonepat; Darshan Fabrics, Bhilwara; Shahu Cards Pvt. Ltd., Madurai; Ambay Hydrotics, Chandigarh; SDS Electricals P. Ltd., Panchkula; MC Knitters, Amritsar; Dolphin Floats P. Ltd., Pune; Kishley Cables & Steels P. Ltd., Delhi; Nestler Yarns P. Ltd., Ludhiana; Better Sleep, Noida; Ajay Industries, Kanpur; G&S Tex Knits, Faridabad; Cotton Café Creations, Delhi; Vista Knitberry Fashions Ltd, Nawan Shahar; Indian Institute of Integrative Medicine, Jammu; Hidimba Commercials P. Ltd., Kolkata; International Rubber Co. (LLC), Dubai; GC Threads, Samna; Khachu Enterprises, Leh; Shri Mahadev Cotex, Panipat.

**Participation of Labs in Inter-lab and Proficiency Test Program**:

NITRA, Ghaziabad
BTRA, Mumbai
SASMIRA, Mumbai
TRADC, Bharuch
GARWARE, Pune
CIPET, Bhubaneshwar

# TRAINING SERVICES

Keeping in view the growing need of trained manpower in textile and garment industry, NITRA offered various training programs throughout the year to meet the manpower requirement of textile and apparel industry. In addition to in-plant training programs for working professionals, NITRA also offered job-oriented programs for young graduates and 12th Pass aspiring to make their career in the garment industry. These programs cater to meet the needs of different departments such as Production, Quality Control, Merchandising and Industrial Engg. departments.

**Job-Oriented short term programs:**

Since 2002, NITRA is conducting job-oriented professional training programs for the textile and apparel sector. During the year 2020-21, following full time programs were offered in a combination of OFFLINE and ONLINE modes. A total of 34 students were admitted in these programs. Details are given below.

| Sl. No. | Program Title | Min. Qualification | Duration | No. of students trained |
|---|---|---|---|---|
| 1 | Fashion Marketing and Merchandising (FMM) | Graduation/ Diploma | 12 months | 19 |
| 2 | Apparel Design & Quality Control (ADQC) | 12th Pass | 12 months | 08 |
| 3 | Apparel Production and Industrial Engg (APIE) | 12th Pass | 12 months | 07 |

**Distance Learning Programs for Working Professionals:**

Since 2003, NITRA is conducting distance learning programs for the working executives of textile and apparel sector. During the year 2020-21, following distance learning programs were offered in a combination of OFFLINE and ONLINE modes.

| S.No | Name of the Program | Duration | No. of persons trained |
|---|---|---|---|
| 1 | Textile Technology & Management (TTM-DLP) | 12 months | 14 |
| 2 | Apparel Manufacturing and Merchandising (AMM-DLP) | 12 months | 10 |

Contact sessions are conducted twice in a month on alternate Sundays in NITRA campus. A total of 24 working professionals were trained in different programs. On and off spread of Covid 19 has affected the admission of students resulting in lower number of students as compared to previous years.

**Summer Training Programs:**

Every year, NITRA conducts one month summer training programs for the students of textile universities, colleges and polytechnics pursuing Post Graduation/Graduation/ Diploma level courses. During the year 2020-21, summer training programs were offered in the following areas:

| S. No. | Title | No. of participants |
|---|---|---|
| 1 | Textile Manufacturing and Testing (TMT) | 08 |
| 2 | Apparel Manufacturing and Merchandising (AMM) | 18 |

A total of 24 students of following institutes were trained in the above programs.

| S.No. | Name of the Institute |
|---|---|
| 1 | Amity University, Noida |
| 2 | Aryabharathi Polytechnic, Tumkur, Karnataka |
| 3 | ATDC |
| 4 | Chandra Shekhar Azad University of Agriculture & Technology, Kanpur |
| 5 | Ethelind College of Home Science, SHUATS, Prayagraj |
| 6 | GB Pant University |
| 7 | Maharana Pratap University of Agriculture and Technology, Rajasthan |
| 8 | NIFT |
| 9 | Punjab Agriculture University, Ludhiana |
| 10 | Sam Higginbothams University of Agriculture Technology and Sciences, Prayagraj |
| 11 | University of Allahabad |
| 12 | V.B.S. Purvanchal University, Jaunpur |

**Webinars:**

In view of COVID-19 pandemic, NITRA conducted a series of FREE webinars for the professionals working in textile and apparel industry in the months of July and August 2020.

| S.No. | Topic | Speakers |
|---|---|---|
| 1. | Defects in Spinning, Weaving & Processing | Mr. Neeraj Agarwal<br>Mr. Vivek Agarwal<br>Mr. Durgesh Maurya |
| 2. | Usefulness of SQC Techniques in Textile and Apparel Industry | Dr. B. K. Sharma<br>Mr. Vivek Agarwal |
| 3. | Advance use of Google Spreadsheet in Textile & | Mr. Sangeet Chopra |

| | | |
|---|---|---|
| | Apparel Industry | Mr. A.P. Srivastava<br>Mr. Nitin K. Sharma |
| 4. | Impact of Covid-19 on Global Apparel Business and Opportunities for India | Mr. Vivek Agarwal |
| 5. | Solutions to your daily factory reports - NITRA's Mobile App "APPRISE" | Mr. Vivek Agarwal<br>Ms. Shweta Saxena<br>Mr. Nitin K. Sharma |
| 6. | Profitability concept & factors contributing to high productivity in spinning | Mr. Neeraj Agarwal |

The webinars were attended by over 200 senior and middle management level professionals working in textile and apparel industry. Speakers for the webinar included senior experts from NITRA and Industry.

**Placements of Short term Students, Batch 2019-20**

Despite to sudden onset of COVID -19 and its massive impact on garment and home-textiles industry, especially the export sector, NITRA was able to place over 85% of its pass out students of various short-term programs in different units.

A total of 17 garment and home textiles export houses and buying houses recruited NITRA students. List of units where the students got placed is given below.

| S.No. | Name of the Company |
|---|---|
| 1 | Arnit Creations, Noida |
| 2 | Brij Designs, Gurugram |
| 3 | C & R Textiles, Noida |
| 4 | Dreescodes, Noida |
| 5 | IDDPL, Noida |
| 6 | Intercity Traders, Noida |
| 7 | International Sourcing Co, Noida |
| 8 | Maral Overseas, Noida |
| 9 | Oriole Sourcing, Delhi |
| 10 | Paramount Products, Noida |
| 11 | Radiant Expovision, Noida |
| 12 | RMX Joss, Greater Noida |
| 13 | Sawa International, Gurugram |
| 14 | Shahi Exports, Noida |
| 15 | Super Overseas, Noida |
| 16 | TCNS, Noida |
| 17 | Viraj Fashions, Noida |

Starting salary offered varies between Rs.1.2 lac and Rs. 2.25 lac per annum.

**NITRA Technical Campus: The Academic Wing to Support Training Activities**

NITRA Technical Campus was established during 2011-12 for conducting AICTE, MHRD approved and AKTU, Lucknow affiliated B.Tech. programs. It provides students a unique opportunity to undergo comprehensive training on world class facilities, all available under one roof, to make them industry ready.

Placement of sixth batch of B.Tech. students of NITRA Technical Campus has been very impressive. Till 31st March 2021, 44 students of Textile Technology, Textile Chemistry and Computer Science & Engg. branches have been placed in renowned companies like Rajasthan Spg. & Wvg. Mills Ltd., Reliance AJIO, Brij Design, Quickclean, Reliance Retails, Kusumgar Corporates, Team Lease Services Ltd., ATL Foundation, HCL Technologies, Tata Consultancy Services (TCL), Global Logic, Innobit Systems (P) Ltd., Western India Railways, APP Squadz Technologies (P) Ltd., Investor Clinic, Dirac ERP Solutions, Ced Coss Technologies (P) Ltd., TCS (PAN India) and Daffodil Software.

Please refer Annex-7 for training program details.

Please refer Annex-13 for placement details of NITRA Technical Campus (NTC) students.

## LIBRARY AND INFORMATION SERVICES

NITRA library is enriched with printed and digital resources. It has dedicated computers to provide on-line access to library resources.

### Resources

The library has developed an adequate collection of Books, Journals, Reports, Thesis and Bound Volume Journals with specialized focus on textiles and allied subjects. The collection is as under:

| | |
|---|---|
| Books | 9508 |
| Journals | 41 |
| (For list of journals refer Annex-11&12) | |
| Project reports | 253 |
| Thesis (M.Sc./Ph.D., B.Tech - CSE/TT/TC) | 173 |
| Journals (Bound Volumes) | 4954 |

### Library Services

***Online Public Access Catalogue (OPAC)*:**

- Library collection is computerized and the online catalogue provides bibliographic information about 10,000 holdings of books, journal volume (bound), thesis, project reports etc. of the library
- Online Public Access Catalogue informs users about new books and journals added to the library collection
- Members can check details of the borrowed books
- Wi-Fi networking provides its users, access to internet

***Photocopying Services*:**

Photocopy of the library documents are made available mainly for academic purpose.

**NITRA has taken up Institutional Membership of:**

- Bureau of Indian Standards, New Delhi
- The Textile Institute, Manchester

**Centre for Academic Partnership (CAP)**

The library continues to promote its academic interaction with academic institutions by making its resources and services available under “Centre for Academic Partnership” scheme. Ten Institutions have become the members of library so far.

**New Arrivals of Books at Library**

- Internet of Things by Dr. Jeeva Jose
- Mastering Cloud Computing by Raj Kumar Buyya (et all)
- Block Chain and Crypto Currencies by Anshul Kaushik
- Kennedy’s Electronic Communication Systems by George Kennedy (et all)
- Text Book of Engineering Mathematics-Sem I by N P Bali & Dr. Manish Goyal
- Introduction to Engineering Mathematics, 9th ed. Vol.-I, by H K das (et al)
- Elements of Mechanical Engineering 3rd ed. by Dr. D K Kumar
- Fluid Mechanics and Hydraulic Machines by Mahesh Kumar
- Mechanical Measurements & Control by Dr. D S. Kumar
- Mechatronics: Principles, concepts and application by N P Mahalik
- Rapidex English Speaking Course by R K Gupta
- Building a stranger ecosystem for startups and entrepreneurs by Muthu Singaram
- A hands-on guide to starting your business by Muthu Singaram
- Greenfields: Building a strong ecosystem for startups and entrepreneurs by Muthu Singaram & Pratisha Jain
- Entrepreneurship: A Hands on Guide to starting your business by Muthu Singaram

# IMPORTANT EVENTS AND HAPPENINGS DURING 2020-21

## Research Advisory Committee Meeting at NITRA

NITRA organized its annual Research Advisory Committee (RAC) meet on 19th Dec. 2020 under the chairmanship of Sh. Vidit Jain, Vice Chairman, NITRA Council of Administration and Joint MD, Pasupati Spg. & Wvg. Mills Ltd. Due to Covid 19, the members met virtually. Dr. Arindam Basu, Director General welcomed the participants whilst the Chairman delivered a brief key-note address. This year a total of 10 on-going and proposed projects were taken up for discussion. Since NITRA has always been working for the industry, hence RAC meet is held to determine NITRA's direction for conducting R&D that would benefit the industry. NITRA scientists presented the R& D projects which was assessed, discussed and reviewed by expert panelists to set a guideline for future projects.

## Prof. Vineet Kansal, Pro Vice Chancellor, AKTU Visits NITRA Technical Campus

Prof. Vineet Kansal, Pro Vice Chancellor, AKTU visited NITRA and its academic wing NITRA Technical Campus on Dec.17, 2020. He was taken to a round to see the facilities available at NITRA and was explained about how the students are directly benefited by enjoying hands-on experience of latest machines and technologies which is an integral part of institute's teaching pedagogy. He was happy to see the infrastructure available and also the opportunities that students have for practical learning and consequently using them in industry once they go to join their profession. He expressed happiness to see the excellent placement record of the institute as well.

## NITRA Tech Campus Students Bag Gold and Silver Medal for Four Consecutive Years

NITRA Technical Campus (NTC) students have brought laurels yet again! It is a matter of great delight that all the students appeared from NITRA Technical Campus have cleared the exams with flying colors. To add further glory to it, the top two positions in Carpet & Textile Group for the year 2016-20 is also secured by its two students Poornima Singh (Textile Technology) and Shreya Pathak (Textile Chemistry) who ranked 1st and 2nd respectively to clinch the gold and silver medals for the year 2016-20. The college has achieved this great feat for four consecutive years since its inception.

## Industrialist Sh. Dinesh Nolkha Takes over as NITRA's New Chairman

The members of Council of Administration NITRA had virtually met in the 44th AGM held on 25th September 2020 and elected its new leadership team for 2020-21. Sh. Dinesh Nolkha, MD, Nitin Spinners Ltd. is elected as the new Chairman of NITRA. Sh. Raj Kumar Jain, MD, Zonac Knitting Machines (P) Ltd. is elevated as Dy. Chairman whilst Sh. Vidit Jain, Joint. MD, Pasupati Spg. & Wvg. Mills Ltd. has been inducted as the new Vice Chairman. Mr. S. K. Kapoor, the outgoing chairman handed over the baton to the new team. The new chairman thanked the outgoing chairman for his guidance and also assured quality service from NITRA to the Indian T&C industry and its allied sectors.

# POWERLOOM SERVICE CENTRES

Ministry of Textiles, Government of India, has established 45 Power Loom Service Centres across the country. High priority is given to these projects as these centres help in local entrepreneurship development, employment generation and economic development of states and country.

Out of these 45 centres, administrative control of 8 Power Loom Service Centres (PLSCs) is assigned to Northern India Textile Research Association, Ghaziabad. These Centres are functioning at the following locations:

1. In Uttar Pradesh
   (i) Meerut
   (ii) Kanpur
   (iii) Tanda
   (iv) Gorakhpur
   (v) Varanasi
2. In Haryana - Panipat
3. In Punjab - Ludhiana
4. In Rajasthan - Bhilwara

These centres are serving decentralised power loom sector to achieve the objectives as given below:

## OBJECTIVES OF POWER LOOM SERVICE CENTRES

(1) To impart practical training to weavers for improving their efficiency, skill and productivity. Side by side, quality up-gradation and product-mix diversification are also emphasized, keeping in view of the present need of national and international markets

(2) New design development and diversification of power loom products for improving the economy and scale of operation of power loom weavers

(3) To provide testing facilities to decentralised power loom sector and make them aware of need and importance of testing required for meeting forthcoming changes in reference to the globalisation trends

(4) To provide technical consultation facilities related to operational difficulties faced by powerloom weavers

(5) To co-ordinate developmental activities of powerloom industry with state Governments

(6) To motivate decentralised power loom industry towards upgrading / modernising their units and take advantage of government schemes, viz. TUFS, Group Workshed Scheme and Weaver's insurance etc. and organize seminars/workshops

(7) To collect and compile statistical information of power loom industry

## ACTIVITIES

In order to achieve above mentioned objectives, Power Loom Service Centres carried out following activities during the year 2020-2021:

| | | | |
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| 1. | Liaison visits/survey carried out (no. of units covered) | - | 2849 |
| 2. | Technical assistance/consultations provided | - | 72 |
| 3 | Design developed | - | 24 |
| 4. | Samples tested | - | 2922 |
| 5. | No. of persons trained | - | 315 |

## TEXTILE TESTING LABORATORIES

All eight Power Loom Service Centres are having testing facilities capable to meet basic requirements of the decentralised power loom sector in normal course. In addition to it, special testing facilities are also available at following four centres. These centres are:

1. Meerut (Uttar Pradesh)
2. Panipat (Haryana)
3. Bhilwara (Rajasthan)
4. Varanasi (Uttar Pradesh)

At these locations, samples related to fibre, yarn, fabric and chemical based requirements were tested. Details of these testing assignments carried out during the year are mentioned below :

| Activity | Varanasi | Meerut | Panipat | Bhilwara | Kanpur | TOTAL |
|---|---|---|---|---|---|---|
| No. of samples tested | 262 | 92 | 1451 | 837 | 280 | 2922 |

## COMPUTER AIDED DESIGN (CAD) CENTRES

As additional feather in the cap, there are five CAD centers, which are located at Panipat, Bhilwara, Ludhiana, Tanda and at head office, Ghaziabad. The activities of CAD centers functioning under administrative control of NITRA are as mentioned below:

| Activity | Tanda | Bhilwara | Total |
|---|---|---|---|
| No. of Designs developed | 19 | 5 | 24 |

At Power Loom Service Centre, Tanda, Computer Aided Dobby and Jacquard design systems are available where as at CAD Centre, Ghaziabad dobby, jacquard, printing and embroidery design systems are available.

These CAD Centres develop new designs and provide training to the person working in decentralised Power Loom Sector.

# ANNEXES

**ANNEX – 1**

# MEMBERS OF THE COUNCIL OF ADMINISTRATION 2020-2021

| | | |
|---|---|---|
| 1. | Shri Dinesh Nolkha<br>(Chairman) | Managing Director<br>Nitin Spinners Ltd.<br>12, Badal Textile Market, Pur Road<br>Bhilwara - 311 001 (Raj.) |
| 2. | Shri Raj Kumar Jain<br>(Deputy Chairman) | Managing Director<br>Zonac Knitting Machines Pvt. Ltd.<br>D-1, D-2, Site B, Surajpur Industrial Area<br>Greater Noida – 201 306<br>Distt. Gautam Budh Nagar |
| 3. | Shri Vidit Jain<br>(Vice Chairman) | Jt. Managing Director<br>Pasupati Spg. & Wvg. Mills Ltd.<br>127, 128 Tribhuvan Complex<br>Nehru Place, Mathura Road<br>Ishwar Nagar<br>New Delhi - 110 065 |
| 4. | Shri S.K. Kapoor | Managing Director<br>Surya Processors Pvt. Ltd.<br>619, Bisrakh Road, Village Chhapraulla,<br>Distt. Ghaziabad - 201 001 |
| 5. | Shri Sanjay Kumar Jain | Managing Director<br>T.T. Ltd.<br>879, Master Prithvi Nath Marg<br>Opp. Ajmal Khan Park, Karol Bagh<br>New Delhi - 110 005 |
| 6. | Shri Ramesh Kumar Jain | Chairman-cum-MD<br>Pasupati Spg & Wvg Mills Ltd.<br>127, 128 Tribhuvan Complex<br>Nehru Place, Mathura Road<br>Ishwar Nagar<br>New Delhi - 110 065 |
| 7. | Shri R.L. Nolkha | Chairman<br>Nitin Spinners Ltd.<br>16-17 KM Stone, Chittor Road<br>Hamirgarh – 311 025<br>Bhilwara (Rajasthan) |
| 8. | Shri H.M. Vashisth | Executive President<br>Sutlej Textiles & Industries Ltd.<br>(Unit: Rajasthan Textile Mills)<br>Pachpahar Road<br>Bhawanimandi - 326 502 (Raj.) |

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| 9. | Shri Rajeev Jain | Business Head-Operations<br>(Yarn Business)<br>RSWM Limited<br>Times Square, Unit No.601<br>B Wing, 6th Floor, Opp. Mittal Indl. Estate<br>Near Marol Naka Metro Station<br>Andheri-Kurla Road, Andheri East<br>Mumbai – 400 059 |
| 10. | Shri S.N. Modani | Managing Director & CEO<br>Sangam (India) Ltd.<br>Atun, Chittorgarh Road<br>Bhilwara – 311 001 (Raj.) |
| 11. | Shri Sanjay Garg | Managing Director<br>Longowalia Yarns Ltd.<br>43, Mall Enclave, Civil Lines<br>Ludhiana – 141 012 (Punjab) |
| 12. | Shri Mukesh Kumar Tyagi | Director<br>BST Textile Mills Pvt. Ltd.<br>309, 3rd Floor, Woodrow Building<br>Veera Desai Road<br>Mumbai – 400 023 (Maharashtra) |
| 13. | Shri Rajiv Garg | Managing Director<br>Garg Acrylics Ltd.<br>Kanganwal Road, P.O. Jugiana<br>Ludhiana – 141 120 (Punjab) |
| 14. | Representative | NTC Ltd.<br>Core IV, Scope Complex<br>7, Lodhi Road,<br>New Delhi – 110 003 |
| 15. | Shri Sukumar | Chief General Manager<br>NTC Ltd.<br>Core IV, Scope Complex<br>7, Lodhi Road,<br>New Delhi – 110 003 |
| 16. | Dr. Ranjana Aggarwal | Director<br>Council of Scientific and Industrial Research (NISTADS)<br>Anusandhan Bhawan<br>2, Rafi Marg<br>New Delhi – 110 002 |

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| 17. | Shri Vallabh S. Thumar | Chairman, TMMA (I) &<br>Chairman & Managing Director<br>Weavetech Engineers Ltd.<br>195- Road No. 6 F, Udhna Udyog Nagar<br>New Industrial Estate<br>Udhna, Surat – 394 210 |
| 18. | Dr. Arindam Basu | Director General<br>NITRA<br>Sector 23, Raj Nagar<br>Ghaziabad – 201 002 |
| 19. | Shri Pragnesh Shah | Director<br>Ahmedabad Textile Industry's Research Association<br>P.O. Ambawati Vistar<br>Ahmedabad – 380 015 (Gujarat) |
| 20. | Dr. Prakash Vasudevan | Director<br>The South India Textile Research Association<br>13/37, Avanashi Road<br>Coimbatore – 641 014 |
| 21. | Dr. T.V. Sreekumar | Director<br>The Bombay Textile Research Association<br>Lal Bahadur Shastri Marg<br>Ghatkopar (West)<br>Mumbai – 400 086 |
| 22. | Chairman/Addl. Secretary General | Apparel Export Promotion Council<br>Apparel House, Institutional Area<br>Sector 44<br>Gurgaon - 122 003 (Haryana) |
| 23. | Prof. R.S. Rengasamy | Professor & Head<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 24. | Dr. S. Sunanda | Secretary General<br>CITI, 6th Floor, Narain Manzil<br>23, Barakhamba Road<br>New Delhi – 110 001 |

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| 25. | Shri B.K. Sharma | Sr. Vice President<br>Ginni Filaments Ltd.<br>110 KM Stone, Delhi-Mathura Road<br>Chhata-281401, Distt. Mathura (U.P.) |
| 26. | Shri Ashish Bagrodia | Chairman & Managing Director<br>Winsome Textile Industries Ltd<br>SCO 191-192, Sector 34 A<br>Chandigarh – 160 022 |
| 27. | Shri Sandeep Hora | Partner/CEO<br>Aeronav Industrial Safety Appliances<br>C-36, 3rd Floor, Panchsheel Enclave<br>New Delhi – 110 016 |
| 28. | Shri Sanjay Gulati | Managing Director<br>Growel Impex Pvt. Ltd.<br>E-16, Greater Kailash Part-II<br>New Delhi – 110 048 |
| 29. | Prof. Manjeet Jassal | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 30. | Prof. Ravishankar Chattopadhyay | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 31. | Dr. J.V. Rao | Former DG & Advisor - NITRA<br>F-1, Friends Apartments<br>Madhu Vihar, I.P. Extn.<br>Patparganj<br>New Delhi – 110 092 |
| 32. | Shri R.C. Kesar | PNC 024 The Pinnacle<br>DLF City Phase V<br>Sector 43<br>Gurgaon - 122 009 (Haryana) |
| 33. | Shri Dilip Gianchandani | Country Manager, India<br>The Wool Mark Company<br>806, 8th Floor, C wing, One BKC<br>Bandra Kurla Complex<br>Bandra East<br>Mumbai – 400 051 |

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| 34. | Shri B.M. Sharma | Joint Managing Director<br>RSWM Limited<br>Bhilwara Towers, A-12, Sector-1<br>Noida – 201 301 |
| 35. | Shri L.N. Jhunjhunwala | LNJ Bhilwara Group<br>Bhilwara Towers<br>A-12 Sector-1<br>Noida – 201 301 |
| 36. | Shri Sharad Jaipuria | Chairman & Managing Director<br>Ginni International Ltd.<br>2nd Floor, Shanti Chamber<br>11/6B, Pusa Road<br>New Delhi – 110 005 |
| 37. | Shri Shishir Jaipuria | Chairman & Managing Director<br>Ginni Filaments Ltd.<br>H-6, Sector-63<br>Noida – 201 301 |
| 38. | Dr. Rikhab Chand Jain | Chairman<br>T.T. Limited<br>879, Master Prithvi Nath Marg<br>Opp. Ajmal Khan Park,<br>Karol Bagh<br>New Delhi – 110 005 |
| 39. | Representative | Federation of Hosiery Manufacturers' Association of India<br>Metro Towers, 8th Floor<br>1, Ho Chi Minh Sarani<br>Kolkata – 700 071 |
| 40. | Representative | The Cotton Corpn. of India Ltd.<br>Kapas Bhawan, Plot No. 3/A<br>Sector-10, CBD – Belapur<br>Navi Mumbai - 400 614 |

**ANNEX – 2**

# MEMBERS OF THE FINANCE & ADMINISTRATIVE SUB-COMMITTEE 2020-2021

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|---|---|---|
| 1. | Shri Raj Kumar Jain<br>(Chairman - FAC) | Managing Director<br>Zonac Knitting Machines Pvt. Ltd.<br>Plot No.18&19, Ecotech Part-1<br>D-2, Site-B, Surajpur Industrial Area<br>Greater Noida – 201 306<br>Distt. Gautam Budh Nagar |
| 2. | Shri Dinesh Nolkha | Managing Director<br>Nitin Spinners Ltd.<br>12, Badal Textile Market<br>Pur Road<br>Bhilwara - 311 001 (Raj.) |
| 3. | Shri Vidit Jain | Jt. Managing Director<br>Pasupati Spg. & Wvg. Mills Ltd.<br>127, 128, 1st Floor, Tribhuvan Complex<br>Ishwar Nagar<br>Nehru Place, Mathura Road<br>New Delhi - 110 065 |
| 4. | Shri S.K. Kapoor | Managing Director<br>Surya Processors Pvt. Ltd.<br>619, Bisrakh Road<br>Village Chapraula<br>Distt. Ghaziabad - 201 001 |
| 5. | Shri Sanjay Kumar Jain | Managing Director<br>T.T. Ltd.<br>879, Master Prithvi Nath Marg<br>Opp. Ajmal Khan Park, Karol Bagh<br>New Delhi - 110 005 |
| 6. | Shri Ramesh Kumar Jain | Chairman-cum-MD<br>Pasupati Spg & Wvg Mills Ltd.<br>127, 128, 1st Floor, Tribhuvan Complex<br>Nehru Place, Mathura Road<br>Ishwar Nagar<br>New Delhi - 110 065 |
| 7. | Shri R.L. Nolkha | Chairman<br>Nitin Spinners Ltd.<br>16-17 KM Stone, Chittor Road<br>Hamirgarh – 311 025<br>Bhilwara (Rajasthan) |

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| 8. | Shri Shishir Jaipuria | Chairman & Managing Director<br>Ginni Filaments Ltd.<br>H-6, Sector-63<br>Noida – 201 301 |
| 9. | Dr. Rikhab Chand Jain | Chairman<br>T.T. Limited<br>879, Master Prithvi Nath Marg<br>Opp. Ajmal Khan Park, Karol Bagh<br>New Delhi – 110 005 |
| 10. | Dr. S. Sunanda | Secretary General<br>CITI, 6th Floor, Narain Manzil<br>23, Barakhamba Road<br>New Delhi – 110 001 |
| 11. | Shri Rajeev Jain | Business Head - Operations<br>(Yarn Business)<br>RSWM Limited<br>Vill. Kharigram<br>Gulabpura – 311 021<br>Distt. Bhilwara |
| 12. | Dr. Arindam Basu | Director General<br>NITRA<br>Sector 23, Raj Nagar<br>Ghaziabad – 201 002 |
| 13. | Dr. J.V. Rao | Former DG & Advisor - NITRA<br>F-1, Friends Apartments<br>Madhu Vihar, I.P. Extn.<br>Patparganj<br>New Delhi – 110 092 |
| 14. | Shri R.C. Kesar | PNC 024 The Pinnacle<br>DLF City Phase V<br>Sector 43<br>Gurgaon-122 009 (Haryana) |
| 15. | Prof. R.S. Rengasamy | Professor & Head<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 16. | Prof. Ravishankar Chattopadhyay | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |

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| 17. | Shri Sanjay Gulati | Managing Director<br>Growel Impex Pvt. Ltd.<br>E-16, Greater Kailash Part-II<br>New Delhi – 110 048 |
| 18. | Shri Sandeep Hora | Partner/CEO<br>Aeronav Industrial Safety Appliances<br>C-36, 3rd Floor, Panchsheel Enclave<br>New Delhi – 110 016 |
| 19. | Shri B.K. Sharma | Sr. Vice President<br>Ginni Filaments Ltd.<br>110 KM Stone, Delhi-Mathura Road<br>Chhata-281401, Distt. Mathura (U.P.) |
| 20. | Shri Ashish Bagrodia | Chairman & Managing Director<br>Winsome Textile Industries Ltd<br>SCO 191-192, Sector 34 A<br>Chandigarh – 160 022 |
| 21. | Shri B.M. Sharma | Joint Managing Director<br>RSWM Limited<br>Bhilwara Towers, A-12, Sector-1<br>Noida – 201 301 |
| 22. | Shri Sanjay Garg | Managing Director<br>Longowalia Yarns Ltd.<br>43, Mall Enclave, Civil Lines<br>Ludhiana – 141 012 (Punjab) |

**ANNEX – 3**

# MEMBERS OF THE RESEARCH ADVISORY COMMITTEE
# 2020-2021

| | | |
|---|---|---|
| 1. | Shri Vidit Jain<br>(Chairman - RAC) | Jt. Managing Director<br>Pasupati Spg. & Wvg. Mills Ltd.<br>127, 128, 1st Floor<br>Tribhuvan Complex, Mathura Road<br>Ishwar Nagar<br>New Delhi - 110 065 |
| 2. | Shri Dinesh Nolkha | Managing Director<br>Nitin Spinners Ltd.<br>12, Badal Textile Market Pur Road<br>Bhilwara - 311 001 (Raj.) |
| 3. | Shri Raj Kumar Jain | Managing Director<br>Zonac Knitting Machines Pvt. Ltd.<br>D-1, D-2, Site B<br>Surajpur Industrial Area,<br>Greater Noida – 201 306<br>Distt. Gautam Budh Nagar |
| 4. | Shri S.K. Kapoor | Managing Director<br>Surya Processors Pvt. Ltd.<br>619, Bisrakh Road, Village Chhapraulla,<br>Distt. Ghaziabad - 201 001 |
| 5. | Shri Sanjay Kumar Jain | Managing Director<br>T.T. Ltd.<br>879 Master Prithvi Nath Marg<br>Opp. Ajmal Khan Park, Karol Bagh<br>New Delhi - 110 005 |
| 6. | Dr. Arindam Basu | Director General<br>NITRA<br>Sector 23, Raj Nagar<br>Ghaziabad – 201 002 |
| 7. | Shri Abir Chakrabarti | Head (TRADC)<br>Textile Research & Application<br>Development Centre,<br>Birla Dham Kharach, Kosamba (R.S.)<br>Distt. Bharuch – 394 120 (Gujarat) |
| 8. | Dr. T.V. Sreekumar | Director<br>BTRA<br>Lal Bahadur Shastri Marg<br>Ghatkopar (West)<br>Mumbai – 400 086 |

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| 9. | Shri Ajay Sharma | General Manager (R&D)<br>(Rajasthan Spg. & Wvg. Mills Ltd.,<br>Unit : Banswara)<br>LNJ Bhilwara Group<br>Bhilwara Towers, A-12, Sector 1<br>Noida - 201 301 (U.P.) |
| 10. | Shri Arvind Yadav | Chairman cum Managing Director<br>Arikav Textiles Ltd.<br>C-4, Site-IV, UPSIDC Indl. Area<br>Kasna Road, Greater Noida<br>Gautam Budh Nagar (U.P) |
| 11. | Dr. Amit Rawal | Associate Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 12. | Prof. Ashwini Kumar Agrawal | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 13. | Prof. Abhijit Majumdar | Associate Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi - 110 016 |
| 14. | Commander Arun Samal<br>(Retd.) | General Manager<br>Integrated Defence Products<br>140-141, Toy City, Ecotech III<br>Greater Noida 201 306 (U.P.) |
| 15. | Prof. B.S. Butola | Associate Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 16. | Dr. B.S. Yadav | General Manager<br>Mahima Fibres Pvt. Ltd.<br>406, Corporate House, 4th Floor<br>Opp. Jhabua Tower, 169 RNT Marg<br>Indore – 452 001 (M.P.) |

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| 17. | Prof. Deepti Gupta | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 18. | Dr. J.V. Rao | CEO<br>Textile Skill Sector Council<br>CITI, 6th Floor, Narain Manzil<br>23, Barakhamba Road<br>New Delhi – 110 001 |
| 19. | Prof. Mangala Joshi | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 20. | Prof. Manjeet Jassal | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 21. | Dr. N.N. Mahapatra | Business Head Dyes<br>Shree Pushkar Chemicals and Fertilizer Ltd.,<br>Atlanta Centre, Goregaon (East)<br>Mumbai |
| 22. | Shri Pragnesh Shah | Director<br>ATIRA<br>P.O. Ambawati Vistar<br>Ahmedabad – 380 015 (Gujarat) |
| 23. | Dr. Prakash Vasudevan | Director<br>SITRA<br>13/37, Avanashi Road<br>Coimbatore Aerodrome<br>Coimbatore – 641 014 (T.N.) |
| 24. | Shri Prasanta Kumar Deka | Vice President – Sales & Marketing<br>Rieter India Pvt. Ltd.<br>Karegaon Bhima, Pune |
| 25. | Shri Rajeev Jain | Business Head (Yarn)<br>RSWM Limited<br>Times Square, Unit No. 601<br>B Wing, 6th Floor, Opp. Mittal Indl. Estate,<br>Near Marol Naka Metro Station,<br>Andheri-Kurla Road, Andheri East<br>Mumbai – 400 059 |

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| 26. | Prof. R.S. Rengasamy | Professor & Head<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi – 110 016 |
| 27. | Prof. Ravishankar Chattopadhyaya | Professor<br>Deptt. of Textile Technology<br>Indian Institute of Technology<br>Hauz Khas<br>New Delhi 110 016 |
| 28. | Shri R.C. Kesar | Director General<br>Okhla Garment and Textile Cluster (OGTC)<br>Y-29, Okhla Indl. Area Phase-2<br>New Delhi-110 020 |
| 29. | Shri Sanjay Gulati | Managing Director<br>Growel Impex Pvt. Ltd.<br>E-16, Greater Kailash, Part-II<br>New Delhi - 110 048 |
| 30. | Shri Sandip Hora | C.E.O.<br>Aeronav Industrial Safety Appliances<br>E-24, Secor-7, Noida-201 301 |
| 31. | Shri S.M. Dwivedi | Managing Director<br>Sara Textiles Ltd.<br>Sara House, B-8, Sector-4<br>Noida, Distt. G.B. Nagar |
| 32. | Shri Tarashankar | Scientist 'G'/Sr. Director<br>Head of Electronics System Development & Application Division,<br>Ministry of Electronics & Information Technology<br>Govt. of India<br>6, CGO Complex, Electronics Niketan,<br>Lodi Road, New Delhi – 110 003 |

**ANNEX – 4**

# LIST OF MEMBER UNITS

## A. Units in Rajasthan

1. Arham Spinning Mills
2. Ginni International Ltd.
3. J.C.T. Limited
4. Modern Threads (India) Ltd.
5. Modern Suitings
6. Nitin Spinners Ltd.
7. Orient Syntex
8. Prerna Syntex Ltd.
9. RSWM (Bhilwara unit)
10. RSWM (Banswara unit)
11. RSWM (Rishabdev unit)
12. Rajasthan Textile Mills Ltd.
13. Shree Rajasthan Syntex Ltd.
14. Shree Rajasthan Texchem Ltd.
15. Swatantra Bharat Mills, Tonk
16. Udaipur Cotton Mills -NTC
17. Banswara Syntex Ltd.

## B. Units in Haryana

1. Bhiwani Textiles
2. Bhiwani Synthetics Ltd.
3. CMS Impex India Pvt. Ltd.
4. D.C.M. Textiles
5. H.P. Cotton Textile Mills
6. Haryana Text Prints (Overseas Ltd.)
7. HRS Fibres Ltd.
8. Harisons & Harlaj Ltd.
9. H.P. Spg. Mills
10. K.C. Textiles Ltd.
11. Mittal Processes Pvt. Ltd.
12. National Woollen & Finishers
13. Pasupati Spg. & Wvg. Mills Ltd.
14. R.K. Dyeing Industries Ltd.
15. Sheena Exports
16. Swastika Woollen Mills
17. The Technological Institute of Textiles & Science
18. Jasch Industries Ltd., Sonepat
19. Chelsea Mills, Gurgaon
20. Tex Corp. Limited
21. Protech Textiles & Trims (P) Ltd.
22. Star Safety Mills
23. Keshav Exports

## C. Units in U.P.

1. ACI Oils Pvt. Ltd.
2. Alps Industries Ltd.
3. Awadh Textwood (P) Ltd.
4. Bureau Veritas Consumer Products Services (India) Pvt. Ltd.
5. Dewan Textiles
6. Ginni Filaments Ltd.
7. Gajroula Spinning Mills (T.T.Limited)
8. J.K. Synthetics Ltd.
9. Nirmal Fibres (P) Ltd.
10. Pasupati Acrylon Ltd.
11. Pawan Exports Pvt. Ltd.
12. Pasupati Fabrics
13. Sai Electricals
14. Shamken Multifab Ltd.
15. Shamken Spinners Ltd.
16. Sogo Fashions Pvt. Ltd.
17. Surya Processors Pvt. Ltd.
18. Mahavir Spinfab Pvt. Ltd.
19. Jayshree International
20. Orient Craft Limited
21. Sybly Industries Ltd.
22. Aeronav Industrial Safety Appliances
23. Radnik Auto Exports
24. Shahi Exports Pvt. Ltd.
25. Pilkhuwa Water Proofing Co. Pvt. Ltd.
26. Zonac Knitting Machine (I) Ltd.
27. Derpa Industrial Polymers (P) Ltd.
28. Icon Designs
29. Geosys India Infrastructures Pvt. Ltd.
30. Integrated Defence Products Pvt. Ltd.
31. Nexgen Fabrics Pvt. Ltd.
32. G.D. International

**N.T.C. Ltd.**

1. Swadeshi Cotton Mills (Naini)
2. Swadeshi Cotton Mills (Mau)

## D. Units in Delhi

1. Gold Rock World Trade Ltd.
2. Indian Arts & Crafts Syndicate
3. J.P.C.
4. Neelam Threads Pvt. Ltd.
5. R.K. Silk Mills India Pvt. Ltd.
6. Radiant Exports, New Delhi

7. Shades of India Craft Pvt. Ltd.
8. Growel Impex Pvt. Ltd.
9. Kay Tent Industries

**E. Units in Punjab**

1. Abhishek Industries Ltd.
2. Adhinath Dyg. & Fsg. Mills
3. Abhinav Cotspin Ltd.
4. Bhandari Exports
5. J.C.T. Ltd.
6. Kharar Textile Mills
7. Malwa Cotton Spg. Mills Ltd.
8. Malwa Cotton Mills Ltd.
9. Nahar Fibres Ltd.
10. Nahar Industrial Enterprises Ltd.
11. Nahar Exports Ltd.
12. Nahar Fabric Ltd.
13. Oswal Cotton Spg. Mills Ltd.
14. Rishab Spg. Mills
15. Rainbow Denim
16. Suraj Textile Mills
17. Vardhman Textiles Ltd.
18. Eveline International
19. Superfine Knitters
20. Duke Fashions
21. Top Gear Fashions
22. Nahar Spinning Mills

**F. Units in Himachal Pradesh**

1. GPI Textiles (India) Ltd.
2. Himachal Fibres Ltd.
3. Malwa Cotton Spg. Mills Ltd.
4. Winsome Textile Ltd.

**G. Units in J&K**

1. Chenab Textile Mills
2. H.E.G. Ltd.

**H. Units in Madhya Pradesh**

1. Indo-Rama Textiles Ltd.
2. Maral Overseas Ltd.
3. Mid India Industries
4. Vikram Woollens Ltd.

**I. Units in Maharashtra**

1. Surya Lakshmi Cotton Mills
2. Alok Industries Ltd.
3. Kusumgar Corporate India Pvt. Ltd.
4. Sunil Industries Ltd.
5. Continental Surface Solutions India Pvt. Ltd.

**J. Unit in Andhra Pradesh**

1. Shree Manufacturing Co. Ltd.

**K. Unit in West Bengal**

1. Jayashree Textiles

**L. Unit in Karnataka**

1. Bhoruka Textile Ltd.

**M. Units in Tamil Nadu**

1. K.G. Denim
2. Shubh Swasan India Pvt. Ltd.

**N. Unit in Thailand**

1. Thai Acrylic Fibre Co.

**O. Units in Gujarat**

1. Arvind Ltd.
2. Reliance Industries Ltd.
3. Adient Arvind Automotive Fabrics India Pvt. Ltd.

**Total Member Units**

**State-wise:**

| | | | | | |
|---|---|---|---|---|---|
| Andhra Pradesh | - | 01 | Punjab | - | 22 |
| Delhi | - | 09 | Rajasthan | - | 17 |
| Gujarat | - | 03 | Tamil Nadu | - | 02 |
| Haryana | - | 23 | Uttar Pradesh | - | 34 |
| Himachal Pradesh | - | 04 | West Bengal | - | 01 |
| Jammu & Kashmir | - | 02 | **Overseas:** | | |
| Karnataka | - | 01 | Thailand | - | 01 |
| Madhya Pradesh | - | 04 | | | |
| Maharashtra | - | 05 | | | |

**Total No. of Member Units = 129**

**ANNEX – 5**

# STAFF MEMBERS
# (As on 31.03.2021)

| NAME | DESIGNATION | QUALIFICATION |
|---|---|---|
| **Dr. Arindam Basu** | **Director General** | **B.Sc. Tech. (Text. Tech.), M.Text., Ph.D., PGDBIM, FIE, FSAB, FTA** |
| Mechanical Processing Division (Spg. & Wvg.): | | |
| Mr. Abhijit Pal | Officiating Director<br>Head of Department | B.Sc.Tech. (Text. Tech.),<br>MS (by Research), FIE, FIV |
| Mr. R.S. Yadav | Asstt. Director | B.Tech.(Text.),<br>MS (by Research), MIE |
| Mr. M.K. Bansal | S.S.O. | Dip. in Text. Tech., MBA |
| Mr. Ravi Sonkar* | Scientific Officer | Dip. in Text. Tech.,<br>B.Tech. (Text. Engg.),<br>M.Tech. (Text. Tech.) |
| Mr. Satyanarayana V. | S.T.A. | SSC, ITI, ATA |
| Environmental Engineering Division: | | |
| Dr. A.A. Ansari | Asstt. Director | M.Sc., M.Phil., Ph.D. |
| Mr. Rahul Srivastava* | Env. Engineer | B.Tech. (Env. Engg.) |
| Mr. Harendra Singh | Sr. Investigator | M.Sc. (Chem.) |
| Physics & Quality Evaluation Division: | | |
| Mr. Sanjeev Shukla | Asstt. Director<br>Head of Department | B.Sc., B.Text., M.Tech.,<br>PGDBM |
| Mrs. Seema Sharma | S.T.A. | M.Sc. |
| Mr. R.P. Tripathi | Sr. Investigator | B.A. |
| Mr. G.C. Bajpai | Sr. Investigator | B.Sc. (Chem.) |
| Mr. Deepak Jangra* | Technical Assistant | Dip. in Textile Design |

| NAME | DESIGNATION | QUALIFICATION |
|---|---|---|
| Chemical & Quality Evaluation Division: | | |
| Dr. M.S. Parmar | Director (Laboratories)<br>Head of Department | M.Sc., Ph.D, PGDMM, DCPA |
| Mrs. Nidhi Sisodia* | Scientific Officer | M.Sc., M.Tech. (Text. Chem.) |
| Mr. Durgesh Raj Maurya* | Scientific Officer | B.Tech. (Carpet & Textile Tech.),<br>M.Tech. (Textile Chemistry) |
| Mr. Kuldeep Singh | S.T.A. | M.Sc., PG Dip. in QC &<br>ISO 9000, ATA |
| Mr. Swami Sharan | S.T.A. | M.Sc. (Chem.), ATA |
| Mr. Devendra Singh | Sr. Investigator | B.A. |
| Mr. Dushyant Kumar | Sr. Investigator | B.Sc. |
| Research & Development Cell: | | |
| Ms. Shweta Chauhan* | Scientific Officer | B.Tech. (Manmade Fibre Tech.),<br>M.Tech. (Fibre Sc. & Tech.) |
| Mr. Pankaj Kumar* | Scientific Officer | B.Tech. (Textile Chemistry),<br>M.Tech. (Textile Chemistry) |
| Polymer & Technical Textiles Division: | | |
| Mrs. Neha Kapil | P.S.O.<br>Head of Department | M.Sc. (Textile & Clothing) |
| Mr. Yogesh Kumar | S.T.A. | M.Sc. (Chem.), ATA |
| Mrs. Anjula Sharma | Data Processor | B. Com (P) |
| Mr. Prakash | Sr. Investigator | Intermediate., ITI |
| Marketing & Publications: | | |
| Mr. Rajendra Kumar Gaur* | Asstt. Director<br>Head of Department | B.Text., PG Dip. in Mktg. Mgmt.,<br>Dip. in TQM & ISO 9000,<br>Dip. in Prodn. Mgmt., MIE |
| Mr. Vineet Tyagi* | Business Development Manager | B.Sc., PG Dip. in Retail Management |

| NAME | DESIGNATION | QUALIFICATION |
|---|---|---|
| Mr. Partha Basu | Public Relations Officer | B. Com, PGD in Advtg. & Mktg. Mgmt. |
| Garment Centre: | | |
| Mr. M.M.Tiwari* | Asstt. Director | B.Sc., Dip. in Text. |
| Mr. Vivek Agarwal | Asstt. Director | B.Tech, PGDBM, MS (by Research) |
| Mr. Neeraj Aggarwal | Asstt. Director | B.Text, MS (by Research) |
| Mrs. Shweta Saxena | S.S.O. | M.Sc. (Textile & Clothing) |
| Mr. Sanjay Gupta | J.S.O. | M.Sc. |
| Mr. Jaswant Singh | S.T.A. | Intermediate |
| Mrs. Geeta Sharma* | Faculty | Dip. in Fashion Designing & Garment Tech., B.A., AMEIM |
| Engineering Division: | | |
| Mr. Vikas Sharma | P.S.O. Head of Department | B.E.(Mech.), Adv. Dip. in MM & CM, BEE Cert. Energy Auditor |
| Mr. Raj Kumar Saini* | Asstt. Engineer (Elect.) | Diploma (Electrical), BEE Cert. Energy Manager |
| Software Development Centre: | | |
| Dr. B.K.Sharma | P.S.O. Head of Department | M.Sc., M.Tech., Ph.D., SMCSI, FIETE, MIAE, MCSTA, SMIACIT |
| Mr. Avnish Kumar Sharma | S.S.O. | M.Sc., PGD in Computer Programming, Diploma in Operations Management, MCA |
| Mr. Krishan Kumar Dewan | S.S.O. | B.A., BHM, e-Commerce, PGDBM, M.Sc. (Comp. Sc.) |
| Library: | | |
| Mr. Abbas Raza | Asstt. Librarian | B.Sc., M.A., DPA, PGDCA, MLISC |

| NAME | DESIGNATION | QUALIFICATION |
|---|---|---|
| Administration & Accounts: | | |
| Mr. Atul Baijal* | Dy. Manager (Accounts) Head of Department | M.Com, L.L.B., MBA |
| Mr. Puneet Agrawal | Dy. Manager (Accounts) | B.Com., ACA |
| Mr. N. Govindaraj* | Data Processor | SSLC |
| Mr. S.A.A. Rizvi | Sr. Supervisor (Purchase) | B.Sc., PG Dip. in Computer Science & Application, MBA |
| Mr. Amit J. Singh | Sr. Supervisor (Accounts) | M.Com., MBA |
| Mr. Rajeev Singh Rawat | Sr. Supervisor (Accounts) | B. Com. |
| Mr. V.K. Singhal | Sr. Supervisor (Accounts) | M.Com. |
| Mr. P.K. Butola* | Store & Purchase Sup. | M.A. |
| Mrs. Saraswathi Devi* | Receptionist | B.A., Cert. in Computer Application, Cert. in Typewriting Lower & Higher |
| Directorate: | | |
| Mr. Sukumar Halsana* | Admission Counsellor cum PA | B.Com., PG Program in Management (Fin.&HR) |
| NITRA Technical Campus: | | |
| Dr. Meghna Tyagi | Asstt. Prof. (Mathematics) | M.Sc., Ph.D. |
| Mr. R.C. Yadaw | Asstt. Prof. (Mechanical) | B.Tech. (Mech. Engg.), M.Tech. (Machine Design) |
| Mr. A.P. Srivastava* | Asstt. Prof. (CSE) | B.Tech. (IT), M.Tech. (CS), PGDBM |
| Mr. Nitin Kumar Sharma* | Asstt. Prof. (CSE) | B.Tech. (CSE), M.Tech. (CSE) |
| Mr. Sourabh Jain* | Asstt. Prof. (CSE) | B.E. (ECE), M.Tech. (Aerospace Engg.-D&C) |

SUPPORTING STAFF (TECHNICAL)

Environmental Engineering Division:

*Jr. Investigator:*
Mr. D. Chakraborty*

Physics & Quality Evaluation Division:

| *Laboratory Assistant:* | *Peon:* | *Trainee:* |
|---|---|---|
| Ms. Shweta Yadav* | Mr. Ranveer Singh | Mr. Mohd. Asif* |
| Mr. Vipin Jindal* | | Mr. Mohd. Nazim* |
| Mr. Netrapal* | | |

Chemical & Quality Evaluation Division:

| *Jr. Investigator:* | *Laboratory Instructor:* | *Lab Assistant:* | *Lab Attendant:* |
|---|---|---|---|
| Mr. Umesh Pathak | Mr. Sumit Kumar* | Mr. Vishal Singh* | Mr. Sandeep Kumar* |

Polymer & Technical Textiles Division:

*Laboratory Assistant:*
Mr. Mohit Pandey*
Mr. Saurabh Dhar*
Mr. Amit Kushwaha*
Mr. Kamal Raj*
Ms. Tanu Walia*

Mechanical Processing Division (Spg. & Wvg.):

*Weaver Helper:*
Mr. V. Ramesh

Garment Centre:

*Trainer Apparel Manufacturing:*
Mr. Asif Ali

Engineering Division:

*Electrician:*
Mr. Sandeep Sharma*

Mr. Lokandra Singh*

NITRA Technical Campus:

| *Laboratory Instructor:* | *Laboratory Assistant:* | *Lab cum office Assistant:* |
|---|---|---|
| Mr. Madan Gopal Pal* | Mr. Dharmendra Kumar* | Mr. Adarsh Agarwal* |
| Mr. Rohitash Singh* | Mr. Shiva Choudhary* | |
| | Mr. Vinay Pratap* | |

*Computer Maintenance Assistant:*
Mr. Raju Yadav*

SUPPORTING STAFF (NON-TECHNICAL)

Administration:

*Sewing Machine Technician:*
Mr. Mukesh Kumar Tomar

*Driver:*
Mr. Ganesh Lal

*Office Attendant:*
Mr. Narender Singh

*Peon:*
Mr. Sukh Pal Sharma

Accounts:

*Accounts Assistant:*
Mr. Manjeet Singh Sachdeva*

*Assistant*
Mr. Hemand Kumar*
Mrs. Santoshi Rana*

Library:

*Draughtsman:*
Mr. M.K. Tomar

*Peon:*
Mr. Govind Ram*

Directorate:

*Daftari:*
Mr. Dharamveer Singh

*Driver:*
Mr. Anil Kumar

*Peon:*
Mr. Ramveer Singh

*Peon:*
Mr. Dushyant Pandit*

NITRA Technical Campus:

*Office Assistant:*
Mr. Rajendra Kumar*

*Peon*:
Mr. Rajpal Singh*

*Caretaker Boys' Hostel cum Supervisor*:
Mr. Yogesh Kumar Tiwari*

*On Contract

## SENIOR OFFICERS AT POWER LOOM SERVICE CENTRES / TESTING LABORATORIES

| NAME | STATUS | QUALIFICATION | DIVISION |
|---|---|---|---|
| Mr. Kushagra Prakash* | S.S.O. | B.Text. (Text. Tech.) M.F. Tech., MBA | PLSC, Meerut |
| Mr. M.K.S. Rathore | Technical Officer | B.Sc., Dip. in Manmade Fibre | PLSC, Kanpur |
| Mr. V.S. Khoiwal* | Scientific Officer | B.E. (Text. Tech.), M.Tech. (Text. Engg.) | PLSC, Bhilwara |
| Mr. Atul Kr Sharma | J.S.O. | B.Sc. | PLSC, Gorakhpur |
| Mr. S.K. Pathania | T/F | High School | PLSC, Ludhiana |
| Mr. S. Ansari | Resident Manager | Dip. in Hand. Tech. | PLSC, Tanda |
| Mr. Jai Narain* | Resident Manager | M.Tech. | PLSC, Panipat |
| Mr. Atul Kr Sharma | J.S.O. | B.Sc. | PLSC, Varanasi |

*On Contract

## RESIGNATIONS/EXPIRY OF CONTRACT, RETIREMENT AND DEATH DURING THE PERIOD APRIL 2020 TO MARCH 2021

| S.No. | NAME | DIVISION | DESIGNATION |
|---|---|---|---|
| A) | **Resignations / Expiry of contract**: | | |
| 1. | Mr. A.K. Pandey* | MPD (Spg.&Wvg.) | Principal Scientific Officer |
| 2. | Dr. A.V. Agrawal | PLSC, Varanasi | Dy. Director & Incharge |
| 3. | Dr. Girendra Pal Singh* | R&D Cell | Sr. Scientific Officer |
| 4. | Ms. Ruvinder Kumari* | CQE | Scientific Officer |
| 5. | Ms. Mona Chauhan* | Garment Centre | Admission Coordinator |
| 6. | Mr. Hariom Sharma* | Directorate | Steno-typist/Data Processor |
| 7. | Mr. B.B. Goyal* | Directorate | PA to Director General |
| 8. | Mr. Kamal Raj* | PTTD | Laboratory Assistant |
| 9. | Mr. Sachin Kumar* | Engineering | Electrician |
| 10. | Ms. Shalini Singh* | PQE | Laboratory Assistant |
| B) | **Retirement**: | | |
| 1. | Mr. Maheshwar Singh | CQE | Sr. Scientific Officer |
| 2. | Mr. Om Pal Singh | PTTD | Laboratory Attendant |
| 3. | Mr. U.C. Sharma | MPD (Spg. & Wvg.) | Assistant Director |
| 4. | Mr. R.K. Gaur | Mktg. & Pub. | Assistant Director |
| 5. | Mr. R.K. Sharma | PQE | Sr. Scientific Officer |
| 6. | Mr. G.K. Pal | PLSC, Kanpur | Trainer cum Loom Fitter |
| 7. | Mr. Om Singh | PLSC, Bhilwara | Technical Assistant CAD |
| C) | **Termination**: | | |
| 1. | Mr. Deepak Saini* | MPD (Spg. & Wvg.) | Scientific Officer |

*On Contract

**ANNEX - 6**

# RESEARCH PAPERS PUBLISHED AND PRESENTED

| S.N. | Title | Author(s) | Publication/Plae | Date |
|---|---|---|---|---|
| 1. | Development of Bamboo Pulp Base Epoxy Coated Fashion Buttons for Garments | Shweta Chauhan & Arindam Basu | International Online Conference on Advances in Textile, Fashion and Crafts [ATFC-2021] | March 22-24, 2021 |
| 2. | Electromagnetic shielding performance of copper & silver plated hybrid yarn based multilayer fabrics in C & X band frequency range | D.N. Pandey, Arindam Basu & Pramod Kumar | Journal of Industrial Textiles, p 27-30 | March 2021 |
| 3. | Protection of health workers from Covid 19 | Arindam Basu | Asian Technical Textiles, Vol.15, No.1, p 27-30 | Jan.-Mar. 2021 |
| 4. | Analysis of dust resistance property of coated and laminated fabrics using newly developed instrument | M.S. Parmar, Shweta Saxena, Sangita Saini & Durgesh Raj Maurya | Colourage, p 36-43 | February 2021 |
| 5. | Workwear fabric for cement workers | M.S. Parmar, Shweta Saxena, Durgesh Raj Maurya & Sangita Saini | Asian Textile Journal, p 46-51 | January-February 2021 |
| 6. | Creating dyeing effect on cotton fabric with disperse dyes | M.S. Parmar, Durgesh Raj Maurya, Girendra Pal Singh & Saurabh Jain | Journal of the Textile Association, Vol 81 No 5, p 269-273 | January-February 2021 |
| 7. | Development of a unique stab and impact resistant material for anti-riot body protector | M.S. Parmar, Neha Kapil & Nidhi Sisodia | Book: Functional Textiles and Clothing-2020, ISBN 978-981-15-9376-5, Springer Pub: Springer Nature Singapore Pte Ltd, p 55-66 | January 2021 |

| S.N. | Title | Author(s) | Publication/Plae | Date |
|---|---|---|---|---|
| 8. | Study to analyze and improve anti riot body protector | M.S. Parmar, Neha Kapil & Sangita Saini | Man Made Textiles in India, XLIX No.1(Jan. 2021), p 7-11 | January 2021 |
| 9. | Application of Machine Learning Techniques in Industrial Domain | B.K. Sharma | International Conference on Soft Computing Techniques and Communication Engineering , Organized by LNCT University, Bhopal | January 29-30, 2021 |
| 10. | An Analysis and Prediction of COVID19 using effective Machine Learning Techniques | Rakshat Bhati, Abhishek Tyagi, Nikhil Chaudhary & B.K. Sharma | Int. Conference on Mathematical Science and Computational Intelligence, organized by Shri Mata Vaishno Devi University, Katra, J&K in association with Advance Research Educational Society | December 21-22, 2020 |
| 11. | Congestion Avoidance Algorithms in a Software Defined Network | Ashish Bajpai & B.K. Sharma | 2nd Int. Conference on Networks and Cryptology (NetCrypt-2020) organized by JNU, New Delhi. | December 4-6, 2020 |
| 12. | Air Cleaner Home Textiles to Reduce Indoor Air Pollution : A Preliminary Study | Arindam Basu, M. S. Parmar & Girendra Pal Singh | International Journal of Engineering Research & Technology (IJERT), Vol. 9, Issue 11 | November 2020 |

| S.N. | Title | Author(s) | Publication/Plae | Date |
|---|---|---|---|---|
| 13. | Personal Protective Equipment (PPE) for Medical Professionals & Healthcare Workers for Protection from COVID-19 Virus Infection | Arindam Basu | TANTU Magazine | October 2020 |
| 14. | Smart Electronic Yarn & Wearable Fabrics | Arindam Basu | Chapter in "Nanosensors and Nanodevices for Smart Multi-functional Textiles", edited by A. Ehrmann, T.A. Nguyen & P. N. Tri and published by Elsvier Inc., UK | September 2020 |
| 15. | Design, Enhancement and Optimization of Low Pass Filter Using Neural Network and Genetic Algorithm | B.K. Sharma, Harshita Sharma & Madhu Jain | National Conference on Innovations in Computing, Electronics and Communication Engineering (NCICECE 2020), National Institute of Technology, Kurukshetra | July 25-26, 2020 |
| 16. | FR & Medical Textiles: Test methods as per specific requirements | M.S. Parmar | Virtual Lecture organized by NIFT, Delhi | July 12, 2020 |
| 17. | Stock Market Predication using Machine Learning Techniques for effective decision making | B.K. Sharma, Mohit Sharma & Archana Sharma | Int. Conference on Emerging Trends in Information Technology and Data (INCETITIDS20), IMS, Ghaziabad | July 4, 2020 |

| S.N. | Title | Author(s) | Publication/Plae | Date |
|---|---|---|---|---|
| 18. | Recent Trends In Data Science and its Application | B.K. Sharma | 2nd Webinar Series, SDIT, Dausa (Rajasthan) | July 2, 2020 |
| 19. | Recent Trends In Data Science | B.K. Sharma | International Conference on Recent Applications in Science and Engineering, Shivalik College of Engineering, Dehradun | June 20, 2020 |
| 20. | Development of fabric smoothness tester | M.S. Parmar, Nidhi Sisodia & Maheshwar Singh | Indian Journal of Fibre & Textile Research, Vol 45 | June 2020 |
| 21. | Effect of Softeners on Smoothness Behavior of Cotton Fabrics | Nidhi Sisodia, M.S. Parmar & Sourabh Jain | AATCC Journal of Research, Vol. 7, No. 3 | May-June 2020 |
| 22. | Energy & Economic Analysis of Grid Type Roof-Top Photovoltaic (GRPV) System | Ramesh Chandra Yadaw | Electric Power and Renewable Energy Conference organized by Dept. of Electrical Engineering, NIT, Jamshedpur, India | May 29-30, 2020 |
| 23. | Sustainability in Textiles & Apparel Industry | Arindam Basu | Asian Textile Journal | April-May 2020 |
| 24. | FR Textiles- Test Methods for Specific Requirements | M.S. Parmar | Webinar Organized by BR Group | April 18, 2020 |
| 25. | Fabric quality of protective overalls | M.S. Parmar | Fibre2Fashion.com | April 2020 |
| 26. | Sustainable and stretchable cotton fabric for making outer and inner layers of moulded - bra cup | M.S. Parmar, Nidhi Sisodia & Preeti Kaur Sachdeva | Colourage | April 2020 |

**ANNEX – 7**

# TRAINING PROGRAMS, WORKSHOPS AND SEMINARS CONDUCTED

| S. N. | Nature of Program | Venue | Division | No. of batches | No. of traines |
|---|---|---|---|---|---|
| 1. | Fashion Marketing and Merchandising | NITRA, Ghaziabad | Garment Centre | 01 | 19 |
| 2. | Apparel Design and Quality Control | NITRA, Ghaziabad | Garment Centre | 01 | 08 |
| 3. | Apparel Production and Industrial Engg. | NITRA, Ghaziabad | Garment Centre | 01 | 07 |
| 4. | Textile Technology and Management (DLP) | NITRA, Ghaziabad | Garment Centre | 01 | 14 |
| 5. | Apparel Manufacturing & Merchandising (DLP) | NITRA, Ghaziabad | Garment Centre | 01 | 10 |
| 6. | Summer Training programs for College Students | NITRA, Ghaziabad | Garment Centre | 01 | 26 |
| 7. | Defects in Spinning, Weaving & Processing* | NITRA, Ghaziabad | Garment Centre & CQE | 01 | 42 |
| 8. | Usefulness of SQC Techniques in Textile and Apparel industry* | NITRA, Ghaziabad | Garment Centre & SDC | 01 | 54 |
| 9. | Advance use of Google Spread-sheet in Textile & Apparel Industry* | NITRA, Ghaziabad | SDC | 01 | 72 |
| 10. | Impact of Covid-19 on Global Apparel Business and Opportunities for India* | NITRA, Ghaziabad | Garment Centre | 01 | 35 |
| 11. | Solutions to your daily factory reports - NITRA's Mobile App "APPRISE"* | NITRA, Ghaziabad | Garment Centre | 01 | 25 |

| S. N. | Nature of Program | Venue | Division | No. of batches | No. of traines |
|---|---|---|---|---|---|
| 12. | Profitability concept & factors contributing to high productivity in spinning* | NITRA, Ghaziabad | Garment Centre | 01 | 25 |
| 13. | Training Program for garment entrepreneurs | Gorakhpur Industrial Dev Authority (GIDA) | Garment Centre | 01 | 150 |
| 14. | Technical Seminar on Garment Manufacturing for emerging entrepreneurs | Gorakhpur Industries of Chamber, Gorakhpur | Garment Centre | 01 | 65 |
| 15. | Dissemination Workshop on Energy Efficiency and Conservation Opportunities | NITRA, Ghaziabad | Engineering | 01 | 70 |
| 16. | Training Programs on Synthetic Blood Penetration Tester as per ISO 16603 | NITRA, Ghaziabad | CQE | 01 | 20 |
| 17. | Workshop on Energy Efficiency and Conservation Opportunities | Panipat | Engineering | 01 | 70 |
| 18. | Smart Hack 2020-21 | NITRA, Ghaziabad | SDC | 01 | 70 |

*Webinars

**ANNEX - 8**

# CONSULTANCIES PROVIDED

| S.No. | Type of Consultancy | Division | No. of Units |
|---|---|---|---|
| 1. | Third Party Inspection of Cloth disruptive polyester cotton | MPD (Spg& Wvg)/ PQE/ R&D Cell/ Garment Centre | 05 |
| 2. | Third Party Inspection of Cloth Gabardine disruptive | MPD (Spg& Wvg)/ PQE/ R&D Cell | 32 |
| 3. | Third Party Inspection of Woolen Jersey | MPD (Spg& Wvg)/ PQE/ R&D Cell/ CQE | 09 |
| 4. | Third Party Inspection of T-shirts | PQE/MPD(Spg& Wvg)/ Garment Centre | 14 |
| 5. | Third Party Inspection of Angola Shirting | PQE/MPD(Spg&Wvg)/ CQE/Garment Centre/ R&D Cell | 15 |
| 6. | Third Party Inspection of Coat combat | PQE/MPD(Spg&Wvg)/ Mktg.&Pub./R&D Cell/ Garment Centre | 10 |
| 7. | Third Party Inspection of BD Serge /Serge (50/50) | CQE/MPD (Spg&Wvg)/ PQE/R&D Cell | 03 |
| 8. | Third Party Inspection of Cotton Terry Towel | PQE/MPD (Spg&Wvg)/ CQE/R&D Cell | 04 |
| 9. | Third Party Inspection of Sleeping bag | PQE/MPD (Spg&Wvg)/ CQE/Mktg.&Pub./ R&D Cell | 04 |
| 10. | Third Party Inspection of Rain cape | MPD (Spg&Wvg)/PQE | 03 |
| 11. | Third Party Inspection of Vest thermal/Vest cotton | PQE/MPD (Spg&Wvg)/ CQE | 01 |
| 12. | Third Party Inspection of Under pant thermal | MPD (Spg&Wvg)/ PQE | 01 |
| 13. | Third Party Inspection of Blanket | MPD (Spg&Wvg)/PQE | 05 |
| 14. | Third Party Inspection of Kit Bag | MPD (Spg&Wvg)PQE/ R&D Cell | 01 |
| 15. | Third Party Inspection of Plastic bottle/ Water bottle | MPD (Spg&Wvg)PQE/ PTTD Cell | 01 |

| S.No. | Type of Consultancy | Division | No. of Units |
|---|---|---|---|
| 16. | Third Party Inspection of Full Body Protector | MPD (Spg&Wvg)/ Mktg.&Pub./PQE/ R&D Cell | 05 |
| 17. | Third Party Inspection of PPE Kits/Coverall | MPD (Spg&Wvg)/ Garment Centre/ R&D Cell | 64 |
| 18. | Third Party Inspection of Nycofabric | MPD (Spg&Wvg)/PQE | 01 |
| 19. | Third Party Inspection of Anti Riot Helmet | R&D Cell/PTTD | 03 |
| 20. | Third Party Inspection of Waterproof Nylon Fabric | MPD (Spg&Wvg)CQE | 01 |
| 21. | Third Party Inspection of Balaclava | MPD (Spg&Wvg) | 01 |
| 22. | Evaluation of assessment agencies for empanelment by Textile Sector Council (TSC), New Delhi | Mktg.&Pub./ Garment Centre | 01 |
| 23. | Manpower rationalization study of Dye House and Engineering section | MPD (Spg&Wvg/ Engineering | 01 |
| 24. | Technical consultancy to examine the existing HVAC system | Engineering | 01 |
| 25. | Technical consultancy for Civil Structural Verification | Engineering | 01 |
| 26. | Energy Audit of Dairy firm | Engineering | 03 |
| 27. | Manpower Assessment Study | MPD (Spg/Wvg) | 07 |
| 28. | Manpower Assessment Study for Maintenance | MPD (Spg/Wvg) | 01 |
| 29. | Study on Dynamics of Social Auditing Process in the Global Apparel Supply Chain : From Indian Apparel Industry Perspective | Garment Centre | 01 |
| 30. | Framed specification for CRPF on Specification for Sleeping Bag | CQE | 01 |
| 31. | Sectoral Guidance Notes for Textile and Apparel Industry for ZED model | Garment Centre/ MPD (Spg&Wvg)/CQE/ Mktg.&Pub. | 01 |
| 32. | Evaluation of High Visibility Warning Clothings for Design and Manufacturing Specifications | Garment Centre | 10 |

**ANNEX - 9**

# STAFF PARTICIPATION IN HRD PROGRAMS

| Sl. No. | Details of the program | Venue | Date | Participants status |
|---|---|---|---|---|
| 1. | Technotex 2021 : A Seminar on Technical Textiles : Emerging Opportunities and Investments | ITC Maurya, New Delhi | Mar. 17, 2021 | Dr. Arindam Basu, Dr. M.S. Parmar, Mrs. Neha Kapil & Mr. Vineet Tyagi (As Delegates) |
| 2. | Training program on Master Trainer and Lead Assessor | Virtual | Feb.22-Mar.02 | Mr. Vivek Agarwal (As Delegate) |
| 3. | Seminar on WGM for Review and Finalization of Student Textbooks | Virtual | Feb. 22-26, 2021 | Mrs. Neha Kapil (As Delegate) |
| 4. | Workshop on Vendor Development and Procurement Process | CII Digital Platform | Jan. 21, 2021 | Mr. Vineet Tyagi & Mrs. Neha Kapil (As Delegates) |
| 5. | Training program on Vendor Development and Supply Chain Management | Virtual | Dec. 23, 2020 | Mrs. Neha Kapil & Mr. Vineet Tyagi (As Delegates) |
| 6. | Workshop on Capacity Building and Digital Content Development | Virtual | Sept.29, 2020. | Mr. R.K.Gaur, Mr. M.K. Bansal & Mr. V.S. Khoiwal (As Delegates) |
| 7. | Innovation Excellence Indicators Framework- Webex Meeting organised by Confederation of Indian Industry, Gurugram. | Webinar | Sept.17, 2020. | Mr. R.K. Gaur (As Delegate) |
| 8. | Regenerative Organic Cotton and Opportunities in Sustainable Material | Webinar | Sept. 16, 2020 | Mr. Vivek Agarwal (As Delegate) |
| 9. | ILAC Documents relevant for Inspection Bodies organised by NABCB, New Delhi | Webinar | Sept.11, 2020 | Mr. R.K.Gaur & Mr. Sanjeev Shukla (As Delegates) |
| 10. | Awareness on Meeting Challenges of PPE Export Market | Webinar | Aug. 26, 2020 | Mr. Vivek Agarwal & Mrs. Shweta Saxena (As Delegates) |

| Sl. No. | Details of the program | Venue | Date | Participants status |
|---|---|---|---|---|
| 11. | Manufacture and Export of Textiles Based Personal Protective Equipment (PPEs) | Webinar | Aug.11-12, 2020 | Mr. Vivek Agarwal & Mrs. Shweta Saxena (As Delegates) |
| 12. | POST COVID-19 : Emerging Opportunities for Indian Apparel Businesses | Webinar | July 27, 2020 | Mr. Vivek Agarwal (As Panel Expert) |
| 13. | Recent Trends in Computer Science & IT | Raj Kumar Goel Institute of Technology, Ghaziabad | July 13-17, 2020 | Dr. B.K. Sharma, Mr. A.P. Srivastava & Mr. Nitin Kumar Sharma (As Delegates) |
| 14. | Machine Learning and its Application using PYTHON | Ajay Kumar Engg. College, Ghaziabad & Consilio Intelligence Research Lab, Noida | June 29-July 03, 2020 | Dr. B.K. Sharma (As Delegate) |
| 15. | Applications of Machine Learning and Deep Learning | Raj Kumar Goel Institute of Technology, Ghaziabad | June 24-28, 2020 | Dr. B.K. Sharma, Mr. Avnish Kumar Sharma, Mr. A.P. Srivastava & Mr. Nitin Kumar Sharma (As Delegates) |
| 16. | How to report compliance in the test report in mechanical testing (ISO/IEC 17025:2017) | Virtual Remote Online Training at NITRA | June 30, 2020 | Mr. R.K. Gaur, Mr. R.,S. Yadav, Mr. Sanjeev Shukla, Mrs. Neha Kapil, Mr. Durgesh Raj Maurya & Mr. Deepak Jangra (As Delegates) |

**ANNEX – 10**

# ADDITIONAL SERVICES TO NITRA MEMBERS

NITRA has been providing laudable services to member units since its inception in 1974. Besides offering services to meet their ever changing needs, it also offers substantial benefit package to member units to strengthen the mutual relationship. Following is a spectrum of additional services provided to individual member units:

## 1. Centre for Academic Partnership Scheme (CAPS)

In a bid to diversify our activities and to intensity interaction with academic institutions and to augment techno-education base of the country as a whole, NITRA offers library & information service to the students, faculty and researchers of various colleges and institutions through participation in "Centre for Academic Partnership Scheme (CAPS)". Institutions interested to avail this unique service may obtain membership at a nominal admission fee of Rs.20,000/- only. Apart from this, a nominal sum of Rs.500/- per year will be charged to the individual user to issue his/her library card. For further details please contact the Asstt. Librarian.

## 2. Concessional Enrolment Fee in Workshops/ Seminars/ Conferences/ Training Programmes etc.

The enrolment fee for participating in Training Programmes/Workshops/Seminars/ Conferences conducted by NITRA is much less for member units as compared to non-member units.

## 3. Discount on Testing Charges

Testing charges for NITRA's member units in various testing labs are 30% (for Ordinary members) and 10% (for Associate members) discounted as compared to non-member units.

## 4. Discount on Publications

10% discount is offered on the purchase of NITRA publications to its member units.

## 5. Free Library Service

Member units can reap rich harvest by consulting the vast and well stocked NITRA library, services during any working day.

**ANNEX – 11**

# JOURNALS SUBSCRIBED BY NITRA LIBRARY

| S.No. | Name of Journal | Frequency |
|---|---|---|
| 1. | AATCC Review | Monthly |
| 2. | Asian Dyer | Monthly |
| 3. | Asian Textile Journal | Monthly |
| 4. | Asian Technical Textile Journal | Quarterly |
| 5. | Apparel Online | Fortnightly |
| 6. | Colourage | Monthly |
| 7. | Computer Sanchar Soochna | Monthly |
| 8. | Competition Success Reviews | Monthly |
| 9. | CSI Communication | Monthly |
| 10. | Express Computer | Monthly |
| 11. | Digit | Monthly |
| 12. | IETE Journal of Research | Bimonthly |
| 13. | India Today (English) | Weekly |
| 14. | Indian Journal of Fibre & Textile Research | Quarterly |
| 15. | Indian Textile Journal | Monthly |
| 16. | Journal of the Institution of Engineers (India):Section B | Bimonthly |
| 17. | Journal of Textile Association | Monthly |
| 18. | Journal of Textile Institute | Bi-monthly |
| 19. | Textile Progress | Quarterly |
| 20. | The Textile Magazine | Bi-monthly |
| 21. | Textiles Magazine | Quarterly |

**ANNEX - 12**

# JOURNALS RECEIVED ON COMPLIMENTARY BASIS

| | Name of Journal | Frequency |
|---|---|---|
| 1. | Apparel India | Monthly |
| 2. | Apparel Views | Monthly |
| 3. | BTRA Bulletin | Monthly |
| 4. | BTRA Scan | Quarterly |
| 5. | Banasthali News letter | Monthly |
| 6. | DFU's Inside Fashion | Quarterly |
| 7. | Fibre to Fashion | Monthly |
| 8. | Garmentline | Monthly |
| 9. | Garmex | Monthly |
| 10. | Hosiery Times | Monthly |
| 11. | OGTC News letter | Monthly |
| 12. | PHD Chamber's News letter | Monthly |
| 13. | SIMA Review | Monthly |
| 14. | SITRA Focus | Bi-monthly |
| 15. | SITRA News | Bi-monthly |
| 16. | SITRA Trends | Quarterly |
| 17. | Textile Excellence | Monthly |
| 18. | Textile Mirror | Bi-monthly |
| 19. | Textile Times | Monthly |
| 20. | Textile Value Chain | Monthly |

**ANNEX - 13**

# PLACEMENT OF STUDENTS OF NITRA TECHNICAL CAMPUS

**(As on 31.03.2021)**

## Branch : Textile Technology

| S.No. | Student Name | Name of Company |
|---|---|---|
| 2019-20 | | |
| 1. | Manish Shakya | Reliance AJIO |
| 2. | Lakshaya | Brij Design, Gurgaon |
| 2020-21 | | |
| 3. | Aditya Kumar Pandey | Rajasthan Spg. & Wvg. Mills Ltd. |
| 4. | Mudit Bhargava | Rajasthan Spg. & Wvg. Mills Ltd. |
| 5. | Nikhil Jaiswal | Rajasthan Spg. & Wvg. Mills Ltd. |
| 6. | Akansha Khare | Rajasthan Spg. & Wvg. Mills Ltd. |
| 7. | Poonam Chatterji | Quickclean, Delhi |
| 8. | Shivangi Chaudhary | Quickclean, Delhi |
| 9. | Soham Singhal | Quickclean, Delhi |
| 10. | Siddhant Garg | Quickclean, Delhi |
| 11. | Aman Bhardwaj | Reliance Retails |

## Branch : Textile Chemistry

| S.No. | Student Name | Name of Company |
|---|---|---|
| 2019-20 | | |
| 1. | Shivani Tripathi | Quick Clean Pvt. Ltd. |
| 2. | Preet Kumar | Quick Clean Pvt. Ltd. |
| 3. | Ashwini Kumar | Reliance AJIO |
| 4. | Kuldeep Yadav | Reliance AJIO |
| 5. | Vivek Kumar Mall | Reliance AJIO |
| 2020-21 | | |
| 6. | Rishabh Pandey | Kusumgar Corporates |
| 7. | Shubham Mehta | RSWM / Quickclean |

## Branch : Computer Science & Engineering

| S.No. | Student Name | Name of Company |
|---|---|---|
| 2019-20 | | |
| 1. | Jatin Kumar | Team Lease Services Ltd., Mumbai |
| 2. | Krishn Kumar Yadav | ATL Foundation, Delhi |
| 3. | Satyam Singh | HCL Technologies, Noida |
| 4. | Yatharth Sharma | HCL Technologies, Noida |
| 5. | Ajit Singh | HCL Technologies, Noida |
| 6. | Mohit Kumar Gupta | Tata Consultancy Services (TCS), New Delhi |
| 7. | Govind Nair | Global Logic, Gurugram |
| 2020-21 | | |
| 8. | Anjali Kumari | Innobit Systems (P) Ltd. |
| 9. | Arshi Ansari | Innobit Systems (P) Ltd. |
| 10. | Faizen Ahmed Siddiqui | Innobit Systems (P) Ltd. |
| 11. | Nikhil Sharma | Innobit Systems (P) Ltd. |
| 12. | Priyanshi Chauhan | Innobit Systems (P) Ltd. |
| 13. | Priyasha Garg | Innobit Systems (P) Ltd. |
| 14. | Nikhil Chaudhary | Western India Railways |
| 15. | Amitabh Patel | App Squadz Technologies (P) Ltd. |
| 16. | Avaneesh Singh | App Squadz Technologies (P) Ltd. |
| 17. | Om Agrahiri | App Squadz Technologies (P) Ltd. |
| 18. | Rakshat Bhati | Investor Clinic |
| 19. | Vikrant Singh Rana | Investor Clinic |
| 20. | Nikhil Kumar Giri | Investor Clinic |
| 21. | Vinod Kumar | Investor Clinic |
| 22. | Vishal Chaudhary | Investor Clinic |
| 23. | Shriya Sharma | Dirac ERP Solutions |
| 24. | Abhishek Tyagi | Ced Coss Technologies (P) Ltd. |
| 25. | Arti | Tata Consultancy Services (TCS), PAN India |
| 26. | Deepak Rawat | Daffodil Software, Gurugram |

# AUDITOR'S REPORT

# &

# BALANCE SHEET

**B.K. KAPUR & COMPANY**
CHARTERED ACCOUNTANTS

17, NAVYUG MARKET, GHAZIABAD-201001
PHONE: 0120-2790947, 2790951

## AUDITOR'S REPORT

1. We have audited the attached Balance Sheet of NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION, Ghaziabad as at 31st March, 2021 and Income and Expenditure Account for the year ending 31st March, 2021 annexed thereto. These financial statements are the responsibility of the Association's Management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. 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 of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.
3. We report that :
    a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit.
    b) The Balance Sheet and Income & Expenditure A/c referred to in this report are in agreement with the books of Account.
    c) In our opinion and to the best of our information and according to the explanation given to us, the account read with accounting policies and notes on accounts give a true and correct view;
        i. In case of balance sheet, of the state of Affairs of the Association as at 31st March, 2021, and
        ii. In the case of Income and Expenditure A/c of the Excess of Income over Expenditure for Accounting year ending on that date.

For B.K. KAPUR & COMPANY
CHARTERED ACCOUNTANTS
FRN-000852C
Sd/-
(CA M.S. KAPUR)
PARTNER
Membership NO. - 074615
FRN - 000852C
UDIN – 21074615AAAAJB1322

Place: Ghaziabad
Date : 2nd August 2021

# NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION, GHAZIABAD

## SOURCES OF FUNDS AND MANNER OF EMPLOYMENT AS AT 31ST MARCH 2021

*(Amount in Rs.)*

| Sources of Funds | SCH. No. | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|---|
| Capital Funds: | | | |
| i) Corpus | 1 | 83,47,219 | 83,27,219 |
| ii) Assets created out of Grants | 2 | 51,22,39,517 | 50,94,03,367 |
| Reserves & Surplus | 3 | 41,24,568 | 40,28,337 |
| Depreciation Fund | 4 | 10,40,87,199 | 10,12,40,308 |
| R & D Reserve | 5 | 5,11,61,589 | 4,01,61,589 |
| Grants pending utilization | 6 | (3,24,89,863) | (2,77,83,234) |
| Current Liabilities | 7 | 1,55,12,250 | 1,81,71,994 |
| **Total :** | | **66,29,82,479** | **65,35,49,580** |
| **Manner of Employment** | | | |
| Fixed Assets | 8 | 58,26,49,781 | 57,74,66,951 |
| Investments against Earmarked fund. | 9 | 1,62,85,008 | 1,52,31,731 |
| Current Assets, Loans & Advances | 10 | 6,40,47,690 | 6,08,50,898 |
| **Total:** | | **66,29,82,479** | **65,35,49,580** |

**Significant accounting policies & notes to the accounts – Schedule-17.**

| Sd/- | Sd/- | Sd/- | Sd/- |
|---|---|---|---|
| CHAIRMAN Governing Council | CHAIRMAN Finance & Adm Committee | DIRECTOR GENERAL | DY. MANAGER ACCOUNTS |

Subject to our report of even date.
For **B.K.KAPUR & CO.**
**Chartered Accountants**

**Firm Registration No. 000852C**

**Sd/-**
**(C.A. M.S. KAPUR)**
**(PARTNER**
Membership No. 074615
**UDIN No. - 21074615AAAAJB1322**

Place : GHAZIABAD

Date : 2nd August 2021

## STATEMENT OF INCOME GENERATION AND ITS UTILISATION FOR THE YEAR ENDING 31ST MARCH, 2021

*(Amount in Rs.)*

| INCOME GENERATION | SCH. No. | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|---|
| Grant-in-Aid to meet Recurring Expenditure (Non Plan) | | 1,50,00,000 | 1,30,00,000 |
| Industry Contribution (Testing, Training, Consultancy, Membership Subscription) and Educational services | 11 | 6,59,95,778 | 6,63,39,933 |
| Other Income | 12 | 82,81,346 | 1,00,30,726 |
| Grant-in-Aid to meet Expenditure on Projects | 14 | 32,48,536 | 64,81,795 |
| Grant-in-Aid to meet Expenditure at Powerloom Service Centres | 15 | 1,32,14,860 | 1,37,79,545 |
| **Total :** | | **10,57,40,520** | **10,96,31,999** |
| **UTILISATION** | | | |
| Expenditure of Establishment | 13 | 5,47,11,480 | 6,12,20,972 |
| Expenditure on Projects | 14 | 35,78,610 | 70,62,660 |
| Expenditure on Powerloom Service Centres | 15 | 1,52,84,480 | 1,60,59,821 |
| Expenditure on General Administration | 16 | 1,80,77,435 | 2,02,50,128 |
| Transfer to Depreciation Fund | | 29,92,284 | 29,68,742 |
| **Total :** | | **9,46,44,289** | **10,75,62,323** |
| Balance available for Appropriation | | 1,10,96,231 | 20,69,676 |
| Transfer to R&D Reserve | | 1,10,00,000 | 20,00,000 |
| Surplus transferred to Balance Sheet | | 96,231 | 69,676 |

**Significant accounting policies & notes to the accounts – Schedule-17.**

| Sd/- | Sd/- | Sd/- | Sd/- |
|---|---|---|---|
| CHAIRMAN | CHAIRMAN | DIRECTOR | DY.MANAGER |
| Governing Council | Finance & Adm Committee | GENERAL | ACCOUNTS |

Subject to our report of even date

For **B.K.KAPUR & CO.**
**Chartered Accountants**

**Firm Registration No. 000852C**

**Sd/-**
**(C.A. M.S. KAPUR)**
**(PARTNER**
Membership No. 074615
**UDIN No. - 21074615AAAAJB1322**
Place : GHAZIABAD
Date : 2nd August 2021

**SCHEDULE _ 1**

*(Amount in Rs.)*

| CAPITAL FUNDS | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|
| **1. Capital Corpus** | | |
| a) Admission Fees (Members) Balance at the beginning | 25,11,779 | 24,66,779 |
| Receipts during the year | 20,000 | 45,000 |
| **Sub Total:** | **25,31,779** | **25,11,779** |
| b) Capital Contribution Balance at the beginning | 34,13,530 | 34,13,530 |
| Receipts during the year | - | - |
| **Sub Total :** | **34,13,530** | **34,13,530** |
| c) Donations Balance at the beginning | 24,01,910 | 24,01,910 |
| Receipts during the year | - | - |
| **Sub Total :** | **24,01,910** | **24,01,910** |
| **Total :** | **83,47,219** | **83,27,219** |

**SCHEDULE – 2**

(*Amount in Rs.)*

| **CAPITAL FUND - ASSETS CREATED OUT OF GRANTS RECEIVED FROM GOVERNMENT AGENCIES** | **Balance As on 31.3.2020** | **Additions / Write-off during the year** | **Balance As on 31.3.2021** |
|---|---|---|---|
| **Capital Reserve: I –** (Non Plan) | 32,76,379 | - | 32,76,379 |
| **Sub Total :** | **32,76,379** | **-** | **32,76,379** |
| **Capital Reserve : II** | | | |
| (Sponsored Projects) - MOT | 6,54,54,154 | 29,60,639<br>(1,42,489) | 6,82,72,304 |
| **Sub Total :** | **6,54,54,154** | **28,18,150** | **6,82,72,304** |
| **Capital Reserve : III** | | | |
| (Other Agencies) – National Jute Board<br>DST | 38,60,698 | - | 38,60,698 |
| **Sub Total :** | **38,60,698** | **-** | **38,60,698** |
| **Capital Reserve : IV** | | | |
| (Power Loom Service Centres) | 78,50,034 | - | 78,50,034 |
| **Sub Total :** | **78,50,034** | **-** | **78,50,034** |
| **Capital Reserve : V** | | | |
| **(PLSC's income)** | 5,14,175 | 18,000 | 5,32,175 |
| **Sub Total :** | **5,14,175** | **18,000** | **5,32,175** |
| **Capital Reserve : VI** | | | |
| Government of Rajasthan for Bhilwara Centre | 3,51,052 | - | 3,51,052 |
| **Sub Total :** | **3,51,052** | **-** | **3,51,052** |

(*Amount in Rs.*)

| **CAPITAL FUND - ASSETS CREATED OUT OF GRANTS RECEIVED FROM GOVERNMENT AGENCIES** | **Balance As on 31.3.2020** | **Additions / write-off during the year** | **Balance As on 31.3.2021** |
|---|---|---|---|
| **Capital Reserve : VII**<br><br>Testing Lab Bhilwara, Panipat, Meerut & NITRA, Ghaziabad. | 1,71,60,660 | **-** | 1,71,60,660 |
| **Sub Total :** | **1,71,60,660** | **-** | **1,71,60,660** |
| **Capital Reserve : VIII**<br><br>(CAD Centres at Bhilwara, Panipat & NITRA Ghaziabad) | 72,26,565 | **-** | 72,26,565 |
| **Sub Total :** | **72,26,565** | **-** | **72,26,565** |
| **Capital Reserve : IX**<br><br>Modernisation of PLSC's | 1,51,09,628 | - | 1,51,09,628 |
| **Sub Total :** | **1,51,09,628** | **-** | **1,51,09,628** |
| **Capital Reserve : X** - (CAD Tanda) | 4,13,482 | **-** | 4,13,482 |
| **Sub Total :** | **4,13,482** | **-** | **4,13,482** |
| **Capital Reserve ; XI -** (COE Protech) | 15,59,39,236 | **-** | 15,59,39,236 |
| **Sub Total :** | **15,59,39,236** | **-** | **15,59,39,236** |
| **Capital Reserve ; XII -** (ASIDE)<br><br>(U.P. Govt. & Nitra) | 8,43,87,200 | **-** | 8,43,87,200 |
| **Capital Reserve ; XIII -** (ISDS) | 11,88,31,627 | **-** | 11,88,31,627 |
| **Capital Reserve ; XIV -** FIC (COE) | 2,90,28,477 | **-** | 2,90,28,477 |
| **GRAND TOTAL:** | **50,94,03,367** | **28,36,150** | **51,22,39,517** |
| **Previous year** | **50,71,48,777** | **22,54,590** | **50,94,03,367** |

**SCHEDULE-3**

***(Amount in Rs.)***

| **RESERVES AND SURPLUS** | **As at 31.3.2021** | **As at 31.3.2020** |
|---|---|---|
| Surplus accumulated: Excess of Income over Expenditure | | |
| Balance at the beginning of Financial Year | 40,28,337 | 39,58,661 |
| Surplus for the year as per Account annexed | 96,231 | 69,676 |
| **Total :** | **41,24,568** | **40,28,337** |

**SCHEDULE – 4**

*(Amount in Rs.)*

| DEPRECIATION FUND | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|
| Opening Balance | 10,12,40,308 | 9,82,71,566 |
| | (1,45,393) | |
| Depreciation for the year | 29,92,284 | 29,68,742 |
| **Total :** | **10,40,87,199** | **10,12,40,308** |

**SCHEDULE – 5**

*(Amount in Rs.)*

| R & D RESERVE | | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|---|
| a) Opening Balance | | 4,01,61,589 | 3,81,61,589 |
| + Transfer to R&D Reserve | | 1,10,00,000 | 20,00,000 |
| - Deficit Adjusted | | | - |
| | | 5,11,61,589 | 4,01,61,589 |
| b) Income from PLSCs' | 10,32,860 | | |
| (-) Spent under capex | 18,000 | | |
| Less : Adjustment during the year | 10,14,860 | - | - |
| **Total :** | | **5,11,61,589** | **4,01,61,589** |

**SCHEDULE – 6**

*(Amount in Rs.)*

| S. No. | GRANTS PENDING UTILISATION | Balance at the beginning | Receipts During the year | Adjust-ment during the year | Utilised during the year | | Balance carried forward |
|---|---|---|---|---|---|---|---|
| | | | | | Cap. Exp. | Rec. Exp. | |
| **I.** | **NON-PLAN (Ministry of Textiles)** | | | | | | |
| | Non-plan (Ministry of Textiles) | - | 1,50,00,000 | **-** | **-** | **1,50,00,000** | - |
| | NON-PLAN Previous Year | - | 1,30,00,000 | **-** | **-** | **1,30,00,000** | - |
| **II.** | **Plan (Ministry of Textiles & other Agencies)** | | | | | | |
| 1. | Designing a compressed air monitoring system optimize energy consumption in a textile mill. | (14,59,245) | **-** | **-** | **-** | **-** | (14,59,245) |
| 2. | Development of specialty embroidery yarn for application in stretchable fabric like knitted fabrics | (8,64,000) | **-** | **-** | **-** | **-** | (8,64,000) |
| 3. | Study to Enhance Indian Apparel Exports | (13,38,750) | **-** | **-** | **-** | **-** | (13,38,750) |
| 4. | Development of Multi Layered Flame & Thermal Resistance Fabric for Fire Fighter Clothing | (13,85,444) | **-** | **-** | **-** | **-** | (13,85,444) |
| 5. | Development of Protective Work Wear for Cement Porters | (14,67,819) | **-** | **-** | **-** | **-** | (14,67,819) |
| 6. | Development of Fabric Smoothness Tester | (9,95,484) | **-** | **-** | **-** | **-** | (9,95,484) |
| 7. | New approaches to reduce water consumption in textile wet processing | (24,34,590) | **-** | **-** | 1,07,130 | **-** | (25,41,720) |
| 8. | Development of value added product from different fibres produced in Himalayan Region (Basic research) | (1,98,70,385) | **-** | **-** | **-** | 3,50,000 | (2,02,20,385) |
| 9. | Development of Air cleaner home textiles to reduce indoor air pollution | (3,96,957) | **-** | **-** | 74,340 | 7,70,172 | (12,41,469) |
| 10. | Common Effluent Treatment Plant (CETP) Azrakpur, Bhuj | 13,47,732 | **-** | **-** | 16,80,322 | 2,47,212 | (5,79,802) |
| 11. | Development of regenerated cellulosic fibre Indian Bamboo | - | 20,00,000 | **-** | 20,68,199 | 13,81,152 | (14,49,351) |

| S. No. | GRANTS PENDING UTILISATION | Balance at the beginning | Receipts During the year | Adjust-ment during the year | Utilised during the year | | Balance carried forward |
|---|---|---|---|---|---|---|---|
| | | | | | Cap. Exp. | Rec. Exp. | |
| | **Sub Total:** | **(2,88,64,942)** | **20,00,000** | **-** | **39,29,991** | **27,48,536** | **(33,54,34,69)** |
| | **Previous Year:** | **(2,28,49,767)** | **27,92,389** | **2,42,033** | **20,67,802** | **69,81,795** | **(2,88,64,942)** |
| **III.** | **POWERLOOM SERVICE CENTRES** | | | | | | |
| 1. | TANDA | - | 12,00,000 | 1,44,800 | - | 13,44,800 | - |
| 2. | MEERUT | - | 17,00,000 | 8,400 | - | 17,08,400 | - |
| 3. | LUDHIANA | - | 15,00,000 | 98,600 | - | 15,98,600 | - |
| 4. | KANPUR | - | 17,00,000 | 4,03,110 | - | 21,03,110 | - |
| 5. | GORAKHPUR | - | 12,00,000 | 34,500 | - | 12,34,500 | - |
| 6. | PANIPAT | - | 17,00,000 | 60,000 | - | 17,60,000 | - |
| 7. | BHILWARA | - | 17,00,000 | 54,000 | - | 17,54,000 | - |
| 8. | VARANASI | - | 15,00,000 | 2,11,450 | - | 17,11,450 | - |
| | **Sub Total:** | **-** | **1,22,00,000** | **10,14,860** | **-** | **1,32,14,860** | **-** |
| | **Previous Year:** | | **1,22,00,000** | **15,79,545** | | **1,37,79,545** | **-** |
| | | | | | | | |
| **IV** | **PLSC Varanasi** | 9,10,678 | **-** | **-** | **-** | **-** | **9,10,678** |
| | | | | | | | |
| **V** | **Swach Bharat Abhiyan** | 1,42,928 | **-** | **-** | **-** | **-** | **1,42,928** |
| | | | | | | | |
| **VI.** | **ISDS** | | | | | | |
| | **ISDS Project** | **-** | | | | | |
| | **Grand Total:** | **(2,78,11336)** | **2,92,00,000** | **10,14,860** | **39,29,991** | **3,09,63,396** | **(3,24,89,863)** |
| | **Previous Year:** | **(1,59,53,914)** | **2,79,92,389** | **(48,58,196) 18,21,578** | **30,51,853** | **3,37,61,340** | **(2,78,11,336)** |

## SCHEDULE – 7

*(Amount in Rs.)*

| S.NO. | CURRENT LIABILITIES | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|---|
| 1. | Sundry Creditors | 20,08,513 | 15,05,913 |
| 2. | Outstanding Liabilities | 7,36,587 | 65,73,384 |
| 3. | Security, Deposits & Advances | 1,27,67,150 | 1,00,92,697 |
| **Total :** | | **1,55,12,250** | **1,81,71,994** |

**SCHEDULE – 8**

*(Amount in Rs.)*

| S. No. | FIXED ASSETS | Total cost as on 31.3.2020 | Additions / writeoff during the Year | Total cost as on 31.3.2021 |
|---|---|---|---|---|
| 1. | Building* | 2,62,99,861 | - | 2,62,99,861 |
| 2. | Air conditioning Plant & Room Air-Conditioners | 4,02,015 | - | 4,02,015 |
| 3. | Furniture A/c | 19,58,035 | 40,190<br>(51,127) | 19,47,098 |
| 4. | Fixture & Fittings | 14,26,985 | - | 14,26,985 |
| 5. | Office Equipments | 80,10,198 | 1,83,832<br>(1,02,787) | 80,91,243 |
| 6. | Cooler (Room & Water) | 6,46,384 | - | 6,46,384 |
| 7. | Vehicles | 20,03,390 | - | 20,03,390 |
| 8. | Fire Extinguisher | 1,36,288 | - | 1,36,288 |
| 9. | Intercom, Telephones | 2,84,542 | - | 2,84,542 |
| | **Machinery & Equipments:**<br>A. In House R&D | 2,20,47,972 | 22,94,977<br>(18,405) | 2,43,24,544 |
| | B. Sponsored Projects** | 7,75,58,508 | 29,60,639<br>(1,42,489) | 8,03,76,658 |
| | C. CAD & Powerloom Service Centres** | 3,13,38,548 | 18,000 | 3,13,56,548 |
| | D. Testing Lab, Panipat Bhilwara & Meerut** | 1,23,89,045 | - | 1,23,89,045 |
| | E. Testing Lab, NITRA, Ghaziabad** | 47,78,640 | - | 47,78,640 |
| | F. Centre of Excellence Protech** | 15,59,39,236 | - | 15,59,39,236 |
| | G. Focus Incubation Centre (CoE) ** | 2,90,28,477 | - | 2,90,28,477 |
| 10. | ASIDE Govt. share **<br>NITRA share | 5,77,20,000<br>2,66,67,200 | -<br>- | 5,77,20,000<br>2,66,67,200 |
| 11. | ISDS Project ** | 11,88,31,627 | - | 11,88,31,627 |
| **Grand Total :** | | **57,74,66,951** | **54,97,638<br>(3,14,808)** | **58,26,49,781** |
| **Previous Year:** | | **57,49,82,566** | **24,84,385** | **57,74,66,951** |

**NOTE:**

* The Building stands on leasehold land measuring 49.80 Acres from GDA for 90 years from 25.3.1980, the premium amounting to Rs. 47.15 lakhs was paid by the U.P.Government.

** No depreciation provided on items acquired in Powerloom Service Centres, CAD, Sponsoresed Projects, Testing Labs, COE, ASIDE 7 ISDS to the extent of the grant given by the sponsor.

**SCHEDULE – 9**

***(Amount in Rs.)***

| S. No. | Investments against Earmarked fund (FDR with Banks) | As at 31st March 2021 | As at 31st March 2020 |
|---|---|---|---|
| 1. | FDR with Banks | 1,62,85,008 | 1,52,31,731 |
| | | **1,62,85,008** | **1,52,31,731** |

**SCHEDULE – 10**

***(Amount in Rs.)***

| S.No. | CURRENT ASSETS & LOANS AND ADVANCES | As at 31.3.2021 | As at 31.3.2020 |
|---|---|---|---|
| 1. | Sundry Debtors | 33,25,293 | 48,33,199 |
| 2. | Advance | 1,62,413 | 3,91,442 |
| 3. | Sundry Deposits | 18,90,084 | 17,68,894 |
| 4. | Prepaid Expenses | 6,63,333 | 8,09,535 |
| 5. a) | Cash in Hand | 89,986 | 71,162 |
| b) | Balance with Banks | (16,18,384) | (97,183) |
| 6. | Other Receivables | 1,76,04,923 | 1,39,78,477 |
| 7. | FDR with Banks | 3,96,97,908 | 3,77,22,791 |
| 8. | Accrued Income | 22,32,134 | 13,72,581 |
| **Total :** | | **6,40,47,690** | **6,08,50,898** |

**SCHEDULE – 11**

*(Amount in Rs.)*

| S.No. | INDUSTRY CONTRIBUTION & EDUCATIONAL | | Current Year | Previous Year |
|---|---|---|---|---|
| **1.** | **Training & Consultancy** | | | |
| a) | Foreign assignments | 1,53,500 | | |
| b) | ISDS & other Educational / Training Prog. | 18,81,000 | | |
| c) | Other consultancy | 1,69,80,104 | | |
| d) | NTC | 2,39,01,100 | 4,29,15,704 | 4,73,69,680 |
| **2.** | **Sample Testing Fees** | | 2,12,25,299 | 1,70,88,619 |
| **3.** | **Income Testing Lab Bhilwara, Panipat & Meerut** | | 9,79,775 | 10,26,634 |
| **4.** | **Membership Subscription** | | 8,75,000 | 8,55,000 |
| **Total :** | | | **6,59,95,778** | **6,63,39,933** |

**SCHEDULE – 12**

***(Amount in Rs.)***

| S.No. | OTHER INCOMES | Current Year | Previous Year |
|---|---|---|---|
| 1. | Overhead Recovery on Projects | 27,83,786 | 34,70,466 |
| 2. | NITRA Publications | 13,183 | 3,83,444 |
| 3. | Income from Investments | 40,66,116 | 33,54,520 |
| 4. | Waste field cotton & Yarn & Income from land utilization | 8,30,106 | 8,23,962 |
| 5. | Application Forms | 23,000 | 86,000 |
| 6. | Miscellaneous Income | 5,65,155 | 19,12,334 |
| **Total :** | | **82,81,346** | **1,00,30,726** |

**SCHEDULE – 13**

***(Amount in Rs.)***

| EXPENDITURE ON ESTABLISHMENT | Current Year | Previous Year |
|---|---|---|
| NITRA | 5,85,48,154 | 6,79,44,273 |
| **Sub Total :** | **5,85,48,154** | **6,79,44,273** |
| **Less :** Transferred to Expenditure on Projects | 38,36,674 | 67,23,301 |
| **Total:** | **5,47,11,480** | **6,12,20,972** |

**SCHEDULE – 14**

## SPONSORED PROJECTS EXPENDITURE AND GRANT-IN-AID TO MEET THE EXPENDITURE

*(Amount Rs.)*

| Sl. No. | Name of the Sponsored Project | 2020-2021 | | 2019-2020 | |
|---|---|---|---|---|---|
| | | Recurring Expendi-ture | Amount Transferred from Grant-in-Aid A/c to meet sponsored Project Exp. | Recurring Expendi-ture | Amount Transferred from Grant-in-Aid A/c to meet sponsored Project Exp. |
| 1. | Development of value added product from different fibres produced in Himalayan Region (Basic research) | 3,50,000 | 3,50,000 | 40,95,997 | 40,95,997 |
| 2. | New Approaches to Reduce Water Consumption in Textile Wet Processing. | 5,00,000 | 5,00,000 | 6,05,506 | 4,23,854 |
| 3. | Development of Air cleaner home textiles to reduce indoor air pollution | 11,00,246 | 7,70,172 | 13,30,709 | 9,31,496 |
| 4. | Common Effluent Treatment Plant Azrakpur, Bhuj | 2,47,212 | 2,47,212 | 10,30,448 | 10,30,448 |
| 5. | Development of regenerated celluloses fibre from Indian Bamboo (Dept. of Agriculture National Bamboo Mission) | 13,81,152 | 13,81,152 | - | - |
| | **Total :** | **35,78,610** | **32,48,536** | **70,62,660** | **64,81,795** |

**SCHEDULE-15**

## POWERLOOM SERVICE CENTRES EXPENDITURE AND GRANT-IN-AID TO MEET THE EXPENDITURE

*(Amount in Rs.)*

| S.No | Place of the Centre | 2020-2021 | | 2019-2020 | |
|---|---|---|---|---|---|
| | | Recurring Expenditure | Amount Transferred from Grant-in-Aid A/c & income to meet PLSC exps. | Recurring Expenditure | Amount Transferred from Grant-in-Aid A/c to meet PLSC exps. |
| 1. | TANDA | 15,19,657 | 13,44,800 | 15,54,416 | 13,60,400 |
| 2. | MEERUT | 19,97,702 | 17,08,400 | 20,97,906 | 18,70,800 |
| 3. | KANPUR | 21,13,728 | 21,03,110 | 22,73,718 | 21,42,008 |
| 4. | LUDHIANA | 16,96,194 | 15,98,600 | 18,45,049 | 16,62,060 |
| 5. | GORAKHPUR | 16,03,738 | 12,34,500 | 14,70,921 | 12,51,600 |
| 6. | PANIPAT | 25,47,777 | 17,60,000 | 20,44,075 | 18,61,559 |
| 7. | BHILWARA | 18,97,530 | 17,54,000 | 20,19,285 | 17,69,451 |
| 8. | VARANASI | 19,08,154 | 17,11,450 | 27,54,451 | 18,61,667 |
| **TOTAL :** | | **1,52,84,480** | **1,32,14,860** | **1,60,59,821** | **1,37,79,545** |

**SCHEDULE – 16**

*(Amount in Rs.)*

| EXPENDITURE ON GENERAL ADMINISTRATION | Current Year | Previous Year |
|---|---|---|
| Electricity Charges & DG Running | 25,89,152 | 30,65,748 |
| Traveling & Conveyance | 6,20,571 | 12,51,206 |
| Building Maintenance & Housekeeping | 7,18,750 | 8,20,613 |
| Repairs Plant & Machinery, Computer, Building & others | 17,56,504 | 28,94,830 |
| Legal & Professional Exps. | 9,90,608 | 9,64,170 |
| Security Arrangement | 16,27,257 | 18,81,241 |
| Books, Periodicals & Publication | 1,95,307 | 3,18,620 |
| Advertisement exps | 11,45,891 | 6,97,277 |
| Insurance | 3,37,390 | 2,68,228 |
| Cultivation / Horticulture Exps. | 6,60,493 | 6,59,178 |
| Postage & Telephone Exps. | 4,84,806 | 4,88,323 |
| Car Running & Maintenance | 2,61,670 | 1,75,138 |
| Printing & Stationery | 7,06,230 | 9,58,751 |
| Chemicals, Glassware and Spares Stores Consumed | 9,14,452 | 6,25,297 |
| Training & Seminar Exps. | 1,26,400 | 5,89,248 |
| Meeting Exps. | 1,85,473 | 2,86,685 |
| In House Project Exps. | 5,29,131 | 6,45,666 |
| Amount Write Off. | 12,43,160 | 2,78,741 |
| Audit fees | 80,000 | 60,000 |
| Testing lab exps., - Panipat, Bhilwara & Meerut | 2,94,934 | 2,68,473 |
| Previous Year Exps. | 10,15,149 | 12,19,125 |
| Other Expenses | 4,82,381 | 7,21,844 |
| Rates & Taxes | 11,11,726 | 11,11,726 |
| **Total :** | **1,80,77,435** | **2,02,50,128** |

**SCHEDULE – 17**

## Significant Accounting Policies and Notes to the Accounts

**A. BASIS OF ACCOUNTING**

The Financial Statements are prepared on Historical cost convention and on Mercantile Accounting system.

**B. FIXED ASSET**

Depreciated Fixed Assets are stated at cost, which include expenditure incurred on acquisition of assets concerned such as freight, duties, Taxes and incidental expenses up to the installation of assets. Assets acquired in Power Loom Service Centre's, CAD, Sponsored Projects and Testing Labs are stated at Revalued amount.

**C. DEPRECIATION**

During the year the Society has charged depreciation on fixed assets on Written down Value method as per the rates & manner prescribed in the Income Tax Act 1961.

**D. INVESTMENT**

Investments are stated at cost.

**E. FOREIGN CURRENCY TRANSACTION**

Transactions in Foreign Currency are accounted at the exchange rate prevailing on the date of the transaction.

**F. REVENUE RECOGNITION**

(a) All incomes are accounted for on accrual basis except for membership subscription which has taken on receipt basis.

(b) Government grants are accounted on the basis of sanction letter from the government department.

**NOTES ON ACCOUNTS:**

1. Figures in Balance Sheet are rounded off to the nearest rupee.

2. Previous year figures have been regrouped or rearranged wherever considered necessary to make them comparable with those of Current year.

3. AUDITOR's REMUNERATION

| | CURRENT YEAR | PREVIOUS YEAR |
|---|---|---|
| Audit Fees | 80,000 | 60,000.00 |


# NORTHERN INDIA TEXTILE RESEARCH ASSOCIATION

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