



Wool Research Association

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



Wool Research Association

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

P. O. Sandoz Baug, Kolshet Road, Thane (w) - 400607

Tel: 022- 2586 8398 , 2586 8109 Fax: 022 -2586 8365

Email: wra@wraindia.com, Web: www.wraindia.com

54th Annual Report and Accounts

Year 2018 - 2019

WOOL RESEARCH ASSOCIATION

(LINKED TO MINISTRY OF TEXTILES, Govt. of India, New Delhi)

P. O. Sandoz Baug, Kolshet Road,
THANE - 400 607 (Maharashtra)



54th ANNUAL REPORT AND ACCOUNTS FOR THE YEAR 2018-19

C O N T E N T S**PAGE NOS.**

I.	Governing Council Members 2018-2020	1
II.	Technical cum Research Advisory Committee (TRAC) 2018-2020	2
III.	Notice for 54 th Annual General Meeting	3
IV.	Annual Technical Report & Accounts for the year 2018-2019	
1.0	Infrastructure	4
2.0	Centre of Excellence for Sportech	5
3.0	Types of Activities	5
4.0	Textile Testing Laboratory	6
5.0	Yarn & Fabric Manufacturing Facilities – Pilot Plant	6
6.0	Eco Laboratory	7
7.0	Textile Chemical & Colour Department	8
8.0	New R&D Projects	
8.1	Ministry of Textiles	8
9.0	On-going R&D Projects	
9.1	Ministry of Textiles	9
10.0	Completed R&D Projects	
10.1	Ministry of Textiles	14
11.0	Testing Activities	16
12.0	Major Assignments undertaken	16
13.0	Papers Presented / Published	17
14.0	New Additions	
-	Purchase of New Equipments /Instruments for COE-Sportech	18
15.0	Meetings Attended	19
16.0	Seminars / Conferences Attended / Conducted	20
17.0	Training Programme Conducted / Attended	24
18.0	Council Meetings	25
19.0	Members of WRA	26
20.0	Founder Members of Wool Research Association in 1963	27
21.0	List of Presidents/Sr. Vice Presidents & Vice Presidents since inception	28
22.0	List of Director General /Directors/ Joint Director /Dy.Directors since Inception	29
23.0	List of Donor Members	30
24.0	Educational Activities	30
25.0	Acknowledgement	30
26.0	Auditors Report & Accounts	31

GOVERNING COUNCIL (2018-2020)

CHAIRMAN EMERITUS	-	SHRI. RAVIKANT KAPUR GRENTEx & CO. PVT. LTD
PRESIDENT	-	SHRI. H.K. CHATTERJEE, RAYMOND LIMITED
SR. VICE PRESIDENT	-	SHRI DEEPAK GOEL GEETANJALI WOOLLENS P. LTD.

MEMBERS (ELECTED) :

1.	SHRI. S.L. POKHARNA	-	RAYMOND LTD
2.	SHRI. R.K. KHANNA	-	AMRITSAR SWADESHI WOOLLEN MILLS
3.	SHRI RAJESH RANKA	-	MODERN WOOLLENS LIMITED
4.	SHRI BHARATBHAI PATEL	-	SHRI DINESH MILLS LTD.
5.	SHRI. A.K.CHURIWAL	-	BSL LIMITED
6.	SHRI MANMOHAN SINGH	-	JAYASHREE TEXTILES
7.	SHRI. RAJEEV KAPUR	-	KAPOTEX INDUSTRIES PVT. LTD.
8.	SHRI SANJAY KAJARIA	-	GOKALCHAND RATTANCHAND WOOLLEN MILLS PVT. LTD
9.	SHRI. R.L. TOSHNIWAL	-	BANSWARA SYNTEX LTD.

MEMBERS (EX. OFFICIO)

1. AS&FA OR HIS REP., MINISTRY OF TEXTILES
2. JOINT SECRETARY (WOOL) OR HIS REP., MINISTRY OF TEXTILES
3. JOINT SECRETARY (R&D) OR HIS REP., MINISTRY OF TEXTILES
4. TEXTILE COMMISSIONER OR HIS REP., O/O TEXTILE COMMISSIONER
5. SHRI. M.K. BARDHAN, MUMBAI
6. DR. ANIL KUMAR SHARMA, DIRECTOR, WOOL RESEARCH ASSOCIATION
7. SHRI. K.K. MISRA, C.O.O., WOOL RESEARCH ASSOCIATION

SPECIAL INVITEES

1. MR. DILIP GIANCHANDANI, WOOLMARK SERVICES INDIA PVT LTD
2. SHRI. K.K. MISRA, SECRETARY GENERAL, I.W.M.F., (EX. OFFICIO)
3. Gp. CAPT. K.S. SHEKHAWAT, ED, CENTRAL WOOL DEVELOPMENT BOARD, (EX. OFFICIO)
4. DR.A.G. PANCHAL, MANAGING DIRECTOR
GUJARAT SHEEP & WOOL DEVELOPMENT CORPN., AHMEDABAD
5. DR. S.K. CHAUDHURI, FARIDABAD, HARYANA
6. ALL OTHER ORDINARY MEMBERS OF WRA.

TECHNICAL CUM RESEARCH ADVISORY COMMITTEE (TRAC) (2018-2020)

CHAIRMAN : SHRI. H.K.CHATTERJEE

MEMBERS :

- | | |
|----------------------------|--|
| 1. DR.R.V. ADIVAREKAR | - U.I.C.T., MUMBAI |
| 2. EXECUTIVE DIRECTOR | - CENTRAL WOOL DEVELOPMENT BOARD |
| 3. SHRI. ARUN KUMAR TOMAR | - C.S.W.R.I., AVIKANAGAR |
| 4. DR. S.K. CHAUDHURI | - INTERNATIONAL INSPECTION INITIATIVE |
| 5. MR. DILIP GIANCHANDANI | - WOOLMARK SERVICES INDIA PVT LTD |
| 6. SHRI R. INDU SHEKAR | - SCIENTIST 'E', DEBEL |
| 7. DR.K.K. GOSWAMI | - DIRECTOR, IICT |
| 8. DR. A.K. RAKSHIT | - V.J.T.I. MUMBAI |
| 9. DR. A.M. MIR | - CASHMERE MARKETING AGENCIES |
| 10. DR.T. SHIVARAMA BHATT | - M.D., K.S & W.D. CORPN. LTD |
| 11. SHRI. K.K. MISRA | - INDIAN WOOLLEN MILLS FEDERATION |
| 12. DR.A.MUKHOPADHYA | - SCIENTIST 'G', DST, GOVT. OF INIDA |
| 13. SHRI. RAMESH C. KHANNA | - SUNIL INDUSTRIES LTD |
| 14. SHRI. RAJEEV SHARMA | - SHIKHAR HANDLOOM WEAVERS SOCIETY |
| 15. DR.N.S. GANGAKHEDKAR | - COMPUTE SPECTRA COLOUR PVT LTD |
| 16. SHRI. MANMOHAN SINGH | - JAYASHREE TEXTILES |
| 17. SHRI.SUBODH DAGA | - JAYASHREE TEXTILES |
| 18. SHRI.ASHOK HONDA | - OCM INDIA LTD |
| 19. SHRI. VIJAY THAKUR | - H.P. STATE COOP WOOL LTD |
| 20. SHRI.JAY KUMAR | - MAHADEV WOOLLEN MILLS |
| 21. SHRI. ADIL BHAI | - MAHILA MANDAL, BALMER |
| 22. SHRI. S.SENGUPTA | - BSL LTD, BHILWARA |
| 23. DR. M.K. TALUKDAR | - KUSUMGAR CORPORATE |
| 24. DR. DILIP KUMAR DUREHA | - L.N.I.P.E, GWALIOR |
| 25. DR.VIKAS B.THAKARE | - JD, DEFENCE RES. & DEV. ESTABLISHMENT, |
| 26. DR. R.S.CHAUHAN | - IDST SCIENTIST,DRDE, GWALIOR |
| 27. SHRI.J.C. SONI | - PRESIDENT, BSL LIMITED, BHILWARA |
| 28. SHRI.A.N. CHOUDHARY | - DIRECTOR, VITARICH AGRO LTD, KOLKATTA |
| 29. SHRI.S.K. MEHTA | - PRESIDENT, MODERN WOOLLEN, BHILWARA |
| 30. SHRI.S.K. PATODIA | - WOOLWORTH LTD, |
| 31. SHRI.RAVIKANT KAPUR | - CHAIRMAN EMERITUS, WRA (EX-OFFICIO) |
| 32. SHRI. M.K. BARDHAN | - MUMBAI |
| 33. DR.ANIL KUMAR SHARMA | - DIRECTOR, WRA (EX-OFFICIO) |
| 34. DR. MRINAL CHOUDHARI | - JOINT DIRECTOR, WRA (EX-OFFICIO) |
| 35. MS. SEEMA PATEL | - JOINT DIRECTOR, WRA (EX-OFFICIO) |
| 36. SHRI. PAWAN SHARMA | - JOINT DIRECTOR, WRA (EX-OFFICIO) |

NOTICE

NOTICE IS HEREBY GIVEN THAT the 54th Annual General Meeting of The Wool Research Association will be held on Friday, 27th September, **2019 in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020 at 12.30 p.m.** to transact the following business :

1. To welcome Members and Invitees and notice to be read out.
2. To confirm the minutes of the last Annual General Meeting held on Wednesday, 19th September, 2018.
3. To receive and adopt the Annual Report and Accounts of the Association thereon for the year ended 31st March, 2019.
4. To appoint Auditors for the current year and fix their remuneration.

“Resolved that M/s. J.P.J ASSOCIATES LLP, Chartered Accountants, Shop No.16, Godavari CHS, Veer Savarkar Road, Shantivan, Shantivan Complex Colony, Borivali (East), Mumbai – 400 066, the retiring Auditors, being eligible for re-appointment, be and hereby appointed as the Auditors of Wool Research Association for the year 2019-2020 on remuneration of Rs.45,000/-

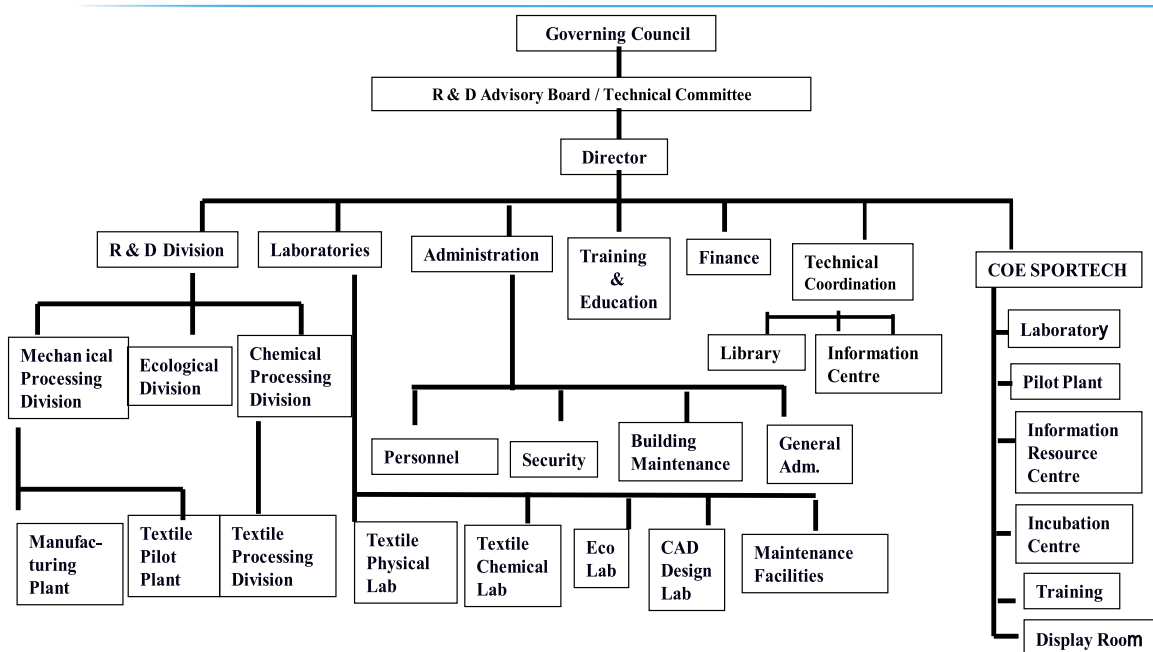
5. Any other matter with the permission of the Chair.

BY ORDER OF THE GOVERNING COUNCIL

Sd/-

(DR.MD.S. RAHMAN)
Director

Dated : 9th September, 2019

ANNUAL TECHNICAL REPORT 2018- 2019**1.0 INFRASTRUCTURE****ORGANIZATION CHART**

WRA is well equipped with necessary infrastructure in Research and other technical activities as expected from a TRA. The organization has its own sprawling campus of over 13 acres land at Thane.

It has its own accommodation where following infrastructure has been created over last five decades of its existence.

1. Accredited Textile Physical Laboratory
2. Accredited Textile Chemical Laboratory
3. Research & Development Division
4. Eco-testing Laboratory
5. Textile Technology Laboratory
6. Pilot Plant
7. Library
8. Training facilities with classrooms, teaching aids etc.
9. Auditorium & conference room with audio system
10. Computers, LCD projectors, Over head projectors
11. Information & Technology Co-ordination Centre
12. Administrative & Accounts Department
13. Center of Excellence – Sportech

2.0 CENTRE OF EXCELLENCE FOR SPORTECH

Under Ministry of Textiles Technology Mission in Technical Textiles, WRA has set up a Centre of Excellence in Sportech. A state of art testing facility and incubation centre are established and simultaneous efforts have been made to attain international accreditations and collaborations. WRA has been serving user industry through its wide testing facilities and development of affordable products in India without compromising functionality and performance of our athlete. WRA is setting up an advanced technology centre for light weight sports goods in its premises in Thane. Its mandate includes :

- ┆ Newer sports goods/sportswear requiring high dexterity, skill and sporting gears.
- ┆ Higher level of sports standards and challenges within sporting nations.
- ┆ Growth of sports facility and infrastructure in the country.
- ┆ Popularization of fashion oriented sportswear and performance garments.

To achieve these objectives, WRA has linkages with various stakeholders such as :

International Knowledge Partners for Sportech

1. RMIT University, Melbourne, Australia
2. Deakin University, Geelong, Australia
3. Institut für Textiltechnik of RWTH Aachen University (ITA), Germany
4. ITU Istanbul, Turkey
5. The Technical University of Liberec, The city of Liberec, Czech Republic
6. The University of Manchester, UK

National Collaborations for Sportech

1. Lakshmbai National Institute of Physical Education, Gwalior
(Under Ministry of Youth Affairs and Sports, Government of India)
2. Sports Authority of India, Under Ministry of Youth Affairs and Sports, Government of India
3. The Sports Goods Manufacturers & Exporters Association, Jalandhar

3.0 TYPE OF ACTIVITIES

- i. Research & Development
- ii. Testing/Evaluation service to the Industry, Export Oriented Organisations, Government organizations etc.
- iii. Colour Technology
- iv. Training & Education
- v. Research in the Emerging Technologies like Technical Textiles, Plasma & Nano technology, Phase change materials, IT, Smart Textiles, Supercritical Processing etc.
- vi. Technical services to the Decentralised Carpet Industry, SMEs, Cottage/Rural industry.
- vii. Technology Development in Woollens & Manmade Textiles
- viii. Technical Survey & Audit of Industrial Units
- ix. Technical Feasibility Report Formulation
- x. Turnkey Projects
- xi. Research, training, prototype development, etc in Sportech.

4.0 TEXTILE TESTING LABORATORY

| NABL Accreditation of Textile Testing Laboratory:

- Total 380 Test Parameters (290 Mechanical and 90 Chemical) were accredited
- More than 300 national and international test Methods were included in New scope

| Textile Testing and Analysis (2018-19)

Detail	2017-18	2018-19	% Change
No. of Client Request received	2147	2751	21.9%
No. of Samples Tested	4790	5625	14.84%
Client Base	250	350	28.57%
Revenue Generation	121	148.68	18.61%
NABL accreditation parameters	131	380	65.52%

5.0 YARN & FABRIC MANUFACTURING FACILITIES – PILOT PLANT

Pilot plant is equipped with yarn manufacturing facilities for spinning worsted yarn, friction spun yarn, blends of wool with other natural and synthetic fibers.

The facilities available with pilot plant including machineries of Centre of Excellence - Sportech is as mentioned below:

Technology & Application Centre

A. For Long Staple Fibre: Fiber to Sliver conversion

1. Carding Machine
2. Gill Box
3. Combing Machine

B. Yarn Innovation Center - From Sliver/Top to Innovative /functional yarn

1. Roving frame
2. Ring frame
3. Sliver to yarn ring frame
4. Friction Spinning System (DREF 2)
5. Winding machine (Cheese)
6. Two for one Twister

The friction spun yarn manufacturing constitutes a full - fledged six spindle friction spinning machine to spin homogeneous yarn from textile wastes and special technical fibers and engineered yarn for specifically technical textiles.

C. Knitted / Weaving Centre From innovative Yarn to fabric

1. Sectional warping machine
2. Weaving Machine (Rapier Loom)
3. Circular Knitting Machine
4. Direct Warping machine
5. Warp Knitting Machine (Tricot)
6. Warp Knitting Machine (Raschel)

Knitting Facility also includes hand knitting machine, semi automatic flat bed knitting machine. Miniature hand looms for developing woven fabric samples.

D. Coating & Laminating Facility

1. Hot melt Coating and laminating machine
2. Fabric rolling machine (Fabric preparation for coating/lamination: fabric from fold to roll, roll to roll)

E. Light Weight Sport Goods Composite Center

1. Heating oven
2. Cold storage chamber
3. Degassing unit
4. Zero grade granite surface table
5. Vacuum pump

F. Facility under creation

1. Braiding machine
2. Precision winding machine

G. Other Machines

1. Compression Moulding Machine
2. Shoe Stitching machine
3. Industrial Sewing Machine
4. Ultrasonic Sealing Machine
5. RF sealing machine
6. Hank to cone winding machine

These machines are being utilized for product development related to sport textiles and other technical textiles.

Carpet manufacturing facility

Apart from the above, Pilot plant is also equipped with carpet manufacturing facility. Hand Knotted carpet can be produced.

6.0 ECO LABORATORY

WRA'S ECO laboratory is equipped with analytical instruments like HPLC, GC, GC- MS, Particle size analyser, UV-Vis Spectrophotometer , ICP-OES , FTIR to test Formaldehyde, Banned Amines, Heavy Metals, Pentachloro Phenol, Polychlorinated Biphenyls, chlorinated Pesticides, Moth proofing (bioassay and chemical assay) etc.

Eco Laboratory also provides training and consultancy to college students and their projects.

7.0 TEXTILE CHEMICAL & COLOUR DEPARTMENT

Textile Chemical & Colour department is involved in R&D and testing related to textile wet processing (Textile pre-treatment, dyeing & Finishing), advanced textile technology like Plasma treatment, ultrasonic treatment, functional finishing, coating, colour difference measurement, quality control, yellowness & whiteness index measurement. It is also involved in colour recipe prediction service for all customer specific requirements. It also has top and yarn dyeing facility up to 1 kg. Chemical & Colour department also conducts short term Advanced Courses in Colour Match Prediction for industrial users. This department also provides training and consultancy to Academic projects.

Chemical Department is equipped with Dielectric Barrier Discharge Plasma Reactor, Ultrasonic Cleaner, Ultrasonic Probe, Tube resonator, Front loaded washing machine, Wascator, Tumble dryer, Laboratory Pad-Dry-Cure machine with IR Pre-heater, Laboratory coating Machine, Brookfield viscometer, Planetary ball milling machine, Mixer mill machine, COD meter & reactor, Research grade meter.

Colour department is equipped with Bench Top Spectrophotometer (i7, X-Rite), hand held spectrophotometer (I one pro, X-rite), Colour matching software, Robotic auto Dispensing System (Colour Focus 72, Dye Focus/ Daelim Starlet), Colour viewing cabinet (Spectra LUX Jr. / Paramount), Infracolour Dyeing machine, Shaker dyeing machine, Laboratory Jigger dyeing machine and HTHP top dyeing machine.

8.0. NEW R & D PROJECTS

Following new R&D projects have been sanctioned to WRA by MOT during the year :

8.1 MINISTRY OF TEXTILES

(i) **Design and development of light weight and high impact resistance sports goods**

Objectives:

- | Development of low weight, high efficient cricket gears
- | To evaluate the performance of player using the developed products

(ii) **Design and Development of sportswear and sports accessories having Thermo Physiological Comfort properties in order to enhance the performance assessed by using a Sweating Thermal Manikin system under different environmental conditions**

Objectives:

- | To develop Suitable Sportswear/active wears for Kabaddi & Kho-Kho sports for Tropical Indian climatic conditions for improved performance of Indian sports persons
- | To Indigenously develop Balaclava for extremely low climate.

9.0 ON-GOING R & D PROJECTS

9.1 MINISTRY OF TEXTILES

- (i) **Project Title: Synthesis of water soluble fluorescent colorants for high visible hydrophilic textile substrates**

Objectives:

- Synthesis of water soluble fluorescent colorants
- Purification and Characterization of synthesized water soluble fluorescent colorants.
- Application of synthesized water soluble fluorescent on Natural Textile substrate
- Measurement and evaluation of fluorescence of developed product

Progress of work:

This project aims at developing a range of water soluble fluorescent dyes for hydrophilic natural textile fibres. Innovative chemistry will be developed to extend the synthetic strategies and target molecules so as to obtain water soluble fluorescent dyes for polyamide and cellulosic substrates

From literature it was observed that

Water solubility can be induced in molecule by introducing following groups:

- | Presence of polar groups like –OH, –SO₃H etc.
- | Presence of ions.

Fluorescence can be induced in molecule by:

- | Increasing length of conjugation.
- | Introducing heterocyclic ring.

From literature survey of existing water soluble fluorescent dyes & their synthetic route was found out.

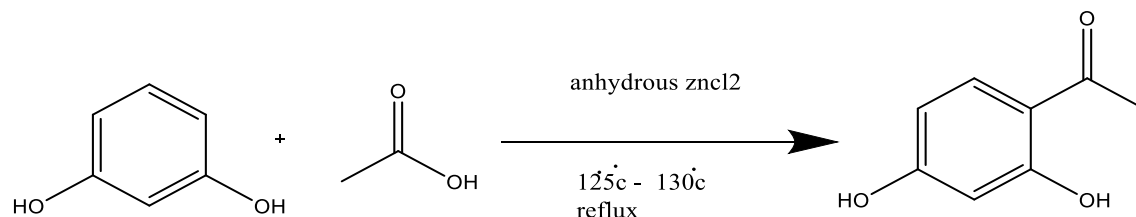
Scheme was designed for the synthesis of intermediate:

Substituted phenol reacted with phthalic anhydride under acidic condition forms a keto acid, which will serve as intermediate for the synthesis of rhodamine molecule.

Synthesis Work

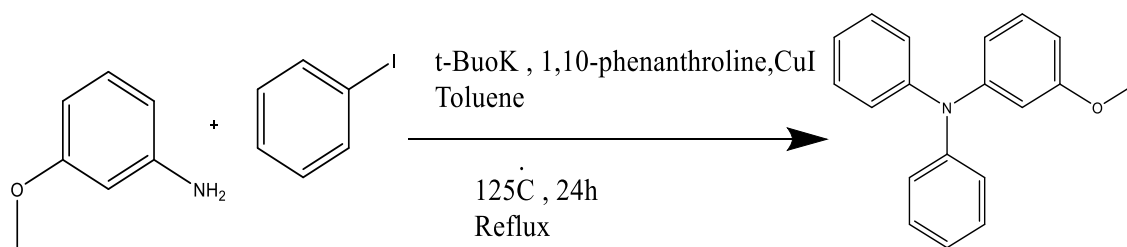
Synthesis 1: Acetylation of resorcinol

Anhydrous ZnCl₂ was added to the solution of resorcinol in CH₃COOH at room temperature. The reaction mixture was heated at reflux overnight.

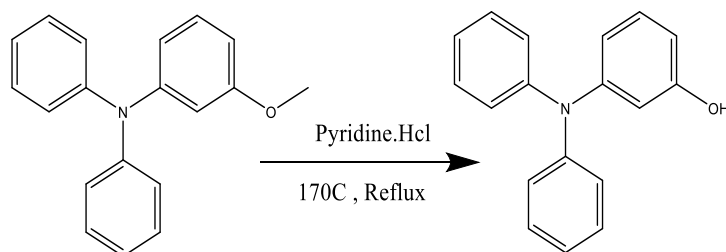
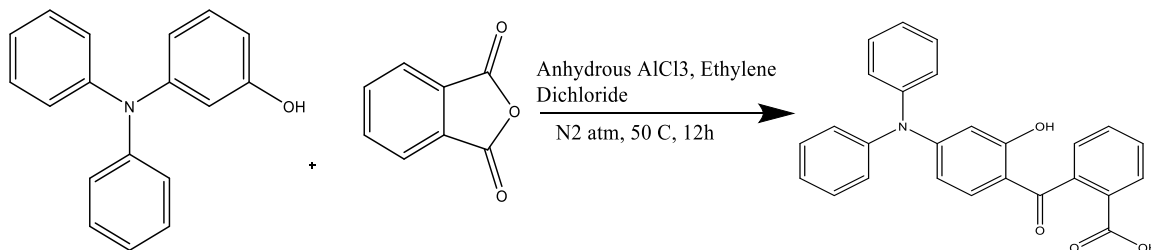


Synthesis-2: Synthesis of 3-methoxy-N,N-diphenylamine

To a stirred solution of m-anisidine, iodobenzene and 1,10-phenanthroline in toluene were added potassium tert-butoxide and copper (I) iodide. The reaction mixture was heated under reflux for 24 h at 125 C.

Synthesis 3: of 3-(diphenylamino)phenol:

3-Methoxy-N,N-diphenylaniline was dissolved in of pyridine.HCl and heated to 200 C for 10 h.

Synthesis 4: Synthesis of 2-(4-(diphenylamino)-2-hydroxy benzoyl) benzoic acid

Synthesised 2-(4-(diphenylamine)-2-hydroxybenzoyl) benzoic acid. This moiety is used as intermediate in synthesis of Rhodamine based fluorescent dyes.

- (ii) **Project Title: Synthesis of optical whiteners with good photo stability and improvements in the bleaching processes to produce photo stable bright white and pastel shades woollen casual fashion knitwear, sports and leisurewear products and carpets using Indian and other cheaper imported qualities of wool.**

Objectives:

- Synthesis of optical whiteners with good photostability and
- Improvements in the bleaching processes to produce photostable bright white and pastel shades woollen casual fashion knitwear, sports and leisurewear products and carpets using Indian and other cheaper imported qualities of wool.

Progress of work:

The colour and photostability of fibres are important qualities, particularly for the production of brilliant white and bright pastel shade products that are essential for new and rapidly expanding casual apparel markets. The photostability of wool is poor compared with cotton and synthetic fibres. Wool has many excellent qualities that other fibres are unable to emulate, but its achievable whiteness and its photostability when exposed to sunlight are both areas where wool compares rather poor. The use of fluorescent whitening agents (FWAs) on bleached wool improves whiteness significantly, but commercial use of FWAs on wool result into very poor photostability of FWA-treated wool, in particular when garments are wet after laundering and exposed to direct sunlight during line drying. Carboxylated optical whiteners with inbuilt photostability are under development and its application of wool fibre is under process. Stilbene based optical brighteners with o-hydroxy benzophenone is also under development.

Various white pigments are used to retard the photo yellowing effect in wool such as zinc oxide, barium sulphate and titanium dioxide. Because these are bright white materials that act as effective UV absorber but do not absorb visible wavelength and are thus color neutral.

- (iii) **Project Title: Development of sports gears (inner wears, socks, bands, leggings etc.) with controlled release microencapsulated natural essential, herbal oils for therapeutic benefits including protection of health, skincare and recovery of injuries and hygiene of sportsperson.**

Objectives:

- i. Development of sports gears (inner wears, socks, bands, leggings etc.) with controlled release microencapsulated natural essential, herbal oils for therapeutic benefits including protection of health, skincare and recovery of injuries and hygiene of sportsperson.

Progress of work:

Study of different natural herbal oils properties which may help to alleviate the muscle pain like Arnica oil, tea tree oil, Roman Chamomile oil, Lemon grass oil, lavender oil, eucalyptus oil, citronella oil, peppermint etc was carried out.

In literature study, it was found out that Lemongrass oil can help relax and tone the muscles, as well as relieve muscle pain, rheumatism etc. Lemongrass oil can also help relieve stress, anxiety, irritability, and insomnia, and prevent drowsiness. Citronella oil is popularly used as an insect repellent. Citronella can help treat and prevent colds, fevers, and headaches. It also posses antiseptic properties. Tea tree oil is powerful antibacterial, antifungal and antiseptic oil. Roman chamomile is a powerful anti-inflammatory. It is the ideal choice for red, inflamed or sensitive, acne-prone skin. It is also used as a medicine for leg injury. Roman chamomile is a powerful anti-inflammatory. It is the ideal choice for red, inflamed or sensitive, acne-prone skin.

Development of microencapsulation of herbal agents based on Arnica oil, Lemon grass oil, lavender oil, eucalyptus oil, citronella oil, peppermint have been carried out and are under evaluation stage. Some application trials of developed oil based microencapsulated particles were carried out on socks and bands.

(iv) Project Title: Development of Novel Detergent Formulation for Wool with immobilized enzymes for enhancing machine wash ability of wool fabric

Objectives:

- i. To develop a novel detergent formulation for wool by incorporation of immobilised enzyme.
- ii. Enhancement of wool washing performance by replacing conventional detergent with advance detergent containing immobilised enzymes as effective stain removal agents.
- iii. Optimization & standardization of the immobilised enzyme synthesis and their incorporation into detergent formulation.
- iv. Optimization & standardization wool washing process with developed detergent.

Progress of work:

- | A detail literature survey and experiment planning has been have been carried out.
- | Commercially available detergents samples have been procured and analysed for their detergent action and other physical parameters.
- | Commercially available various enzymes such as protease, amylase, lipase and mixture of amylase, cellulose, and lipase have been procured. The activities of these enzymes have been checked.
- | Commercially available wool fabrics have been procured and various methods of stains have been studied.
- | Immobilization work of commercially available enzymes has been initiated.

(v) Project Title: Development of active fitness clothing like gym and yoga wear with infrared thermal reflecting property to enhance body fitness

Objectives:

- i. To develop active fitness clothing like gym and yoga wear.
- ii. To give treatment of infrared reflecting agents on developed clothing

Progress of work:

For doing these physical activities, proper fitness clothing is required. Clothing should have good moisture management properties which help for quick drying and also it should help to enhance the body fitness while doing exercise. But In India, currently, available clothing's are not having such properties. Even most of the cases, people are not aware of importance of clothing while doing exercise.

So, there is a need of proper active fitness wear to be developed which will give better comfort to the body with better moisture management properties as well as enhancement of physical fitness with help of infrared reflecting agent's treatment.

There are different infrared reflecting agents available like tourmaline, jade, titanium, aluminum and other bio ceramics particles. These minerals naturally reflect far infrared rays. The far infrared ray compounds were ground into micro-particles which were then applied to fabric as a finish. These particles were applied by simple pad-dry-cure method.

Novelty of the project

In India, yoga and gymwear are not suitable as per the requirement such as moisture management, quick drying and fit to the body during activities. In this project, active yoga and gym wear will be developed with infrared reflecting property for better health benefit.

(vi) **Project Title: Development of Membrane Bioreactors as a solution for compact, high quality effluent treatment to achieve zero-discharge for decentralized woolen and carpet sector and common facility centres in India**

Objectives:

- i. Development of Membrane Bioreactors as a solution for compact, high quality effluent treatment to achieve zero-discharge for decentralized woolen and carpet sector and common facility centres in India.

Progress of Work :

The majority of the Indian woolen and carpet sector including common facility centres (CFCs) set up by Govt. of India for processing of Indian wool for sheep breeders in India is decentralized in nature. A large number of these centres are located in the Himalayan region and other hilly terrains of India. As these woolen and carpet industries are decentralized located at far distances, often it is not possible to have a common effluent treatment plant (CETP) for entire region. Hence most of these industry and CFC have to deal with the effluent problems on their own. Because of cost factors and geographical factors such as hilly terrains, there is often very limited space available for construction of complete effluent treatment systems consisting of all primary, secondary and tertiary treatments. Also Indian woolen and carpet industry are major pollution source containing high levels of wool grease, high chemical and biological oxygen demand. Due to lack of space(or sometimes hilly terrain) and technical expertise, most of these centres are looking for new innovative effluent treatment plants which are compact requiring minimum space and efficient systems requiring shortest treatment time. One very promising technology involves the utilization of membrane bioreactor (MBRs). Bioreactor acts as a biological treatment processor and the membrane is used as a filter in the filtration process. Membrane bioreactor technology (MBR) a combination of the activated sludge process with micro- and ultrafiltration is widely regarded as an effective tool for industrial water treatment and water reuse due to its high product water quality and low footprint. MBRs combine a bioreactor and microfiltration as one unit process for wastewater treatment thereby eliminating secondary clarification and filtration stages. Membrane bioreactors provide the benefits of biological treatment with a physical barrier separation.

Project Deliverables	Achievement
Development of Membrane Bioreactors as a solution for compact, high quality effluent treatment to achieve zero-discharge for decentralized woolen and carpet sector and common facility centers in India.	Membrane bioreactor has been developed for zero discharge of effluent from woolen carpet sector and common facility centers
To study treatability of this particular effluent in MBRs by designing and optimization of reactor conditions and selection of right membranes.	The treatability was study with different effluent passing through the MBR reactors. Outcome of the process was studied and the final values of the COD and BOD were under the pollution control board.
A pilot scale study will be carried out to acclimatize the bioreactor along with selection of different membranes for successful working of the MBRs.	A pilot scale bio reactor of size of 500 litters per day capacity was developed and industry trials were done.

10.0 Completed R&D Projects

10.1 Ministry of Textiles

(i) Title of the Project: To design & develop evaporative cooling textiles

Objectives:

- i. To identify or synthesize moisture holding polymers.
- ii. To apply these polymers onto middle layer of the textile and optimize the application process.
- iii. Evaluate the temperature profile of user by temperature gun and infrared camera.
- iv. To develop inside hydrophobic layer for prevention of water going towards the body.
- v. To design outer layer of textile to optimize the evaporation of water from middle layer of fabric.
- vi. Finally, develop 3 layer textiles having evaporative cooling property, consisting of lower layer of hydrophobic water proof bottom layer, middle layer with hydrophilic polymer coated textile to hold moisture and outer layer to enhance the evaporation of moisture from middle layer.
- vii. Evaluation and user trial of the developed garment.

Achievements :

WRA's developed product is Cooling jacket based on the principle of evaporative cooling. This jacket helps to make body temperature normal in hot and sunny condition especially in summer. There is no such commercially available product in national market. Therefore, the developed Jacket is first of its own kind.

(ii) Title of the Project: Development of innovative sportech products such as sailing clothes, ballooning fabrics, high adventure sportswear, tents etc. using low energy, environment friendly hot melt application for new entrepreneurs in sportech sector.

Objectives:

Development of innovative sportech products such as :

- i. Parachute fabrics
- ii. Sailing clothes
- iii. Ballooning fabrics
- iv. High adventure sports etc. using low energy, environment friendly modern hot melt application for new entrepreneurs in sportech sector as a replacement to current solvent and water based coating techniques.

Achievements :

The present project work is an attempt to generate data bank to substitute current solvent based PU emulsion coating technology with eco-friendly Hot melt coating and laminating technology. Under this project fabric samples were developed using hot melt coating technique and optimized at lab scale where hot melt adhesives are used instead of solvent based emulsion.

(iii) Title of the Project: Development and application of eco-friendly microencapsulated moth repellent and antimicrobial finish for Pashmina product in decentralized sector.

Objectives:

- i. To develop eco-friendly microencapsulated multi-functional finish like moth repellent and antimicrobial property for pashmina product.
- ii. To give treatment of developed microencapsulated product on pashmina fabric

Achievements :

Eco-friendly microencapsulated moth repellent agents have been developed to replace toxic permithine chemical.

(iv) Title of the Project: Enhancement of moisture management properties of polyester, polyester/cellulose blend by surface modification using cellulose micro particles

Objectives:

- i. To establish the procedure for microcellulose extraction
- ii. To apply these microcellulose particles onto polyester, polyester/cellulose blend fabric and to optimize the application process.
- iii. Evaluate the moisture vapor transmission, air permeability and wicking properties of developed fabric.
- iv. Development of a garment having improved moisture management properties
- v. Evaluation and user trials of the developed garments

Achievements :

Enhancement of Moisture management properties of PET/Viscose Blend by MCC particle application.

(v) Title of the Project: To develop a smart indigenous sleeping bag with heating property for adventure/high altitude sports.

Objectives:

- i. Development of suitable outer layer for sleeping bags.
- ii. Development/Assessment of filling material like synthetic battings, down feathers and other alternatives.
- iii. Development of heating system.
- iv. Fabrication of sleeping bags with optimum components.

Achievements :

The developed sleeping bag is having moisture Management properties along with active heating system for better thermal insulation properties suitable for extreme cold environment conditions.

11.0 TESTING ACTIVITIES

- | During the year under review, Textile Testing Laboratory and Eco Testing Laboratories of WRA earned revenue of Rs. 148.68 lakhs
- | COE Sportech revenue for the year was 166.57 lakhs

12.0 MAJOR ASSIGNMENTS UNDERTAKEN**I. MOU's, Deed of license & NDA's signed between WRA & Industries:**

Products /Technologies developed by WRA- COE	Industries taken commercially	Remarks
Evaporative cooling fabric	M/s NZ N Z SEASONAL WEAR PVT. LTD., Mumbai & M/s Intech safety , Kolkata	Deed Of License has been made
Smart t-shirt for measuring real time data of Heart rate, sweat & Temperature	M/s ATTIVA INDIA, Mumbai	MOU has been signed
Sportswear with moisture management properties using Polyester, polyester/cellulose blend by surface modification using cellulose micro particles	M/s TRADC, Grasim Industries, Kharach	MOU has been signed
Smart indigenous sleeping bag with heating property for adventure/high altitude sports.	M/s Bhavi Multifab Pvt Ltd, Mumbai	Deed Of License has been made
Technology for eco-friendly electro-flocculation technique to treat wastewater effluent	M/s Asiatic engineers, Ahmedabad	Deed Of License has been made
Keratin nanofibers based protective face mask	M/s Intech safety , Kolkata	Deed Of License has been made
Technology of Membrane Bioreactors for decentralized carpet sector	M/s Mahadev woolens mills, H.P.	MOU has been signed
Green Technology for eco-friendly, mothproofing of Wool & Pashmina	M/s Mojopanda Exim Private Limited, Gurugram	Deed Of License has been made

II. Consultancy Services rendered:

SR NO.	Name of consultancy/training	Status
1.	Dehairing Plant in Leh	Rs 20 crores Approved along with specifications in Technical Committee of CWDB on 24/07/2018 at Srinagar
2.	CDI Srinagar for NABL accreditation of Testing Lab	Approved
3.	Four Training programme on woolen products on handloom in Maharashtra	Submitted to Govt. of Maharashtra.
4.	Establishment of CFC (in Bellari & Haveri Dist)	Tender document submitted for Karnataka Govt. to decide
5.	Carpet training in 2 centres in Maharashtra	Under active consideration by Govt. of Maharashtra.

III. Activities at Incubation center under COE Sportech

4 products i.e. Shoes fabric, Knitted sportsgear fabrics, Kabana fabrics & Raised fabrics have been commercialized

Name of Industry	Product developed	Remarks
M/s Nebco Textile Industries, Mumbai	Warp Knitted fabric for Shoes	Commercial stage- Machine working 12-18 hours/day to start market feeding, 5 tons Material has been processed for market feeding.
M/s Nebco Textile Industries, Mumbai	Knitted Plain raised fabric for lamination (for Sportsgear application)	Commercial stage- Machine working 12-18 hours/day to start market feeding, 6 tons Material has been processed for market feeding .
M/s Nebco Textile Industries, Mumbai	Furnishing fabrics for automobile on warp knitted fabric on Tricot machines	Commercial stage- Machine working 12-18 hours/day to start market feeding, 10 tons Material has been processed for market feeding.
M/s Nebco Textile Industries, Mumbai	Home furnishing fabrics	Commercial stage- Machine working 12-18 hours/day to start market feeding, 17 tons Material has been processed for market feeding.
M/s Vijay Sabre Group	Activated carbon based laminated textiles for filtration to be used in NBC suits	Product is under market testing
M/s Welspun, Mumbai	Laminated fabrics for hygiene products on hot melt laminating and coating machine.	Product is under market testing
M/s TRADC, Unit of Grasim Industries	friction spun yarn from viscose waste for various end application.	Product is under market testing
M/s Netflex, Mumbai	Double needle bar stretchable nets for automotives.	Product is under market testing
M/s Gharda Chemicals, Mumbai	Flame retardant fabric using 100% PBI filament	Product is under market testing
M/s Vissco Rehabilitation Aids Pvt Ltd, Mumbai	Stretchable Bandages, technical fabrics	Product is under development

13.0 PAPERS PRESENTED/PUBLISHED

During the year 2018-19 following papers were published by technical staff of WRA.

- ❖ Effect of Curing time on Development of Water Based Polyurethane Coated Polyester, International Journal of Development Research, Vol. 09, Issue, 01, pp.25293-25297, January, 2019

- ❖ Development of sportswear with enhanced Moisture Management properties using cotton and regenerated cellulosic fibres Indian Journal of Fibres and Textile Research, Vol 44, March 2019, pp 24-30
- ❖ Effect of Curing Temperature on Development of Water Based Polyurethane Coated Polyester, Smita Bait, Supriya Pandit, Mayur Basuk & Devvert Ruhela, International Journal of Research and Analytical Reviews, Vol. 5(4), 967-973
- ❖ Synthesis and application of uv ray's protective mono azo acid dyes on wool, silk and nylon, Smita Bait, Supriya Pandit, Suvidha Shinde, Nagaiyan Sekar, Ravindra Adivarekar, International Journal of Modern Trends in Engineering and Research, July 2018, Vol. 5, Issue 7, Page 7-22
- ❖ Effect of Plasma Treatment on Moisture Management Properties and Drying Behavior of Polyester and Blend Fabrics for Sportswear Application, Mayur Basuk, Smita Bait, Saptarshi Maiti, Ravindra Adivarekar, Current Trends in Fashion Technology & Textile Engineering, May 2018, Vol. 3, Issue 5, Page 1-8.
- ❖ Shishir Tyagi, Chetan Mahajan "To develop a smart indigenous sleeping bag with active Heating property for cold climates" International journal of modern trends in Engineering and Research, Volume 05, Issue No. 12, pages 1-7, December 2018.
- ❖ M. Basuk, S. Pandit; Eco friendly microencapsulated moth repellent and antimicrobial finish for Pashmina & Wool fabrics, paper accepted for publication in Melliand International, March 2019 issue.
- ❖ M. Basuk, Fabric Lamination: Type, Defects & Remedial Measures, Dye Chem Pharma Business News ", April 2018, page 32-36.
- ❖ M. Basuk & J. Behera, Enhancement of functional properties of textiles through lamination using hot melt coating and lamination technology, International Dyer & Technical Finisher, Issue 4, 2018.

14.0 **NEW ADDITIONS**

PURCHASE OF NEW EQUIPMENTS / INSTRUMENTS FOR COE-SPORTECH

Sr. No.	Name of Machinery
1	Digital Microscope
2	Equipment for measurement of coefficient of Retro Reflection
3	0/45° Spectrophotometer
4	Oven ISO 17492
5	Cold impact chamber
6	Surface Resistance tester- Electrostatic Resistance (EN 1149)
7	Electrostatic Resistance EN 1149-3
8	De Matia flex tester
9	UTM 100 kN Tester
10	BAW abrasion tester
11	Chemical Repellency Tester
12	Precision winding machine for carbon

15.0 MEETINGS ATTENDED:**Dr. Anil Kumar Sharma, Director**

- | Attended meeting in Moral Textiles to explore the possibilities of Smart Sportswear using cotton as base fabric from 28th April to 3rd May, 2018.
- | Attended the Review Meeting from 11th to 13th May, 2018 at Ministry of Textiles, Government of India, New Delhi. Director presented DPR for Dehairing Plant at LAHDC, Leh
- | Attended meeting on 17th May, 2018 at Ministry of Textiles, New Delhi – Curtain Raiser – Technotex 2018 in FICCI Office at Barakhamba Road, New Delhi.
- | Attended meeting along with Mr. Shishir Tyagi at Sports Authority of India, Patiala from 21st to 23rd May, 2018 to take field trials of Smart T-shirts.
- | Visited Sports Authority of India, Gandhinagar from 24th to 26th May, 2018 to explore possibility of field trials of Smart T-Shirt.
- | Attended Stakeholders meeting from 22nd to 23rd June, 2018 chaired by HMOT on Speciality Fibres.
- | Attended the 9th Project Approval Committee from 27th June to 1st July, 2018 and presented detailed work done on four completed projects.
- | Attended meetings from 19th to 25th July, 2018 to chalk out R&D Road Map on Technical Textiles in NITI Aayog, at DRDE on scope of R&D in Defence Sector, at LNIPE on future R&D programme for Sportech and Presentation in the 2nd Technical Committee of CWDB on DPR of Dehairing Plant.
- | Attended meetings from 3rd to 5th August, 2018 in NITI Aayog to chalk out strategies for future R&D programmes and First meeting in LNIPE on new project on Standardization of specifications of sportswear for 2 games for Indian sports persons.
- | Attended meeting on 10th August, 2018 in Ministry of Textiles, New Delhi of Nodal Officers to facilitate compliance of recommendation for Committee of Secretaries for giving boost to Technical Textiles in India.
- | Meeting in LNIPE, Gwalior for future scope of work in the new project to finalise specifications for Indian Players in 2 games i.e. Kho-kho and Kabadi.
- | Chaired the Plenary session – Special Property Industrial Textiles and attended Two-day International Conference on “Industrial Textiles – Products, Applications and Prospects” – INDUTECH 2018 on 17th and 18th August 2018 at PSG College of Technology, Coimbatore and visit to COE Indutech and COE Meditech.
- | Attended meetings from 25th to 28th August, 2018 with Vice Chancellor, University of Agriculture, Gwalior to explore possibility of collaborative work between WRA and University of Agriculture, Gwalior, Meeting with MORTH and BMPTC with respect to growth of Technical Textiles in roads and buildings and a presentation of WRA's work in the Planning Commission.
- | Attended meeting from 5th to 8th September, 2018 in the Ministry of Heavy Industries chaired by the Joint Secretary with respect to Group of Secretaries meetings dictates.

- | Attended meetings from 18th to 19th September, 2018 in CRPF in order to boost growth of Technical Textiles in India, at Ministry of Defence, Kashmir House, New Delhi to boost growth of Geotextiles in internal road in defence sector and Meeting of the 3rd Technical Committee of CWDB to finalize specification of various equipments listed in DPR for Dehairing Plant.
- | Attended meeting on 26th September, 2018 and gave a presentation on "Use of Geotextiles in Defence Sector" and possible course of action needed to boost consumption of Geotextiles through Institutional buying by BRO. The meeting was chaired by ADGBR at HQ DGBR.
- | Attended meeting held by Joint Secretary (Ports), Ministry of Shipping (Room no.408, Transport Bhawan, New Delhi) on 8th October, 2018 at 1500 Hrs to Boost of Technical Textiles in India.
- | Attended meeting convened by Secretary, Ministry of Textiles on 10th October, 2018 at 3.00 PM at Committee Room (Room No.162), UdyogBhawan, New Delhi to discuss the modalities and funding pattern and other related issues pertaining to "Re-construction Plan for J&K under Integrated Wool Development Programme.
- | Attended meeting on 12th October, 2018 with Joint Secretary (Wool), Ministry of Textile, New Delhi regarding WRA's Performance Review.
- | Attended 36th Governing Body meeting of CWDB at Ministry of Textiles, New Delhi on 30th October, 2018.
- | Attended meeting at Headquarters, DGBR, Conference Venue at Manekshaw Centre dated 29th November, 2018 and gave a presentation on the use of Geosynthetics/technical textiles for construction of roads.
- | Visited Ministry of Textiles, Govt. of India, New Delhi on 10th December, 2019 in connection with revised budget of Ministry of Textiles. TRA's grant-in-aid fund has been cut by AS&FA, Ministry of Textiles.
- | Visited Ministry of Textiles on 24th December, 2018 in connection with restoration of Grant-in-aid of revised budget for the year 2019-2020
- | Attended Technical Committee meeting of CWDB on 25th March, 2019 and PAC meeting on 26th March, 2019 at Ministry of Textile, New Delhi.

16.0 SEMINAR/ CONFERENCES ATTENDED/ CONDUCTED:

- | Presented a Paper on "Current scenario and future prospect of Deccani Wool" at Vastray 2019 organised by Govt. of Maharastra on 1st March 2019

TECHNOTEX 2018 : June 2018

TECHNOTEX 2018 is India's premier show on technical textiles. This spectacular flagship event comprised of an International exhibition, conference, and seminars. A common platform for interaction amongst stakeholders from across the global technical textile value chain, TECHNOTEX exemplifies the immense potential for trade and investment between India and foreign countries in technical textile sector. The 7th edition of International Exhibition and conference on Technical Textiles i.e. Technotex 2018 organized jointly by

Ministry of Textiles, Govt. of India and Federation of Indian Chambers of Commerce & Industry (FICCI) from June 28-29, 2018 at Bombay Exhibition Centre, Goregaon, Mumbai - India. The event served as the right platform for interaction between the Indian and Foreign companies from technical textile value chain.

The 7th edition of Technotex 2018, an international exhibition and conference on technical textiles, took place in Mumbai from June 28-29, 2018. The theme of this year's conference was 'Advantage India: Emerging Global Manufacturing Hub for Technical Textiles' and it chalked out a roadmap to make India a global manufacturing hub for technical textiles.

Technotex 2018 conference aimed to help the government and industry to take adequate measures to achieve this goal and attract international and domestic investments in this sector. It focused in helping to increase the consumption and production of technical textiles.

The exhibition created a platform for interacting and strengthening association of private sector with institutional buyers such as Central Industrial Security Force, Railways, Army, NHAI, Navy etc and helped them understand institution's requirements and standards. It also provided an opportunity to the Indian Technical Textile industry to network and interact with stakeholders on several technical and policy issues.

FICCI organised B2B meetings of institutional buyers with the private industry players during the conference.

Conference on “Composites in Sports 2018” from 3-4 October, 2018 at Loughborough University, UK.

Dr. A.K. Sharma attended a conference on “Composites in Sports 2018” from 3-4 October, 2018 at Loughborough University, UK. Nearly 18 presentations were there. Organisers also showed the facilities available in the Sports Technology Centre in Loughborough University, U.K. The Sports Technology Centre mainly focuses on field applications, performance applications and designing of tailor made sportswears based on performance analysis on the sports person.

The Sports Technology Centre has Impact Strength Tester at different temperature, Shoe, sole and spikes tester, number of CNC machines, 3 point testing facilities with respect to stiffness, torsion and bending. The centre can carry out tension torsion biaxial testing, bending load testing alongwith modelling and simulation.

Sports Technology Centre has worked on testing of Shoe, sole and spikes based on sports surface on a project funded by Nike. It also designed and tested football under a project funded by Adidas. The football was designed to be used for European League matches. It also had facilities to take the sportswear performance in actual field conditions on sports person. At the time of visit Sports Technology Centre was working on sensor based designing of bra for particular sports on the basis of actual field test.

The conference highlighted that the new trend in innovations on light weight sports goods are :

1. Mass customisation
2. High end products
3. Sustainability

Adidas shoes from plastic bottle waste is one such example.

Chromarat, a French based Textile Company, showed the importance of shallow angles for manufacturing of reinforcement from Carbon and Glass fiber. It has used C-PLY (NCF) for making thinner and lighter profiles of the wind foil boards to reduce drag, also produced lightest touring skies from non-crimp fabric. The company uses 50K carbon tows to make UD tapes online as well as offline. Such shallow angles reinforcements improve tensile strength of profile upto 25% and tensile modular by +4%. It also reduces micro cracks and improves the performance achieving cost as well as weight reduction. The NCF with shallow angles has been used to make bike frames too.

N12 Technology Inc (USA) makes Nano Stitch Z-axis Engineering Interlaminar Reinforcements specially for military applications. It manufactures vertically aligned CNTs which can find applications in making sports components. The company, through innovation, has been able to produce uniform CN tubes to grow on metal substrate and then transfer it to UD prepregs. Company has done investment of nearly 40 million dollars in 4 years to bring cost of CNT based UD prepregs from US\$ 25,000 /sq.mtrs to US\$ 25/sq.mtrs. Such simulation acts as a barrier of crack propagation in sports goods. Introduction of CNT improves fatigue by 4- 5 times, impact by 15-30% and compression by 10%. It also improves shear from 10-25%. The Company has now invested additional 1.7 million dollars for creation of light weight application laboratory which has facilities such as Autoclave, SEM, Static Shear Strength tester, fatigue tester, performance testing for checking load damage tolerance, C-Scan Analyzer specially for hockey sticks.

HEAD Sport is a European based company. In its presentation, it said that 90% of market share for Sports Racquets is with three Companies in the world. HEAD Sport makes one million Carbon Racquets mainly in China and has revenue of 440 million pounds. Its presentation centred on manufacturing of tennis racquets which is being produced in its 11 subsidiaries. The presentation gave detailed processes of manufacturing of racquets and the various types of sensors embodied in the racquet.

Similarly, Textreme gave presentation on manufacture of sky poles and justified the importance of material level testing, component level testing and mock field testing.

NCC Operation Ltd in Catapult high value manufacturing centre, U.K., showed development of Intelligent Dynamic Suspension for skiing in icy mountains.

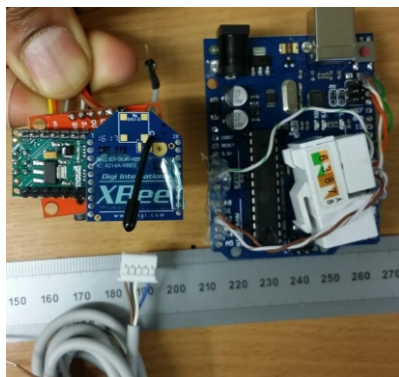
Cevotec, Germany gave presentation on Sports Composites through flexible automation for CFRP manufacturing. It claimed that the biggest cost in manufacturing of sports components is quality. Its new machine on fibre patch placement which is additive 3D fibre layup technology for complex geometry can be useful in revolutionising light weight sports good components such as helmets, boards, bicycle, water sports, etc. The machine uses CAD/CAM software for patch technology to give instruction to Robot for production process. Discussion were held with Mr. Christian Fleischfresser in order to install this new machine in WRA's Light Weight Incubation Centre for Sports goods. This machine cost is 1 million Euro. Cevotec has agreed to work out special costing for research institutes. It was also suggested that similar conference in Belgium and Australia also need to be visited in order to have better knowledge in this field and to do fruitful networking.

Zeek Alpine gave processes for sky poles and bladder moulding while Mr. Chris Warral of TWI showed its innovation on Surf low Data Transmission through Component of sports equipments to quantify the performance and optimize the training. TWI claims that it is a wireless data transmission which is secured and uses ground wave. Airbus has shown interest in this technology for fly by wire system in its aircrafts.

Visit to Manchester University from 1st October to 5th October 2018

A visit was made to Manchester University from 1st October to 5th October 2018 to overcome drawbacks of developed electronic t-shirt (mark-I) found during actual field trials at SAI, Patiala & LNIPE, Gwalior (under Ministry Of Youth Affairs & Sports) so that second generation mark-II electronic T-shirt which can be tested at Sports Authority of India & Sports universities for commercial exploitation.

Work in Manchester University, UK has given enough exposure and training to Mr. Shishir Tyagi on how to miniaturise components in Smart T-shirt such as developing compact and light weight board which restricts the movement of port connection even after heavy exercise of athlete, Xbee RF module which is suitable for outdoor games and does not require internet connectivity to transmit the data. The metal wires used for transfer of signal from sensor to processing unit were replaced by conductive yarn. Similarly, methodology of electro silicon potting to replace 3D printing was also learnt by Mr. Shishir who worked with experts from Manchester University in the field of textile, sensors, knitting, embroidery technology and RF communication. Mr. Shishir now should take the activity to the next level and try to produce commercialisable Smart T-shirts for extensive field trials. Manchester University will develop the software and a prototype of Smart T-shirts which can be field tested in order to commercialize the technology.



Developed board at Manchester University vis-à-vis previously developed board.

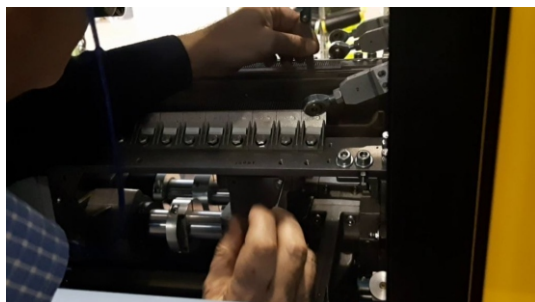
Training Taken on Raschel Warp Knitting Machine (Model DNB/ EL - 1270) at Comez International, Italy from 12th Nov. 2018 to 16th Nov. 2018.

Technicians of such machines are a few as families of first and second generation technicians have not taken up trade and therefore all over the world any new development of product line is very few though Comez keeps on getting queries for new developments. In any case sale of such machine is diminishing day by day.

Comez was of the view that five days training on such machine is not enough and the process has to be of continuous type - may be once in 6 months or in 1 year to understand detail possibilities of range of such machine for new product development.

Comez is a member of Jacob Muller Group and their 90% customers are engaged in making low cost commodity products such as laces, elastic and non-elastic tapes, frills and fancy yarn. In India there are nearly 400 machines in Tirupur making elastic tapes and there are few machines in Surat which are making frills, while there are two companies in Ludhiana making fancy yarns. Limitations of Comez/Jacob Muller machine is their narrow fabric making. For high production and full width fabrics there are bigger companies available. Under Technical Textiles, Double Needle Bed Warp Knitting machines are broadly used for making products useful in the field of Geotextiles and Agro Textiles. Comez machines cannot compete with other machine manufacturers due to limited width of the finished product which can be produced on such machines (maximum size is 50 inches width). The other possibility which can be explored is spacer fabrics or reinforcement structures. In case of spacer fabrics the only market available is where limited width clothes is the requirement such as belts, cushioning of automobile, small bags, etc. In India low cost alternatives of such spacer fabrics are already in the market. WRA will have to find out some entrepreneur who is looking for quality spacer fabric. In coordination with Technical Expert of Comez namely Mr. Rossano Ugazio, Ms. Gilberta Campana and Mr. Gianni Pissani, WRA has developed design of 3D structure for new product innovation in the reinforcement area. Since such reinforcement will need combination of glass fibres, Kevlar and Carbon fibre so the necessary modifications/alterations has to be done on the creel besides investing in second creel on the other side of the machine.

The major area of new developments in Technical Textiles sector under Warp Knitting sub-heading is reinforcement which requires handling of carbon fibres besides other speciality fibres which need special machines.



17.0 TRAINING PROGRAMME CONDUCTED / ATTENDED :

- | Participated in Technotex curtain raiser 2018 at FICCI, New Delhi held in 17th May 2018
- | Participated in Technotex 2018 at Bombay Exhibition Center, Goregoan held in 28th – 29th June 2018
- | Three days Training programme on “Textile testing & Woollen carding from 4th Sept 2018 to 06th Sept 2018.
- | Four days Training programme on “Basic course on knitting & textile testing” for Mr. Vinod Kumar Kaushik 18th Dec 2018 to 22nd Dec 2018.
- | Three months training (2 students) on topic entitled “nanofibers based wound healing bandages” for “Dr. L. H. Hiranandani College of Pharmacy - Ulhasnagar from Dec 2018 to March 2019.

- | Two months training (1 student) on topic entitled “TiO₂ nanoparticles finishes on cotton fabric for UV protection and antimicrobial activity, for “SNDT Women's University, Mumbai from Jan 2019 to March 2019.
- | Fifteen Days training (2 students) on topic entitled “coating of fire retardant materials on woolen fabric, for “UDCT, Jalgaon from 1st March 2019 to 15th March 2019.
- | One day conference Vastray 2019, Govt. of Maharashtra, Decani wool – current scenario and future prospects

18.0 **COUNCIL MEETINGS**

Three Governing Council Meetings, One Technical/Research Advisory Committee Meetings and Annual General Meeting were held during the year 2018-2019.

144th Governing Council Meeting

Wool Research Association's 144th Governing Council Meeting of Wool Research Association was held on 4th May, 2018 at 2.00 p.m in the Conference Room, Wool Research Association, P.O. Sandoz Baug, Kolshet Road, Thane – 400 607.

145th Governing Council Meeting

Wool Research Association's 145th Governing Council Meeting of Wool Research Association was held on 24th August, 2018 at 11.00 a.m. in the Conference Room, Wool Research Association, P.O. Sandoz Baug, Kolshet Road, Thane – 400 607.

146th Governing Council Meeting

Wool Research Association's 146th Governing Council Meeting of Wool Research Association was held on 29th March, 2019 at 12.30 p.m. in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020.

Technical / Research Advisory Committee (TRAC) Meeting

Wool Research Association's Technical / Research Advisory Committee (TRAC) Meeting was held on 27th April, 2018 in the Conference Room, Wool Research Association, P.O. Sandoz Baug, Kolshet Road, Thane – 400 607.

53rd Annual General Meeting

Wool Research Association's 53rd Annual General Meeting of the Members of the Wool Research Association was held on 19th September, 2018 at 1.00 p.m. in the Committee Room, Indian Woollen Mills' Federation, Churchgate Chambers, 7th floor, 5, New Marine Lines, Mumbai – 400020.

19.0 MEMBERS OF WRA**ORDINARY MEMBERS :**

01. M/s. Bhilwara Synthetics Ltd., Bhilwara
02. M/s. Banswara Syntex Limited, Mumbai
03. M/s. Cashmere Marketing Agencies, Srinagar
04. M/s. Centex International Pvt. Ltd., Ludhiana
05. M/s. Gokalchand Rattanchand Woollen Mills Pvt. Ltd., Mumbai
06. M/s. Grentex & Co. Pvt. Ltd. Mumbai
07. M/s. Gujarat Sheep & Wool Development Corporation., Ahmedabad
08. M/s. Geetanjali Woollens Pvt. Ltd., Mumbai
09. M/s. Jaya Shree Textiles & Industries Ltd., West Bengal
10. M/s. Kapotex Industries Pvt. Ltd., Sarigam
11. M/s. Kusumgar Corporate, Mumbai
12. M/s. Modern Woollens Ltd., Bhilwara
13. M/s. Raymond Ltd., Thane
14. M/s. Shri Dinesh Mills Ltd., Baroda
15. M/s. Saravanabava Mills, Mumbai
16. M/s. Shree Ram Textile Mills Ltd. Mumbai
17. M/s. Thaker Felts Pvt. Ltd., Vadodara
18. M/s. Wooltex Associates, Mumbai

ASSOCIATE MEMBERS :

19. M/s. Indian Woollen Mills Federation, Mumbai
20. M/s. Woolmark Services India Pvt. Ltd, New Delhi

SPECIAL ASSOCIATE MEMBERS :

21. M/s. The Synthetic & Art Silk Mills Research Association, Mumbai
22. M/s. OCM India Ltd, Amritsar

20.0 FOUNDER MEMBERS OF WOOL RESEARCH ASSOCIATION IN 1963

1. Mr. T.N. Khaitan.
Dhruva Woollen Mills Pvt. Ltd.,
Sun Mill Compound, Lower Parel, Bombay
2. Mr. G.K. Singhanian
Raymond Woollen Mills Ltd., J.K. Building,
Ballard Estate, Bombay
3. Mr. B.M. Grover
Modella Woollen Mills,
50, Vulcan Insurance Bldg.,
Veer Nariman Road, Bombay
4. Mr. L.P. Pittie
Bombay Woollen Mills P. Ltd.
20, Hamam Street, Bombay
5. Mr. R.K. Seth
Simplex Woollen Mills
Sadhana Raymond House,
D.N. Road, Bombay
6. Mr. R.B. Kanwar Rajnath
Ahmed Woollen Mills
Amernath C. Rly.
Office : 87, Tamba Kanta
Nakhoda Street, Bombay
7. Mr. T.K. Nagpal
Nagpal Woollen Mills
Old Atlas Mills Compound,
Reay Road, Bombay
8. Mr. R.K. Birla
Shree Digjam Woollen Mills
Aerodrome Road, Jamnagar

21.0 LIST OF PRESIDENTS/SR.VICE PRESIDENTS & VICE PRESIDENTS SINCE INCEPTION

PERIOD/ YEAR	PRESIDENT	SR. VICE PRESIDENT	VICE PRESIDENT
1964/65 to 1968/69	Mr.G..K. Singhanian Raymond Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills
1969/70	Mr. U.M. Patel Dinesh Woollen Mills	Mr. B.M. Grover Modella Woollen Mills	Mr. B.B. Nagpal Nagpal Woollen Mills
1970/71 to 1975/76	Mr. B.M. Grover Modella Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills	Mr. R.K. Seth Simplex Woollen Mills
1976/77 to 1977/78	Mr. B.M. Grover Modella Woollen Mills	Mr. L.P. Pittle Bombay Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills
1978/79 to 1981/82	Mr. B.M. Grover Modella Woollen Mills	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. B.K. Kedia Raymond Woollen Mills
1982/83	Mr. T.N. Khaitan Dhruva Woollen Mills	Mr. B.K. Kedia Raymond Woollen Mills	Mr. U.M. Patel Dinesh Woollen Mills
1983/84	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Mr. U.M. Patel Dinesh Woollen Mills	Mr. K.V. Iyer Raymond Woollen Mills
1984/85 to 1993/94	Mr. B.K. Kedia Raymond Woollen Mills	Mr. U.M. Patel Dinesh Woollen Mills	Mr. Ravikant Kapur Grentex & Co.
1994/95 to 1997/98	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Mr. U.M. Patel Dinesh Woollen Mills	Mr. K.V. Iyer Raymond Woollen Mills
1998/99 to 1999-2000	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. Hari Prasad Kedia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2000-2002	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2002-2004	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2004-2006	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. V.K. Bhartia Raymond Limited	Shri.A.N. Choudhary Jayashree Textiles
2006-2008	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2008-2010	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2010-2012	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri.S.K. Singhal Raymond Limited	Shri.R.K.Khanna Amritsar Swadeshi
2012-2014	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. S.L. Pokharna Raymond Ltd	Shri.R.K.Khanna Amritsar Swadeshi Shri. R.K. Khandelwal Raymond Ltd
2014-2016	Mr. Ravikant Kapur G.R. Woollen Mills Ltd	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. L. Shri. R.K. Khandelwal Raymond Ltd
2016-2018	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. Ltd.	Shri. R.K. Khandelwal Raymond Ltd
2018-2020	Shri. H.K. Chatterjee Raymond Ltd	Shri. Deepak Goel Geetanjali Woollens P. Ltd.	-----

22.0 LIST OF DIRECTOR GENERAL /DIRECTORS/ JOINT DIRECTOR /DY.DIRECTORS SINCE INCEPTION

PERIOD (YEAR)	SECRETARY	DIRECTOR GENERAL	DIRECTOR	JOINT DIRECTOR	DEPUTY DIRECTOR
1964/65	Mr. J.N. Chaudhuri	-	-	-	-
1965/66	Mr. A.C. Chaudhuri	-	-	-	Dr.M.G. Kulkarni
1966/67 & 1967/68	Mr. A.C. Chaudhuri	-	-	-	Dr. N.P. Badve
1968/69 & 1969/70	Mr. A.C. Chaudhuri	-	-	-	Dr. N.P. Badve
1970/71 to 1977/78	Mr. A.C. Chaudhuri	-	Mr. Sule Assistant Director (from 1971 to 1975)	-	-
1978/79	Mr. A.C. Chaudhuri	-	Dr.V.G. Kulkarni	-	-
1979/80	Mr. A.C. Chaudhuri	-	-	-	Dr(Mrs) Usha Nandurkar
1980/81 & 1981/82	-	-	Dr.A.D.M. Nath	-	Dr(Mrs) Usha Nandurkar
1983/84 to 1985/86	-	-	Dr(Mrs) Usha Nandurkar	-	-
1986/87 to 1987/88	-	-	Dr.(Mrs) S. Patwardhan (Offg)	-	-
1988/89 to 1998/99	-	-	Dr.(Mrs) S. Patwardhan	-	-
Jan' 2000 - 7 th Sept.2003	-	-	Mrs. G.P. Rane Acting Director (Offg)	-	-
8 th Sept.2003 - 7 th Sept.2006	-	-	Mr. S.C. Agarwal	-	Mrs. G.P. Rane
8 th Sept.2006	-	-	-	-	Mrs. G.P. Rane
2 nd July, 2007 to 2015	-	-	Mr. M.K. Bardhan	-	-
1 st March 2012-15	-	-	-	-	Dr (Mrs) Mrinal Choudhari
January,2016 onwards	-	Mr. M. K. Bardhan	-	Dr. (Mrs.) Mrinal Choudhari	Mr. P.R.Kulkarni
May- Dec,' 2016	-	-	Dr. Suman Bhattacharyya	-	-
June, 2016 onwards	-	-	-	-	Mr. Shivendra Parmar
Feb.'2017 onwards	-	-	Dr. A.K. Sharma	Dr. (Mrs.) Mrinal Choudhari	-
June,2017 onwards	-	-	-	Ms. Seema Patel	-
August,2017 onwards	-	-	-	Mr. Pawan Sharma	-

23.0 LIST OF DONOR MEMBERS

SR. NO.	NAME OF THE ORGANISATION	YEAR OF DONATION
1	M/s Raymond Woollen Mills	1971-72
2	M/s Modella Woollens Ltd	1971-72
3	M/s Shree Dinesh Mills	1971-72
4	M/s G.K. Nagpal Sons	1971-72
5	M/s Beekay & Sons	1971-72
6	M/s Shree Digvijay Woollen Mills Ltd.	1971-72
7	M/s Dhruva Woollen Mills	1971-72
8	M/s Wool Combers of India	1971-72
9	M/s Bombay Woollen Mills	1971-72
10	M/s Karamchand Tulsidas	1971-72
11	Shri. B.M. Grover - Chairman - Modella (For Physical & Colour Research Laboratory)	1976-77
12	Shri Gopal Krishna Singhanian - Raymond (For Chemical Research Laboratory)	1980-81
13	Shri. Upendrabhai M. Patel - Chairman Shri Dinesh Mills Ltd (For Textile Research Department)	1992-93

Also received from M/s R.G. Deshpande and Bros. a donation of Rs. 1.00 lac in the memory of their mother Smt. Laxmibai Gajanan Deshpande towards educational programme and to allot scholarship for the students from the interest of this fund.

24.0 EDUCATIONAL ACTIVITIES

WRA conducts following Vocational Certificate Courses, as and when requested by relevant quarters :

- I Instrumental Chemical Analysis
- I Computer Aided Textile Designing - Jacquard Carpets and Knitwear.
- I Textile Testing and Quality Control.
- I Disciplines in Woolen & Worsted Manufacturing processes.
- I WRA also conducts need based training either in-house or at site.
 - I Mrs. Smita Bait is pursuing Ph.D.

25.0 ACKNOWLEDGEMENT

We are thankful to Ministry of Textiles, Ministry of Finance, Central Wool Development Board, Office of the Textile Commissioner, Department of Science & Technology, Indian Woollen Mills Federation for the help extended to Wool Research Association from time to time.

**J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS**

D/401, Shantidwar C & D Wing CHS
Shantivan, Borivali (East)
Mumbai - 400066

Tel : 022 – 2897 0736

Email : jpj@jpjassociates.com

AUDITOR'S REPORT

**To the Members
Wool Research Association
Thane**

Report on the Financial Statements

We have audited the accompanying financial statements of Wool Research Association (“the Society”), which comprise the Balance Sheet as at March 31, 2019, and the Income and Expenditure Account for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance in accordance with the Accounting Standards and Generally accepted accounting principles. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Society's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion and to the best of our information and according to the explanations given to us, the financial statements give the information required by the Act in the manner so required and give a true and fair view subject to

- a) Note No.3 regarding Balance Confirmations,
- b) Note No. 4 regarding Subscription
- c) Note No. 6 Non provision of diminution of Value of investment.
- d) Note No. 11 Non Provision of Depreciation.
- e) Note No. 16 Non-provision for ESIC

in conformity with the accounting principles generally accepted in India:

(a) in the case of the Balance Sheet, of the state of affairs of the Society as at March 31, 2019;

(b) in the case of the Income and Expenditure Account, the Excess of Expenditure over Income for the year ended on that date; and

Report on Other Legal and Regulatory Requirements

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. in our opinion proper books of account as required by law have been kept by the Society so far as appears from our examination of those books;

c. the Balance Sheet, Income and Expenditure Account dealt with by this Report are in agreement with the books of account;

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM'S REGISTRATION NO. 113012W/W100296

Sd/-

CA VAIBHAV VAIDYA
 PARTNER
 MEMBERSHIP NO.: 157754
 MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION, THANE.
BALANCE SHEET AS ON 31st MARCH 2019

AS ON 31/03/2018 Rs.	LIABILITIES	SCHE- DULE	AS ON 31/03/2019 Rs.	AS ON 31/03/2018 Rs.	ASSETS	SCHE- DULE	AS ON 31/03/2019 Rs.
5,22,39,386	CAPITAL FUND	A	6,41,33,722	33,37,11,528	FIXED ASSETS	E	34,98,01,480
6,71,03,348	RESERVES	B	7,40,34,847	11,56,400	<u>INVESTMENT AT COST</u>		11,56,400
4,49,71,408	SUNDRY LIABILITIES	C	3,66,38,715		11564/- Equity shares of Rs.100/- each fully paid up of M/s.Gujarat Sheep & Wool Development Corpn. Ltd., (for break-up value of the shares, please refer to Note 6 the notes on Account schedule "L")		
27,12,06,315	GRANT-IN-AID FROM MOT,KVIC,AIHB, & UNDP TOWARDS CAPITAL EXPS. FOR SPECIAL PROJECTS	D	27,42,80,353				
	<u>COE - SPORTECH</u>						
	OP.Balance 42,428						
	Add: Int.recd. on F.D. 14,91,936						
	Add: Other receipts 1,70,29,985						
	1,85,64,349			7,93,20,903	CURRENT ASSETS	F	6,89,93,990
42,428	Less : Funds utilised 1,85,30,134		34,215	79,21,918	LOANS & ADVANCES	G	92,58,159
	<u>LAB-UPGRADATION</u>						
	OP.Balance 8,76,123						
	Add: Int.recd. on F.D. 1,92,996						
	Add: Other receipts 71,22,263			1,43,28,259	PROJECTS	H	2,07,04,691
	81,91,382						
8,76,123	Less : Funds utilised 81,91,382		0				
	<u>Design & Dev.of Light weight..</u>						
	Grant recd. 7,76,728						
	Industry's/Institute's Share 3,32,884						
	Add: Other receipts 403						
	11,10,015						
	Less : Funds utilised 3,17,147		7,92,868				
43,64,39,008	TOTAL		44,99,14,720	43,64,39,008	TOTAL		44,99,14,720

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

NOTE : SEE SCHEDULE 'L' OF NOTES ON ACCOUNTS AS PER OUR REPORT OF EVEN DATE ATTACHED.

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION, THANE.
INCOME AND EXPENDITURE ACCOUNT FOR NON-PLAN A/C FOR THE YEAR ENDED 31st MARCH 2019

AS ON 31/03/2018 Rs.	EXPENDITURE	SCH- DULE	AS ON 31/03/2019 Rs.	AS ON 31/03/2018 Rs.	INCOME	SCH- DULE	AS ON 31/03/2019 Rs.
1,43,88,248	STAFF SALARY	I	1,51,48,966	1,00,00,000	GRANT-IN-AID FROM MINISTRY OF TEXTILES, GOVT.,OF INDIA TOWARDS RECURRING EXPENDITURE		90,00,000
41,17,845	ESTABLISHMENT CHARGES	J	69,78,145				
40,000	AUDIT FEES		45,000				
95,047	AGM ,SEMINAR & MEETING AND CONFERENCE EXPS.		1,73,653	1,72,16,198	SCHEDULE - (INCOME) INDUSTRY'S CONTRIBUTION TOWARDS RECURRING EXPS.	K	1,56,86,420
23,203	CHEMICALS AND RAW MATERIAL		3,708				
16,48,186	PROJECT COST INCURRED BY WRA		18,52,655	5,92,695	EXCESS OF EXPENDITURE OVER INCOME CARRIED TO BALANCE SHEET		5,14,026
-	DEBTORS W/OFF		4,84,293				
69,03,669	EXPENDITURE FOR UPGRADATION OF MACHINERY/ COMPENSATION TO MANPOWER		-				
5,92,695	DEPRECIATION		5,14,026				
2,78,08,893	TOTAL		2,52,00,446	2,78,08,893	TOTAL		2,52,00,446

NOTE : SEE SCHEDULE 'L' OF NOTES ON ACCOUNTS AS PER OUR REPORT OF EVEN DATE ATTACHED.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development of Waterproof Breathable Sportswear with desired functional properties by eco-friendly water based coating techniques

(SCHEDULE - 1)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
82192.00	Raw material/consumables	—	331819.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
163200.00	Trial & Testing/Consultancy	—			
67627.00	Travelling expenses	—			
18800.00	Overheads/Contingencies	—			
331819.00	TOTAL	0.00	331819.00	TOTAL	0.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : To Develop an effective and eco-friendly electroflocculation technique to treat wastewater effluent with high FOGs (Fats, Oils & Grease), metals and organic loads for Woollen Industry

(SCHEDULE - 2)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
161875.00	Raw material/consumables	—	161875.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
161875.00	TOTAL	0.00	161875.00	TOTAL	0.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development of Keratin Based Biocomposite Films and Electrospun Nano fibrous Mats from Wool Wastes

(SCHEDULE - 3)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
475799.00	Raw material/consumables	—	1017810.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
322104.00	Trial & Testing/Consultancy	—			
151341.00	Travelling expenses	—			
68566.00	Monitoring Review	—			
1017810.00	TOTAL	0.00	1017810.00	TOTAL	0.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : To develop a smart indigenous sleeping bag with heating property for Adventure/high altitude sports

(SCHEDULE - 4)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
545891.00	Raw material/consumables	—	590947.00	Grant-in-Aid from Ministry of Textiles, New Delhi	23894.00
45056.00	Overheads/Travelling	—			
--	Monitoring Review	23894.00			
590947.00	TOTAL	23894.00	590947.00	TOTAL	23894.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Synthesis & Application of Solar ultraviolet radiation Protective functional dyes for Textile Materials

(SCHEDULE - 5)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
207000.00	Salaries/Wages	—	883970.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
131082.00	Raw material/consumables	—			
455770.00	Other cost (Trial & Testing)	—			
48979.00	Travelling expenses	—			
41139.00	Monitoring Review	—			
883970.00	TOTAL	0.00	883970.00	TOTAL	0.00

Industry share in kind from M/s. Spectrum Dyes & Chemicals Pvt.Ltd. - Rs. 12,00,000.00

Industry share in kind from M/s. Institute of Chemical Technology - Rs. 2,20,000.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Design and Development of high performance, multifunctional, protective sportswear for various sports (SCHEDULE - 6)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
154000.00	Salaries/Wages	—	871151.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
185118.00	Raw material/consumables	—			
48178.00	Travelling expenses	—			
205400.00	Trial & Testing/consultancy	—			
175000.00	Overheads/Contingencies	—			
103455.00	Monitoring Review	—			
871151.00	TOTAL	0.00	871151.00	TOTAL	0.00

Industry share in kind from 'M/s. Raymond Limited ' - Rs. 3,80,000.00 (2017-18)

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : To Develop a Light -Sensitive Photo-Chromic Smart woollens by Sol-Gel Surface Coating Technology and printing technology

(SCHEDULE - 7)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
207000.00	Salaries/Wages	—	698610.00	Grant-in-Aid from Ministry of Textiles, New Delhi	—
138304.00	Raw material/consumables	—			
88622.00	Travelling expenses	—			
54684.00	Monitoring Review	—			
210000.00	Overheads/Contingencies	—			
698610.00	TOTAL	0.00	698610.00	TOTAL	0.00

Industry share in kind from 'M/s. Jaya Shree Textiles ' - Rs. 3,90,830.00 (2017-18)

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : To Design & develop evaporative cooling textiles

(SCHEDULE - 8)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
580572.00	Salaries/Wages	0.00	1034596.00	Grant-in-Aid from Ministry of Textiles, New Delhi	276603.00
52092.00	Raw material/consumables	225853.00			
245275.00	Overheads/Contingencies	22000.00			
156657.00	Others	28750.00			
1034596.00	TOTAL	276603.00	1034596.00	TOTAL	276603.00

Industry share in kind from 'Nex G Apparels LLP' - Rs. 6,82,400.00 (2017-18)

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development of Membrane Bioreactors as a solution for compact ,high quality effluent treatment to achieve zero-discharge for decentralized woolen and carpet sector and common facility centres

(SCHEDULE - 9)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
486256.00	Salaries/Wages	146788.00	912719.00	Grant-in-Aid from Ministry of Textiles, New Delhi	391227.00
102051.00	Raw material/consumables	5814.00			
—	Promotion/Proof of Concept	74337.00			
297922.00	Overheads/Contingencies	82988.00			
26490.00	Others	—			
—	Consultancy	81300.00			
912719.00	TOTAL	391227.00	912719.00	TOTAL	391227.00

Industry share in kind from 'M/s.Mahadev Woollen Mills' - Rs. 6,22,000.00 (2017-18)

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Enhancement of moisture management properties of polyester, polyester/cellulose blend by surface modification using cellulose micro particles (SCHEDULE - 10)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
417960.00	Salaries/Wages	0.00	1114347.00	Grant-in-Aid from Ministry of Textiles, New Delhi	359776.00
185423.00	Raw material/consumables	23340.00			
261629.00	Promotion/Proof of Concept	99318.00			
84180.00	Consultancy	196997.00			
165155.00	Overheads/Contingencies	40121.00			
1114347.00	TOTAL	359776.00	1114347.00	TOTAL	359776.00

Industry share in kind from 'Grasim Industries' - Rs. 3,53,000.00 (2017-18)

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development and application of eco friendly microencapsulated moth repellent and antimicrobial finish for pashmina product in decentralized sector

(SCHEDULE - 11)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
470783.00	Salaries/Wages	58000.00	1439999.00	Grant-in-Aid from Ministry of Textiles, New Delhi	170300.00
126852.00	Raw material/consumables	49705.00			
288805.00	Consultancy	0.00			
185025.00	Promotion/Proof of Concept	62595.00			
368534.00	Overheads/Contingencies	0.00			
1439999.00	TOTAL	170300.00	1439999.00	TOTAL	170300.00

Industry share in kind from 'M/s Shikar Handloom...' - Rs. 10,50,000.00

Industry share in kind from M/s. Tanishka Microencapsulation Pvt.Ltd.- Rs. 1,30,000.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

**WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019**

PROJECT : Development of innovative sportech products such as parachute fabric , sailing clothes, ballooning fabrics, high adventure sailing clothes, ballooning fabrics, high adventure sportswear etc. using low energy , environment friendly hot melt application for new entrepreneurs in sportech sector

(SCHEDULE - 12)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
371520.00	Salaries/Wages	36180.00	1041709.00	Grant-in-Aid from Ministry of Textiles, New Delhi	643164.00
99092.00	Raw material/consumables	503852.00			
50000.00	Consultancy	0.00			
201300.00	Promotion/Proof of Concept	47336.00			
319797.00	Overheads/Travelling	55796.00			
1041709.00	TOTAL	643164.00	1041709.00	TOTAL	643164.00

Industry share in kind from M/s. Kusumgar Corporates P.Ltd.- Rs. 3,28,250.00

Industry share in kind from M/s. Bhavi Multifab P.Ltd. - Rs. 1,35,000.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development of Novel Detergent Formulation for wool with immobilized enzymes for enhancing machine wash ability of wool fabric.

(SCHEDULE - 13)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
776979.00	Salaries/Wages	596565.00	401663.00	Grant-in-Aid from Ministry of Textiles, New Delhi	774161.00
35712.00	Raw material/consumables	22884.00			
0.00	Consultancy	28400.00	657628.00	Industry's/WRA's contribution towards project expenses	331783.00
246600.00	Overheads/Travelling	458095.00			
1059291.00	TOTAL	1105944.00	1059291.00	TOTAL	1105944.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION**(R & D PROJECT)****INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019**

PROJECT : Development of active fitness clothing like gym and yoga wear with infrared Thermal reflecting property to enhance body fitness.

(SCHEDULE - 14)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
786000.00	Salaries/Wages	603000.00	770523.00	Grant-in-Aid from Ministry of Textiles, New Delhi	756810.00
29186.00	Raw material/consumables	300128.00			
0.00	Consultancy	69750.00			
0.00	Promotion/Proof of Concept	6000.00	330224.00	Industry's/WRA's contribution towards project expenses	496467.00
285561.00	Overheads/Travelling	274399.00			
1100747.00	TOTAL	1253277.00	1100747.00	TOTAL	1253277.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Synthesis of water soluble fluorescent colorants for high visible hydrophilic textile substrates

(SCHEDULE - 15)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
789264.00	Salaries/Wages	807696.00	1905695.00	Grant-in-Aid from Ministry of Textiles, New Delhi	1241004.00
114742.00	Raw material/consumables	167675.00			
	Promotion/Proof of Concept	45550.00			
234889.00	Overheads/Travelling	220083.00			
766800.00	Paid to ICT, Collaborative Partner	0.00			
1905695.00	TOTAL	1241004.00	1905695.00	TOTAL	1241004.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION**(R & D PROJECT)****INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019**

PROJECT : Synthesis of optical whiteners with good photostability and improvements in the bleaching processes to produce photostable bright white and pastels shades woollen casual fashion knitwear, sports and leisurewear products and carpets using Indian and other cheaper imported qualities of wool

(SCHEDULE - 16)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
587340.00	Salaries/Wages	802842.00	748452.00	Grant-in-Aid from Ministry of Textiles, New Delhi	717929.00
31676.00	Raw material/consumables	212971.00			
130201.00	Consultancy	0.00	320765.00	Industry's/WRA's contribution towards project expenses	307684.00
0.00	Promotion/Proof of Concept	9800.00			
320000.00	Overheads/Travelling	0.00			
1069217.00	TOTAL	1025613.00	1069217.00	TOTAL	1025613.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Development of sports gears (inner wears, socks, bands, leggings etc.) with controlled release microencapsulated natural essential, herbal oils for therapeutic benefits including protection of health, skincare and recovery of injuries and hygiene of sportsperson

(SCHEDULE - 17)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
789264.00	Salaries/Wages	605772.00	792328.00	Grant-in-Aid from Ministry of Textiles, New Delhi	784199.00
94999.00	Raw material/consumables	151944.00	339569.00	Industry's/WRA's contribution towards project expenses	374013.00
20000.00	Promotion/Proof of Concept	258272.00			
227634.00	Overheads/Travelling	142224.00			
1131897.00	TOTAL	1158212.00	1131897.00	TOTAL	1158212.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION**(R & D PROJECT)****INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019**

PROJECT : Use of Indian wool in development of technical textiles like nonwoven mesh for moisture management, filtration fabrics, wipe, insulating mats, roof-liners, sport shoe liner etc.

(SCHEDULE - 18)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
144506.00	Raw material/consumables	294068.00	288495.00	Grant-in-Aid received from Central Wool Development Board, Jodhpur	317047.00
54194.00	Travelling Exp.	37209.00			
89795.00	Overheads/Contingencies	—		Industry's/WRA's contribution towards project expenses	14230.00
288495.00	TOTAL	331277.00	288495.00	TOTAL	331277.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Design & Development of Indian Wool based smart textiles having thermoregulatory properties using phase change material (PCM)

(SCHEDULE - 19)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
66147.00	Raw material/consumables	0.00	223383.00	Grant-in-Aid received from Central Wool Development Board, Jodhpur	355602.00
81036.00	Travelling expenses	37970.00			
76200.00	Overheads/Contingencies	20000.00			
—	Other costs (Trial/Testing)	299029.00		Industry's/WRA's contribution towards project expenses	1397.00
223383.00	TOTAL	356999.00	223383.00	TOTAL	356999.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
(R & D PROJECT)
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2019

PROJECT : Design and Development of sportwear and sports accessories having Thermo Physiological comfort properties in order to enhance the performance assessed by using a Sweating Thermal Manikin system under different environmental conditions

(SCHEDULE - 20)

PREVIOUS YEAR (Rs.)	EXPENDITURE	CURRENT YR. (Rs.)	PREVIOUS YEAR (Rs.)	INCOME (Rs.)	CURRENT YR. (Rs.)
—	Salaries/Wages	795408.00	—	Grant-in-Aid from Ministry of Textiles, New Delhi	676276.00
—	Promotion/Proof of Concept	14100.00			
—	Consultancy	16600.00			
—	Overheads/Travelling	140000.00		Industry's/WRA's contribution towards project expenses	289832.00
0.00	TOTAL	966108.00	0.00	TOTAL	966108.00

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
 CHARTERED ACCOUNTANTS
 FIRM REG.NO. 113012 W/W100296

Sd/-
 VAIBHAV VAIDYA
 PARTNER
 MEM. NO. 157754

Sd/-
 R.V. BHANDARKAR
 SR. ACCTS. OFFICER

Sd/-
 ANIL KUMAR SHARMA
 DIRECTOR

Sd/-
 S.L. POKHARNA
 G.C. MEMBER

Sd/-
 H. K. CHATTERJEE
 PRESIDENT

PLACE : MUMBAI
 DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION
PROJECT A/C - COE-SPORTECH

(SCHEDULE - 21)

PREVIOUS YEAR (2017-18) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)	PREVIOUS YEAR (2017-18) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)
22,29,364	Opening Balance	42,428	224,92,291	Machinery/Lab Instruments	152,98,029
30,05,834	Interest on FD	14,91,936	3,59,792	Purchase of Standards	0.00
1,80,000	EMD Deposits	0.00	3,03,089	TDS receivable	1,48,211
6,000	Misc.Receipts	600	15,78,199	Consultancy Charges	57,400
18,92,000	Short Term FDs (LC Margin)	0.00	-	EMD Refund	4,20,000
329,35,412	Fixed Deposits	111,58,314	188,17,146	Sundry Debtors	-
9,60,923	Accrued Interest	54,541	10,329	Bank Charges	8,243
29,53,513	Sundry Creditors	50,64,524	5,43,273	Refund of Grant in Aid	
-	TDS receivable 14-15 (RECD)	7,52,006	-	Sundry Creditors	25,98,251
			16,500	TXC (Short Film A/C.)	-
			42,428	Bank Balance	34,215
441,63,046	TOTAL	185,64,348	441,63,046	TOTAL	185,64,348

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

**WOOL RESEARCH ASSOCIATION
PROJECT A/C - LAB UPGRADATION**

(SCHEDULE - 22)

PREVIOUS YEAR (2017-18) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)	PREVIOUS YEAR (2017-18) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)
25,67,858	Opening Balance	8,76,123	142,07,591	Machinery/Lab Instruments	-
130,00,000	Fixed Deposit	70,00,000	32,765	Interest Accrued	-
6,68,842	Interest on FD	-	54,639	TDS Receivable	3,865
6,57,668	Sundry Creditors	-	3,31,476	EMD Deposits	-
-	TDS receivable 14-15 (RECD)	1,22,263	451	Bank Charges	248
-	Sundry Debtors	4,84,147	1,89,739	Consultancy Charges and Others	-
			12,01,584	Sundry Debtors	-
			-	Sundry Creditors	12,64,237
			-	Interest on FD including Interest refunded	31,70,183
			-	Refund of unspent Grant - in aid	40,44,000
			8,76,123	Bank Balance	-
168,94,368	TOTAL	84,82,533	168,94,368	TOTAL	84,82,533

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION

PROJECT A/C. - Design and Development of Light Weight and high Impact resistance sports goods

(SCHEDULE - 23)

PREVIOUS YEAR (2017-18) (Rs.)	RECEIPTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)	PREVIOUS YEAR (2017-18) (Rs.)	PAYMENTS (Rs.)	CUREENT YEAR (2018-19) (Rs.)
—	Grant from MOT	7,76,728	—	Salry exps.	3,10,885
—	Industry/Institutes Share	3,32,884	—	Consultancy Charges	4,750
—	Sundry Creditors	403	—	Consumables	1,276
			—	Bank Charges	236
			--	Bank Balance	7,92,868
—	TOTAL	11,10,015	—	TOTAL	11,10,015

Note : See schedule 'L' of Notes on Accounts as per our report of even date attached.

for J.P.J. ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
R.V. BHANDARKAR
SR. ACCTS. OFFICER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
H. K. CHATTERJEE
PRESIDENT

PLACE : MUMBAI
DATE : 12/09/2019

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "A"**

AS ON 31/03/2018 Rs.	CAPITAL FUND	AS ON 31/03/2019 Rs.
6,38,85,562	Balance as per last Balance sheet.	5,10,82,986
6,38,85,562		5,10,82,986
8,584,726	Add : Project Assets taken over during the year	11,894,336
7,24,70,288		6,29,77,322
-		-
2,13,87,302	Less: Old obsolete instreumnts disposed off during the year	-
5,10,82,986		6,29,77,322
11,56,400	a) EARMARKED CAPITAL FUND : [Being donation received from members for investment in M/s. Gujarat Sheep & Wool Development Corporation Ltd., in terms of resolution passed in 23rd G.C. meeting held on 26th August. ' 1971.]	11,56,400
5,22,39,386	TOTAL	6,41,33,722

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "B"****RESERVES**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
	<u>I. DEPRECIATION RESERVE A/C.</u>	
1,04,51,619	a] Depreciation upto last year	1,10,44,314
5,92,695	b] Depreciation for the year	5,14,026
1,10,44,314		1,15,58,340
	<u>II. RESEARCH AND DEVELOPMENT AND REPLACEMENT / UPGRADATION RESERVE</u>	
1,10,00,508	Balance as per last balance sheet.	1,10,00,508
—	Add : Addition during the year.	0
1,10,00,508		1,10,00,508
	<u>III. EDUCATION FUND.</u>	
3,16,460	Balance as per last balance sheet.	3,29,045
12,585	Add : Interest received during the year	13,185
3,29,045		3,42,230
	<u>IV. CORPUS FUND</u>	
4,53,22,176	Balance as per last balance sheet.	4,47,29,481
-	Add : Addition during the year.	69,18,314
4,53,22,176		5,16,47,795
5,92,695	Less : Excess of expenditure over income transferred.	5,14,026
4,47,29,481		5,11,33,769
6,71,03,348	TOTAL (I+II+III+IV)	7,40,34,847

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "C"****OUTSTANDING LIABILITIES**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
1,87,982	For the year 2010-2011	-
50,200	For the year 2011-2012	-
25,322	For the year 2012-2013	-
12,440	For the year 2013-2014	-
11,633	For the year 2014-2015	-
3,17,303	For the year 2015-2016	-
11,500	For the year 2016-2017	-
5,63,046	For the year 2017-2018	59,47,886
-	For the year 2018-2019	6,94,382
84,220	Security Deposit (EMD)	25,000
41,64,352	Gratuity provision.	44,68,001
28,77,226	Leave salary provision.	33,19,809
36,91,424	Sundry liabilities (WRA)	26,14,110
2,01,33,915	COE - Sportech	1,50,49,391
13,42,551	Amount Refundable to MOT	13,42,551
69,03,669	Expenditure to be incurred for Upgradation of Machinery and comensation to Manpower etc..	0
	<u>PROJECT LIABILITIES :</u>	
2,00,898	To Fabricate Woollen Carding	0
2,525	Eri Silk	0
2,54,522	Pashimina Project	0
1,32,675	Upgradation of Indian Wool (12-13)	0
12,274	Dev.of Internet Based Colour Matching (12-13)	0
3,30,000	Dev.of pollution free...	0
36,61,731	Lab Up-Gradation A\c (For L.C.margin money)	31,77,585
4,49,71,408	TOTAL	3,66,38,715

WOOL RESEARCH ASSOCIATION, THANE.
SCHEDULE "D"
ASSETS OF PROJECT (MINISTRY OF TEXTILES)

NAME OF THE PROJECT	PARTICULARS	AS ON 31/03/2018 Rs.	ADDITION DURING THE YEAR Rs.	DEDUCTION DURING THE YEAR Rs.	TAKEN OVER DURING THE YEAR Rs.	ASSETS AS ON 31/03/2019 Rs.
SPENT GRANT						
1) UNDP-Pasmina Project	Machinery	53,17,564	-	-	0	53,17,564
2) To Synthesise wool dyes.... (WRA's contribution Rs. 15,32,694/-)	Lab equipments	24,23,882	-	-	24,23,882	0
3) Dev.of Internet based...	Lab equipments	37,19,940	-	-	37,19,940	0
4) Surface Topographical...	Lab equipments	4,04,438	-	-	4,04,438	0
5) To Dev.cost effective ETP	Lab equipments/Machinery	6,04,685	-	-	6,04,685	0
6) Effluent treatment system for Power generation	Machinery	1,50,849	-	-	1,50,849	0
7) Upgradation of Indian wool	Lab equipments/Machinery	12,26,307	-	-	12,26,307	0
8) Dev.of Thermal Responsive HighAltitude (CWDB)	Machinery	2,12,653	-	-	2,12,653	0
9) Negative ion finishing for woollen carpets...	Lab equipments/Machinery	12,17,367	-	-	12,17,367	0
10) Dev.of pollutin free and eco-friendly dry scouring.	Lab equipments/Machinery	6,49,624	-	-	6,49,624	0
11) Dev.of Multifunctional finish with anti bacterial..	Lab equipments	10,63,034	-	-	10,63,034	0
12) To impart superwash property to Indian wool..	Lab equipments	2,21,557	-	-	2,21,557	0
13) COE - Sportech	Lab equipments/Machinery	19,74,86,361	1,52,98,029	-	-	21,27,84,390
14) COE - Sportech	Books& Journals	59,50,058	-	-	-	59,50,058
15) COE - Sportech	IT -Infrastrure/Web Site	11,99,237	-	-	-	11,99,237
16) Dev. Effective & eco-friendly electroflocculation ..	Lab equipments/Machinery	8,73,285	-	-	-	8,73,285
17) Dev.Waterproof Breathable sports wear..	Lab equipments	4,82,550	-	-	-	4,82,550
18) DST Project Fibre Length Measurent Instrument	(Including adv.paid)	4,33,968	-	-	-	4,33,968
19) DST Project Instrumentto Determine...	(Including adv.paid)	7,65,763	-	-	-	7,65,763
20) Lab Upgdadation- Equipments	Lab equipments	3,59,36,858	-	-	-	3,59,36,858
21) Synthesis & Application of Solar Ultraviolet	Lab equipments	10,03,268	-	-	-	10,03,268
22) Innovation of Bulky yarns of woolenised Jute....	Machinery	7,05,050	-	-	-	7,05,050
23) To design & develop evaporative cooling textiles	Lab equipments	4,02,713	-	-	-	4,02,713
24) Dev.and appl.of eco friendly microencapsulated..	Lab equipments	5,06,990	-	-	-	5,06,990
25) Dev.of high performance,smart sportswear...	Lab equipments	4,18,653	-	-	-	4,18,653
26) Enhancement of Moisture management properties ..	Lab equipments	2,02,960	-	-	-	2,02,960
27) To develop light sensitive Photo-Chromic Smart	Lab equipments	57,605	-	-	-	57,605
28) Design & Dev.of Indian Wool based Smart Textiles...	Lab equipments	20,66,147	-	-	-	20,66,147
29) Design & Dev.of Indian Wool based Tech.Textiles.	Lab equipments	9,22,630	-	-	-	9,22,630
30) Dev. of innovative sportech products...(Hot melt)	Lab equipments	7,18,697	-	-	-	7,18,697
31) Development of Membrane Bioreactors	Lab equipments	5,65,921	-	-	-	5,65,921
32) Dev.of Novel Detergent Formulation for wool ...	Lab equipments	11,32,800	-	-	-	11,32,800
33) Dev.of fitness clothing like gym and Yoga wear with	Lab equipments	-	4,01,613	-	-	4,01,613
34) Development of sports gears (inner wears,socks,etc)	Lab equipments	-	88,500	-	-	88,500
35) Synthesis of water soluble fluroscnt colorants for	Lab equipments	-	3,01,810	-	-	3,01,810
TOTAL		26,90,43,414	1,60,89,952	0	1,18,94,336	27,32,39,030
NOTE : 1) Grant-in-Aid due has been shown under the head of "Current Assets." 2) Balance in grant shown in liability side is as follows :						
UNSPENT GRANT		CAPITAL	RECURRING			TOTAL (RS.)
a) Computer Aided Designing for Textiles (Interest Rs.4,154.40/-)		1,34,534	500	-	-	1,35,034
b) Woven design for khadi.(old)		-	30,000	-	-	30,000
c) Carpet weaving programme (Old)		2,102	-	-	-	2,102
d) Designing of wool (Old)		-	621	-	-	621
e) Extraction of various dyes from vegetable origins.		745	-	-	-	745
f) Tecno economic study of shoddy industry.		-	1,000	-	-	1,000
g) Study of scouring.		-	680	-	-	680
h) UNDP (Doller A/c.) (23638.05)		23,638	-	-	-	23,638
i) Sirofast (Interest Rs. 5,02,754/-)		56,424	-	-	-	56,424
j) Software for garment designing.		200	-	-	-	200
k) Development of machine tufted carpets (ICAR)		27,653	-	-	-	27,653
l) CAD knitwears.		2,00,000	-	-	-	2,00,000
m) Role of enzymes in wool processing.		5,734	-	-	-	5,734
n) To Improve aesthetic value.		158	-	-	-	158
o) UNDP angora.		3,91,631	-	-	-	3,91,631
p) Carpet weaving programme (Old)		1,06,127	-	-	-	1,06,127
q) DST Project Fibre Length Measurent Instrument		-	4,56,036	-	-	4,56,036
r) Design and Development of sportswear hving Thermo Physiological...		-	1,05,624	-	-	1,05,624
TOTAL		9,48,946	5,94,461	0	0	26,64,984
TOTAL OF SPENT AND UNSPENT.						27,47,82,437
LESS : INDUSTRIES COTRIBUTION TOWARDS CAPITAL EXPS.			-			5,02,084
			TOTAL			27,42,80,353

WOOL RESEARCH ASSOCIATION, THANE.

SCHEDULE 'E' 2018-2019

SR. NO.	PARTICULARS	RATE %	GROSS BLOCK				DEPRECIATION				NET BLOCK	
			AS ON 31.3.18	ADDITION DURING THE YEAR	DEDUC-TION DURING THE YEAR	AS ON 31.3.19	UP TO 31.3.18	DEPRECI-ATION FOR THE YEAR	ADJUST-MENT DUE TO SALE/ LOSS	TOTAL UPTO 31.3.19	AS ON 31.3.19	AS ON 31.3.18
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1)	LAND		5,83,883	—	—	5,83,883	-	-	—	-	5,83,883	5,83,883
2)	BUILDING (Old)	2.5	26,43,986	—	—	26,43,986	16,30,798	25,330	—	1656127	9,87,859	10,13,189
3)	FURNITURE AND FIXTURE	15	5,68,713	—	—	5,68,713	5,11,724	8,548	—	520273	48,441	56,989
4)	LAB EQUIPMENT	15	36,66,126	—	—	36,66,126	32,16,887	67,386	—	3284273	3,81,853	4,49,239
5)	OFFICE EQUIPMENT	15	6,32,740	—	—	6,32,740	3,77,158	38,337	—	415495	2,17,245	2,55,582
6)	AIRCOND. WDG. PLANT	15	1,77,025	—	—	1,77,025	1,76,892	20	—	176912	113	133
7)	ELECT. INSTALLATION	15	7,13,148	—	—	7,13,148	6,91,962	3,178	—	695140	18,008	21,186
8)	LAB FURNISHING	10	14,72,715	—	—	14,72,715	9,05,319	56,740	—	962058	5,10,656	5,67,396
9)	WATER COOLER	15	12,182	—	—	12,182	6,659	828	—	7,488	4,694	5,523
10)	AIR CONDITIONER	15	2,52,856	—	—	2,52,856	1,72,172	12,103	—	184274	68,582	80,684
11)	FIRE FIGHTING EQUIPMENTS	15	59,232	—	—	59,232	31,065	4,225	—	35,290	23,942	28,167
12)	WATER TANK	15	31,600	—	—	31,600	31,255	52	—	31,307	293	345
13)	MOPED (LUNA)	15	11,300	—	—	11,300	11,177	18	—	11,196	104	123
14)	BUILDING (New)	2.5	13,37,551	—	—	13,37,551	5,70,725	19,171	—	589895	7,47,656	7,66,827
15)	BUILDING (WRA'S CONTR. FOR PILOT PLANT)	2.5	7,50,000	—	—	7,50,000	3,20,021	10,749	—	330770	4,19,230	4,29,979
16)	MOTOR CAR (BUS & CAR)	15	24,82,764	—	—	24,82,764	15,96,813	1,32,893	—	1729705	7,53,059	8,85,951
17)	AIR CONDITIONING PLANT FOR COE LAB	15	14,96,477	—	—	14,96,477	7,15,307	1,17,176	—	832483	6,63,994	7,81,170
18)	CCTV INSTALLATIONS	15	193,535	—	—	193,535	78,382	17,273	—	95,655	97,880	1,15,154
	Total		1,70,85,835	0	0	1,70,85,835	1,10,44,315	5,14,026	0	1,15,58,341	55,27,494	60,41,520

Note : 1 : Rate of depreciation consistent since 1970-71.

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "E" (1)****PROJECT ASSETS TAKEN OVER ON COMPLETION OF PROJECTS**

SR. NO. (1)	NAME OF THE PRODUCTS (2)	FURNITURE (3)	LAB EQUIPMENTS (4)	AIR CONDITIONER (5)	BUILDING (6)	TOTAL (7)
1	Dying of wool	4,156	30,628	—	—	34,785
2	Blending of wool	7,074	1,36,211	—	—	1,43,285
3	Chemical finishing of carpet	6,622	87,345	—	—	93,967
4	Designing of wool	—	4,49,307	—	—	4,49,307
5	Color Research project	—	54,637	—	—	54,637
6	Carpet Weaving programme	23,997	3,438	—	—	27,435
7	Standardisation of yarn.	—	2,85,481	—	—	2,85,481
8	Computer Aided Designing (Old)	—	5,44,495	—	—	5,44,495
9	Evaluation of Wool Jute.	—	5,00,000	—	—	5,00,000
10	Techno Economic study of shoddy.	—	4,77,130	—	—	4,77,130
11	Development of cheap furnishing.	—	3,00,000	—	—	3,00,000
12	Software for garment designing.	—	9,34,800	—	—	9,34,800
13	Extraction of various dyes.	—	24,255	—	—	24,255
14	Cad for Textiles.	—	10,34,620	—	—	10,34,620
15	To set of norms (Siro Fast)	—	9,93,851	—	—	9,93,851
16	Pilot Plant.	—	0	—	7,50,000	7,50,000
17	Modification of reactive dyeing.	—	2,25,134	—	—	2,25,134
18	Development of Eco-friendly.	—	1,76,956	—	—	1,76,956
19	Eco-Testing Lab.	1,27,829	31,42,640	—	—	32,70,468
20	Angora Rabbit Wool	—	2,05,060	—	—	2,05,060
21	To Investigate the factors.	47,310	1,03,191	—	—	1,50,501
22	To Make the Natural dyeing.	4,400	1,70,601	—	—	1,75,001
23	To Develop the Software.	49,210	1,36,288	—	—	1,85,498
24	Development of Design for carpet.	8,743	4,56,774	—	—	4,65,517
25	Value Added.	11,257	65,112	—	—	76,369
26	Computer Aided Emproidary.	31,131	5,94,775	—	—	6,25,906
27	Development of Instrumental.	1,16,760	12,83,985	—	—	14,00,745
28	To Develop Software Prediction.	—	1,75,350	—	—	1,75,350
29	Role of Enzymes.	—	45,552	—	—	45,552
30	Study of Technical Aspects.	—	25,097	—	—	25,097
31	To Develop Different Type of Knitwear	—	66,062	—	—	66,062
32	To Improve Aesthetics Value	—	1,99,842	—	—	1,99,842
33	Textiles committee	—	64,68,437	—	—	64,68,437
34	To Dev. Innovation Yarn	—	5,50,000	—	—	5,50,000
35	To Dev. Cotton Core	—	2,75,000	—	—	2,75,000
36	Enrichment of Painting	—	2,00,000	—	—	2,00,000
37	Dyeing of Wool	—	50,000	—	—	50,000
38	Information Technology	—	2,89,550	—	—	2,89,550
39	CAD Jacquard	—	2,70,650	—	—	2,70,650
40	Design and Fabricate	—	14,22,816	—	—	14,22,816
41	To Improve Processing	—	7,38,812	—	—	7,38,812
42	UNDP -GOI project	2,25,350	1,17,82,004	1,05,000	25,02,829	1,46,15,183
43	To Develop Itch free woollen(Plasma)....	—	12,00,717	—	—	12,00,717
44	Ultra Sound assisted...	—	7,99,191	—	—	7,99,191
45	To assesas Quality norms....	—	45,39,900	—	—	45,39,900
46	Blind dyeing..	—	10,64,885	—	—	10,64,885
47	Softening..	—	3,66,593	—	—	3,66,593
48	Preloom processing.....	—	3,46,747	—	—	3,46,747
49	Dev.of Composites....	—	2,15,543	—	—	2,15,543
50	To evolve feasible...	—	51,150	—	—	51,150
51	To Synthesise wool dyes....	—	24,23,882	—	—	24,23,882
52	Dev.of Internet based...	—	37,19,940	—	—	37,19,940
53	Surface Topographical...	—	4,04,438	—	—	4,04,438
54	To Dev.cost effective ETP	—	6,04,685	—	—	6,04,685
55	Effluent treatment system for Power generation	—	1,50,849	—	—	1,50,849
56	Upgradation of Indian wool	—	12,26,307	—	—	12,26,307
57	Dev.of Thermal Responsive HighAltitude (CWDB)	—	2,12,653	—	—	2,12,653
58	Negative ion finishing for woollen carpets...	—	12,17,367	—	—	12,17,367
59	Dev.of pollutin free and eco-friendly dry scouring.	—	6,49,624	—	—	6,49,624
60	Dev.of Multifunctional finish with anti bacterial..	—	10,63,034	—	—	10,63,034
61	To impart superwash properly to Indian wool..	—	2,21,557	—	—	2,21,557
	Total Rs.	6,63,839	5,54,54,947	1,05,000	32,52,829	5,94,76,615
	WRA Assets. Project Assets taken over upto 2018-2019. Assets of existing projects.					1,70,85,835 5,94,76,615 27,32,39,030
	TOTAL (Rs.)					34,98,01,480

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "F"**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
	<u>FIXED DEPOSITS</u>	
	<u>Corpus Fund/R & D Replacement Fund</u>	
5,08,97,414	Fixed Deposits with State Bank of India	5,47,92,926
15,00,000	Fixed Deposits with Central Bank of India	15,00,000
21,35,478	Short Term FDs' with State Bank of India	0
1,40,00,000	Fixed Deposits with Axis Bank	21,36,823
40,06,957	Interest accrued on FD (SBI)	33,96,552
13,607	Interest accrued on FD (CBI)	12,975
1,87,086	Interest accrued on FD (Axis Bank)	0
	LC margin money kept in FD with SBI	18,63,460
	<u>CASH & BANK BALANCES</u>	
24,09,046	Current Account with S.B.I. (A/c. 11100522024)	5,01,689
42,428	ESCROW A/c with S.B.I. (A/c. 32424163025)	34,215
5,337	Cash on hand	3,787
17,892	Ministry Project Accounts. C.B.I. (A/c. 1334639360)	78,615
9,50,458	Central Bank Of India (WRA Income) (A/c. 1334641891)	11,68,125
8,789	WRA Trustee's Account. C.B.I. (A/c. 1334698893)	7,963
8,76,123	Lab-Upgradation A/c. With C.B.I. (A/c. 3289881168)	0
2,85,513	Axis Bank Ltd. (Project) (A/c. 061020003285)	7,92,868
45,95,587	0 Axis Bank Ltd. (A/c. 061020003285)	10,91,326
	<u>SUNDRY DEBTORS.</u>	
18,29,792	<u>Testing Fees outstanding considered good</u>	15,20,380
	<u>OUTSTANDING SUBSCRIPTION</u>	
5,000	Considered Good for the year (2009-2010)	-
5,000	Considered Good for the year (2010-2011)	-
6,742	Considered Good for the year (2012-2013)	-
57,187	Considered Good for the year (2013-2014)	-
57,187	Considered Good for the year (2014-2015)	-
12,366	Considered Good for the year (2016-2017)	-
11,500	Considered Good for the year (2017-2018)	5,750
1,54,982	- Considered Good for the year (2018-2019)	86,536
7,93,20,903	TOTAL	6,89,93,990

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "G"****ADVANCE RECOVERABLE**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
4,25,028	Deposits with MSSED/MIDC/Excise dept.etc..	4,44,128
32,60,712	Gratuity fund with L.I.C.	35,24,648
15,000	UNDP (GOI) Deposit with M.S.E.B.	15,000
10,300	Deposit with Gas agencies (Eco-Lab)	10,300
4,15,236	Other Advances	4,25,000
0	Industry contribution for projectDesign & Dev.of Light weight...	3,33,287
2,22,742	Service tax and Krishi Kalyan cess paid in advance/ GST	2,53,777
1,60,531	Prepaid expenses	1,24,838
1,97,498	TDS Receivable (10-11)	1,97,498
5,83,424	TDS Receivable (14-15)	0
6,95,666	TDS Receivable (15-16)	6,95,666
7,29,126	TDS Receivable (16-17)	7,29,126
12,06,654	TDS Receivable (17-18)	12,06,654
-	TDS Receivable (18-19)	12,98,237
79,21,918	TOTAL	92,58,159

WOOL RESEARCH ASSOCIATION, THANE.
SCHEDULE "H"
CURRENT ASSETS (PROJECT)

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
	<u>GRANT-IN-AID DUE FOR RECURRING EXPENSES.</u>	
11,69,881	Dev.waterproof breathable sportswear....	11,69,881
12,27,674	Dev. effective & eco-friendly electroflocculation ..	12,27,674
12,38,790	Dev.of keratin based bio-composite fils and electro spun..	12,38,790
15,29,581	Dev. of smart indigenous sleeping bag with heating property..	15,53,475
13,54,516	Synthesis & Application of Solar Ultraviolet	13,54,516
19,75,150	Dev. of high performance,smart sportswear...	19,75,150
17,34,744	To develop light sensitive Photo-Chromic Smart	17,34,744
9,18,672	To design & develop evaporative cooling textiles ,,,,,,	11,95,275
2,37,142	Development of Membrane Bioreactors as a solution for compact....	6,28,369
7,48,378	Enhancement of Moisture management properties of polyester....	11,08,155
10,76,059	Development and application of eco friendly microencapsulated moth..	12,46,359
6,98,907	Dev. of innovative sportech products...(Hot melt)	13,42,071
35,894	Development of sports gears (inner wears,socks,bands,leggiings ets.)	9,08,593
3,62,795	Dev.of Novel Detergent Formulation for wool with immobilized enzymes..	11,36,956
20,077	Synthesis of optical whiteners with good photostability	7,37,999
-	Dev.of fitness clothing like gym and Yoga wear with	8,78,797
-	Synthesis of water soluble fluroscent colorants for	12,67,888
1,43,28,259	TOTAL	2,07,04,691

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "I"****STAFF SALARIES**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
1,32,26,558	Salaries & Allowances (Includes PF/FPF, ADMN. charges & EDLIS premiums)	1,42,68,187
2,232	Maharashtra Labour Welfare Fund.	1,944
43,932	Staff Medical Expenses.	44,804
2,43,148	Staff Welfare Expenses	1,79,676
35,075	Staff Leave Travel Concession.	43,060
8,37,303	Group Gratuity Scheme	6,11,295
1,43,88,248	TOTAL	1,51,48,966

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE “J”****ESTABLISHMENT CHARGES**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
2,02,617	Printing & Stationery.	2,59,082
99,458	Postage, Telegram & Telephones.	1,40,433
12,29,892	Electricity & Water Charges.	27,42,750
23,346	Advertisement & Publicity	-
3,20,531	Repairs & Maintenance	2,53,986
54,675	Rates & Taxes.	27,123
1,45,533	Insurance Exps.	1,49,709
2,25,481	Conveyance & Travelling.	9,02,371
0	Foreign Travelling.	1,26,176
7,249	Entertainment Exps.	6,977
12,732	Bank Charges.	18,604
193	Journals & Periodicals.	-
1,14,046	Subscription to the other Association.	24,575
81,209	Miscellaneous exps.	37,747
9,93,293	Security Service Charges.	10,55,438
2,30,355	Motor car exps.	3,75,015
2,73,512	Professional charges.	2,75,647
39,570	Testing charges.	33,359
57,825	Labour charges/wages to casual workers	5,45,027
961	Service Tax under Reverse Charge Mechanism	0
37	Interest on delay payments	1,625
2,830	Swach Bharat Cess under Reverse Charge Mechanism	0
2,500	Employer's contribution to MPT	2,500
41,17,845	TOTAL	69,78,145

WOOL RESEARCH ASSOCIATION, THANE.**SCHEDULE "K"****INCOME**

AS ON 31/03/2018 Rs.	PARTICULARS	AS ON 31/03/2019 Rs.
3,23,776	Members Subscription.	3,18,776
1,13,21,453	Testing Fees Income.	1,23,76,638
6,43,985	Consultancy Service charges and R & D	6,71,216
71,158	Miscellaneous receipts.	9,235
-	Liability written back	15,12,641
1,40,000	Educational & Technical Training ...	55,000
44,51,050	Interest on Fixed Deposites.	74,21,825
2,64,776	Interest credited by LIC for Gratuity fund	2,39,403
1,72,16,198	TOTAL	2,26,04,734
-	Less: Transferred to Corpus Fund	6,918,314
1,72,16,198	Transferred to Income & Expenditure A/c.towards Industry's contr.	1,56,86,420

WOOL RESEARCH ASSOCIATION

SCHEDULE 'L'

NOTE ON ACCOUNTS

1. Significant Accounting Policies

Accounts have been prepared under the historical cost convention. The significant account policies are as under:

- a. Fixed Assets: Fixed assets are stated at cost of acquisition inclusive of expenses relating to acquisition.
- b. Depreciation: Depreciation is provided on Assts acquired by the Association, out of its own funds by the WDV method at the following rates.

Building	-	2.5 %
Furniture, Fixtures & Equipments	-	15 %
Furnishing	-	10 %
- c. Investment: Investments acquired out of donation from members are valued at cost of acquisition.
- d. Inventory: Consumable items such as Laboratory chemicals and Wool Consumables, Color Software development and computer stationery and other consumables purchased during the year are treated as consumed during the year.
- e. Retirement Benefits
 - i. Provident fund contribution is funded with Regional Provident Fund Commissioner.
 - ii. Provision of Leave Salary:
Provision of leave salary is made by the Association on the basis of leave accumulated to the credit of employee at the year end.
 - iii. Liability for gratuity is provided on the basis of calculation made by the Association as per the payment of Gratuity Act, 1972 on Balance Sheet date. However, valuation has been estimated by the WRA at Rs. 44,68,001.00. The premium paid to LIC for the Group Gratuity Trust is shown as Deposits as Rs. 35,24,648.00.
- f. Foreign currency transaction: All foreign currency transaction during the year are converted at the standard rate as specified by Grant Sanctioning Authority.
- g. Grant-inAid :
 - 1) Grant-in-aid from Government authorities is accounted for on the basis of amount sanctioned.
 - 2) Grant-in-aid for recurring expenses (WRA as well as specific projects) is adjusted as and when the expenses are incurred.
 - 3) Grant-in-aid of Capital nature on WRA account is transferred to capital fund on purchase of fixed assets.

- h) a) Interest on Fixed Deposits is accounted for on accrual basis and is shown under income
- b) Subscription and testing fees are accounted for on accrual basis and consultancy service charges and other income are accounted for on receipt basis and the same is first utilized for off setting the industry's contribution to meet capital expenses as well as revenue expenses and the balance has been transferred to R & D Replacement Fund.

i) Corpus Fund :

As per Ministry of Textiles O.M. No. 20/21/98/A & MMT dated 9th September, 1998 – Minutes of the 13th Meeting of the Co-ordination Council for Textile Research Association (TRA) held on 11th August, 1998. TRAs' are authorized to retain 100 % of the earned income by building a Corpus Fund from such retained income and utilize interest from such Corpus Fund to meet their need based requirement.

j) Education Fund :

Education fund has been created out of donation received for the purpose of enhancing the educational facilities at Training Centre and improving the level of training.

- k) All expenses are accounted for on accrual basis. Allocation of various recurring expenses to the various projects is done on the basis determined by the Management.

- 2 a) In the opinion of the Governing Council, subject to these note, current assets, loan and advances, including grant receivable, have value on realization in the ordinary course of activities of the Association, not less than at which these are stated in the Balance Sheet, except subscription and testing fees of previous years which may prove irrevocable for which no provision has been made. Provision for all known liabilities has been made in the accounts and the same is not in excess of what is reasonably necessary.
- b) During the year the management has carried out physical verification of fixed assets. However there are some discrepancies found with book record and the management is in the process of reconciling the same with book record.
3. No confirmations from creditors, in respect of loan and advances have been obtained. Confirmations in respect of debtors fixed deposits placed bank are being obtained. WRA is in the process of reconciliation of Goods and Service Tax (GST) balances as per books of accounts and as per GST returns filed.
- 4 The provision of subscription receivable from ordinary and Special associate members and the details of the installed capacity of the member mills on the basis of which calculation of subscription is made is as prepared by the management and is relied upon by the auditors without verification for want of relevant records.
- 5 The mutual adjustment of grant for capital to revenue and vice versa are made and not yet confirmed by the granting authorities for relevant years.
- 6 Investment in M/s Gujarat Sheep & Wool Development Corpn. Ltd. Rs. 11,56,400/- represent the contribution from industry through WRA in sheep breeding program of M/s Gusheel. Audited Accounts of Company are still awaited. In the absence of audited accounts, the net worth, diminution in value of investment can not be ascertained.

- 7 The apportionment of staff salaries, freight charges, raw material, traveling, spares and other overheads including testing charges between the Association and various projects is made as per the advice from the respective project-in-charge/Director in this regard.
- 8 Unspent Government Grant: As per release orders for unplanned or planned Government Grant, as one of conditions for releasing the grant, the unspent grant should be returned to the Government. No specific time period is mentioned for such refund. It is observed that the association has not returned such unspent grant of various projects.
- It is explained by the Management that since the grant on various projects is due from the Government it can be adjusted provided permission from proper authorities is given.
- 9 Depreciation on fixed assets amounting to Rs.5,14,026/- for the current year (Previous year Rs.5,92,695/-) on WRA assts has been provided for and shown under depreciation reserve.
- 10 Impairment of Assets.
The carrying amount of assets, other than inventories is reviewed at each balance sheet date to assess whether there is any indication of impairment in respect of such asset or group of assts. If such indication exists, the recoverable amounts of such asset or group of assets is estimated. If such recoverable amount of asset or group of assets is less than it carrying amount, an impairment loss is reckoned by reducing the carrying amount to its recoverable amount. If there is an indication at the balance sheet date that the previously assessed impairment loss no longer exists, the recoverable amount is re-assessed and the asset is reflected at the recoverable amount subject to a maximum of depreciable historical costs.
- 11 Fixed Assets: The Association has purchased assets worth Rs. 7.92 Lacs, Rs.152.98 Lacs and Rs. 594.76 lacs as on 31.03.2019 out of the Projects funded by MOT, COE Sportech Project and other agencies respectively. These assets are being used by the Association to carry out the activities. However, no depreciation has been provided during the year as well as during the earlier years on such assets. The impact of depreciation is not quantified.
- 12 The Association has not identified the creditors having registration under Micro, Small and Medium Enterprises Act 2006 and the Small Scale Industries Act. Hence the disclosure as required is not made in the accounts.
- 13 During the year, excess expenditure incurred on project of Rs. 18,52,655/- has been shown as project cost incurred by WRA as expenditure of WRA.
14. Capital Commitments: Association has kept aside Rs.18,63,460/- for procurement of Machineries for COE Sportech (including letter of credit).
- 15 Assets Of Bikaner and Kullu purchased by WRA : As per the sanction letter received from Central Wool Research Board, Ministry of Textiles, the WRA is implementing agency for the "Upgradation and strengthening of existing Wool Testing Laboratory of CWDB at Bikaner and Kullu". Fixed assets are purchased for this project which are not recorded as "Fixed Assets" in the Books of WRA and the same is shown under amount spent for the project.
16. With effect from 1st August, 2016, the ESIC was made applicable to the whole district of Thane. Accordingly, it is now applicable to the Society with effective 1st August, 2016. The society has obtained registration under ESIC, Act. However the Society has not provided in the books of accounts the amount to be payable towards ESIC and accordingly the impact is not quantified.

17. Previous year figures are re-grouped/re-arranged wherever necessary to make them comparable with those of current years.

SIGNATURES TO SCHEDULES 'A' TO 'L'

FOR J.P.J.ASSOCIATES LLP
CHARTERED ACCOUNTANTS
FIRM REG.NO. 113012 W/W100296

For & on behalf of the
GOVERNING COUNCIL

Sd/-
VAIBHAV VAIDYA
PARTNER
MEM. NO. 157754

Sd/-
H.K. CHATTERJEE
PRESIDENT

Sd/-
S.L. POKHARNA
G.C. MEMBER

Sd/-
ANIL KUMAR SHARMA
DIRECTOR

Sd/-
R.V. BHANDARKAR
SR. ACCOUNTS OFFICER

PLACE : MUMBAI
DATE : 12/09/2019