

TESTING FACILITIES AT NITRA FOR WATER AND INDUSTRIAL EFFLUENTS

Appearance, Color, Odor, Turbidity,
pH Value, Conductivity, Total Solids
(TS), Total Dissolved Solid (TDS),
Total Suspended Solids (TSS)
with/without TS/TDS, Fixed Solids
(FS), Volatile Solids (VS)
with/without TS/FS, Settleable
Solids

Biochemical Oxygen Demand (BOD),
Chemical Oxygen Demand (COD), Oil
and Grease (O/G), Organic Matter,
Acidity (Total), Alkalinity
(Phenolphthalein), Alkalinity
(Total M.O.), Ammonical Nitrogen,
Bicarbonates, Boron, Carbonates,
Chlorides, Chlorine Residual,
Dissolved Oxygen, Fluoride,
Hardness [Total (TH)/Ca/Mg/
Temporary/Permanent]
Nitrate Nitrogen, Phosphate, Silica,
Sulfate, Sulfide, Sulfite, Iron, Total
(T.Fe), Chromium (VI)

Heavy metals: Cd, Co, Cu, Cr, Pb, Hg, Ni, Zn

Other Metals: Na, K, Mn, Fe, MPN Coliform per 100 ml



Northern India Textile Research Association

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

Sector-23, Raj Nagar, Ghaziabad-201 002 (U.P.)

Phone Numbers: 0120 2807390-95, 2783095/586/592/638, Fax : 0120-2783596

E-mail : mail@nitratextile.org Website : www.nitratextile.org

NITRA NEWS

...with industry always

NITRA News (April-June 2023)

Issue: April - June 2023

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Editorial Structure

Editor in - chief:

Dr. Arindam Basu

Executive Editor:

R.K. Gaur

Partha Basu

FROM DIRECTOR GENERAL'S DESK



Dear Patrons,

Friends, as usual this quarter has also been filled with various activities both for NITRA and its academic wing NITRA Technical Campus. During the reported period a four member team of NITRA scientists including the Director General and the Director attended ITMA 2023, during 8-14 June 2023, at Fiera Milano Rho Exhibition Centre, Milan, Italy with a view to get more acquainted with the latest international trends of research and developments in the field of textile and apparel industry. The objectives of the visit was to identify the emerging areas of the T&C industry in the global perspective, utilizing those new ideas and trendy areas in conducting improved research back home at NITRA, and thereby serving and satisfying its clients in a more inclusive manner.

During this quarter, NITRA conducted a 5-day training program on "Handling Effluent Treatment Plants and Analysis of Industrial Wastewater for Textile and Apparel Industry" in the month of April 2023. Senior personnel from industry attended and appreciated the program a lot. The program was full of case studies, practice exercises and practical workouts in NITRA labs.

NITRA and its academic wing NITRA Technical Campus celebrated International Yoga Day at its campus in Ghaziabad. Staff members, faculty members and students have actively taken part in this yoga-session in large numbers and practiced yoga as per the instructions of the experts. Similarly, the World Environment Day is also observed in the month of June. The management, faculty and students of the institute planted saplings inside NTC Campus to mark the occasion. A special technical session on how to reduce environment pollution was also organized for the students.

NITRA Technical Campus organized a guest lecture on Latest Developments in Yarn Testing Equipments during this period. The session was conducted by M/s Uster Technologies (I) Pvt. Ltd, the world's leading textile testing instrument manufacturer.

As I move to NITRA's academic wing NITRA Technical Campus, I find it very delightful to state that ADIEU - 2023, the annual farewell party of NITRA Technical Campus (NTC) for the class of 2019-23 was also held in this quarter. The event was celebrated with great fun and enthusiasm where the students of 3rd and 4th year participated in large numbers.

While I conclude, I do hope that you will be enjoying reading NITRA News as usual.

Regards,

Dr. Arindam Basu

Director General

Northern India Textile Research Association

(Linked to Ministry of Textiles, Government of India)

Sector - 23, Raj Nagar, Ghaziabad - 201 002 (India)



R&D SPECTRUM

Presently, NITRA is working on nine Government sponsored projects.

Government Sponsored Projects - On-going:

- ❑ Development of molten metal splash resistant unique jute blend work-wear for steel industry workers (Sponsored by NJB, GoI)
- ❑ Development of Jute composite for automotive acoustic insulation and other uses (Sponsored by NJB, GoI)
- ❑ Socio-economic development of SC/ST by providing training, technology and market to convert local resources to industrial products (Sponsored by DST, GoI)
- ❑ Development of Specialized Firefighting Suit (Sponsored by NTTM, GoI)
- ❑ Development of flame retardant Nylon 66 yarn/fibre indigenously (Sponsored by NTTM, GoI)
- ❑ Development of Crop Cover, mulch, soil protection fabrics and other products using Sunnhemp and Banana Fibre (Sponsored by NTTM, GoI)
- ❑ Development of 3D High Performance Knitted Sports Textiles with Thermo-Physiological Comfort and Impact Protective Properties (Sponsored by NTTM, GoI)
- ❑ Cellulose based indigenous high Clo value and low density surface modified natural fibre for developing thermal layers of extreme cold weather clothing (Sponsored by NTTM, GoI)
- ❑ Development of Ceramic & UHMWPE textile based hybrid polymer composite armor jointly with MNIT, Jaipur, (Sponsoring Agency: NTTM, MoT, Govt. of India)

RESEARCH PAPER PUBLISHED/PRESENTED

S. No.	Title	Author(s)	Publication/Place	Date
1	A Review on Flame Retardant Jute-Based Protective Clothing	M.S. Parmar and Palak Bansal	JTA	May – June 2023

CONSULTANCY CORNER

- ❖ **Inspection:** Water bottle (1 unit), Uniform Cloth (1 unit), Riot Control Helmet (1 unit), Cloth Disruptive (1 unit), Jersey Woolen (3 units), Coat Combat (2 units), T Shirt (1 unit), Shirting Angola Cloth (3 units), Blanket (3 units), Terry Towel (1 unit), Light Weight Ground Sheet (1 unit), Cap Balaclava (1 unit) and Kapok Mattress (1 unit).
- ❖ Energy Audit (1 unit)
- ❖ Power Quality Analysis (1unit)
- ❖ Setting up ZLD plant (1unit)
- ❖ Manpower Study in Spinning (1 unit)

Placement Activities (B. Tech) at NITRA Technical Campus

S. No.	Recruiting Company	Branch	Student's Name
1.	Matrix Clothing, Gurgaon	TT	Neha Choudhary, Shikha Gupta and Ayush Dinodia
2.	Khosla Profile, Mumbai	TT	Anshul Sharma, Anil Kumar Yadav, Varsha Singh and Prachi Tyagi
3.	Textile Sector Skill Council	TT	Shivam Tiwari and Rishabh Dev Singh
4.	Silaris Informations Pvt. Ltd.	CSE	Varnika Tyagi

Recent Technology Transfer by NITRA

- ❑ 'Technology to process raw banana fibre is transferred to Gencrest Bio Products Private limited, Mumbai.
- ❑ 'Flash resistance hood for Indian Navy'- Technology transferred to M/s Aero Garment.
- ❑ 'Improved version of body protector for riots control'- Technology transferred to M/s. G. M. Trading and Applied Systems.
- ❑ 'Coat combat disruptive'- Technology transferred to Kusumgar Corporates Pvt. Ltd. and Radnik Exports.
- ❑ 'Reusable sanitary pads and diapers'- Technology transferred to Kaytent Industries.

NITRA Developments Already Commercialized Through Technology Transfer

- ❑ Technology of "Synthetic blood penetration tester" to Asian Test Equipments, Ghaziabad
- ❑ Technology of "Development of improved stab and impact resistant material for anti riots body protector" to Applied Systems Mumbai.
- ❑ Technology of "Work wear for Cement Porters" to M/s. Arvind Ltd., Ahmedabad
- ❑ Technology of developing "Multi Layered Flame & Thermal Resistance Fabric for Fire Fighter Clothing" to Arvind Ltd. and Aeronav Industrial Safety Appliances.
- ❑ Technology of "NITRA Electronic Drape meter" to Dinu Technologies, Coimbatore
- ❑ Technology of "NITRA's Fabric Smoothness Tester" to Multiflo Instruments Pvt. Ltd., Navi Mumbai.
- ❑ Technology to produce "Seamless low cost jute carry bags" to G. D. Industries, Kolkata
- ❑ Study material for "Fabric Defect Analysis" to Textile Sector Skill Council, New Delhi

New Books Added to NITRA Library during April-June 2023

1. Shear Thickening Fluid: Theory & application, Ed. By Salim Gurgun. (2 copies)
2. Advances in Healthcare and Protective Textiles, Ed. By Shahid -UI-Islam et.al. (2 copies)



United Nations General Assembly has declared 21st of June as International Yoga Day. It is also a matter of great pride that Yoga was originated in India in ancient time when people were used of meditation to transform their body and mind. In order to mark this day, NITRA and its academic wing NITRA Technical Campus observed International Yoga Day at its campus in Ghaziabad. Sh. Krishan Kumar Arora from Bharatiya Yog Vigyan Sansthan, Ghaziabad delivered a lecture on 'Importance of Yog in Routine Life' during the occasion. His team of experts gave live demonstrations of various Mudra, Asanaa and Pranayama. Staff members of NITRA and students of NITRA Technical Campus have actively taken part in this yoga-session in large numbers and practiced yoga as per the instructions of the experts. Dr. Arindam Basu, Director General, NITRA expressed gratitude to Bharatiya Yog Vigyan Sansthan for visiting NITRA. The program ended with *santipaaath*.

NITRA Technical Campus Celebrates World Environment Day



NITRA Technical Campus, the academic wing of NITRA, celebrated World Environment Day on 5th June, 2023. Dr. Arindam Basu, Director General, Dr. M. S. Parmar, Director, Mr. Vivek Agarwal, Dy. Director and Dean, Dr. B. K. Sharma, HOD (CSE/AI&ML), faculty members and students of NITRA Technical Campus were present on the occasion. This day is observed every year to create awareness among the students of NTC about the need of maintaining a clean and green environment around us. The management, faculty and students of the institute planted saplings in the NTC Campus to mark the occasion. A special technical session on how to reduce environment pollution was also organized for the students.

HRD FOCUS

Training Program/Workshop/Seminar Conducted by NITRA staff

S. No.	Topic of the program	Duration	No. of participants
1	Training on free formaldehyde on printed jute fabric as per IS 14184-1 for personnel of Birla Jute	June 20-21, 2023	2
2	Handling Effluent Treatment Plants and Analysis of Industrial Wastewater for Textile and Apparel Industry	April 24-28, 2023	5
3	Microencapsulation for Ph.D students of Allahabad University	April 24-28, 2023	5
4	Testing of Fabrics and Garments for personnel of M/s. SABS EXPORTS NOIDA, (U.P.)	April 11-12, 2023	4

Training Program/Workshop/Seminar Attended by NITRA staff

- ❖ Sh. Sanjeev Shukla attended Rieter Institute's Training programme during 12-06-2023 to 14-06-2023 at Rieter India, Pune Wing Plant, Pune (Maharashtra). The program was organized by M/s Rieter India, Pune

TESTING ZONE

During the period, total 1599 samples were tested in all the labs as par following table:

S. No.	Lab Name	No. of samples tested
1	Physical Quality Evaluation Lab	635
2	Chemical Quality Evaluation Lab	765
3	Heat & Flame/Microbiology Lab	
4	Polymer & Technical Textiles Lab	150
5	Eco Lab	49
6	Environment Lab	

Total No of Fabric Defect Analysis under taken during the period: 2

GLIMPSES

Senior Scientists from NITRA Visit ITMA Fair at Milan, Italy



Dr. Arindam Basu, Director General, Dr. M. S. Parmar, Director, Dr. Neha Kapil and Mr. Kushagra Prakash, both Principal Scientific Officer attended ITMA 2023, during 8-14 June 2023, at Fiera Milano Rho Exhibition Centre, Milan, Italy with a view to get more acquainted with the latest international trends of research and developments in the field of textile and apparel industry. The objectives of the visit was to identify the emerging areas of the T&C industry in the global perspective, utilizing those new ideas and trendy areas in conducting improved research back home at NITRA, and thereby serving and satisfying its clients in a more inclusive manner.

Accordingly, the team of NITRA scientists visited the various exhibit sectors, took part in the seminars/symposiums at ITMA and had interacted with international textile industry technocrats to draw a roadmap for NITRA's future R&D and consultancy areas. The major theme was sustainability, circularity and application of Artificial Intelligence.

Program on Handling Effluent Treatment Plants and Analysis of Industrial Wastewater for Textile and Apparel Industry



NITRA conducted 5 days training program on "Handling Effluent Treatment Plants and Analysis of Industrial Wastewater for Textile and Apparel Industry" from April 24 to 28, 2023. Senior personnel from industry attended the program and appreciated a lot. Program was full of case studies, practice exercises and practicals in NITRA labs. Dr. Arindam Basu, Director General NITRA, while addressing, emphasized that such topics are very relevant in today's contexts when whole world is concerned about reduction in pollution, effluent treatment and cleaning of rivers.

Uster Technologies Conducts Lecture on Latest Developments in Yarn Testing Equipment



NITRA Technical Campus organized a guest lecture on Latest Developments in Yarn Testing Equipments on 28th April 2023. The session was conducted by M/s Uster Technologies (I) Pvt. Ltd, the world's leading textile testing instrument manufacturer. Dr.

Arindam Basu, DG, NITRA, highlighted the need for testing of textile materials and how this helps the textile mills in taking right decisions.

The sessions were conducted by Mr. P. Sivasamy, Sr. Manager-regional service and TT and Mr. Sandeep A. Sen, Manager- product application. The speakers covered wide range of instruments namely, Uster Tester-6, Uster Classmat-5, Uster Tensorapid-5 and Uster Tensojet-5. Both the speakers explained in detail various quality parameters that can be tested with these instruments. They also discussed about various reports that can be generated and how those reports can be useful to the textile mills in their process and quality improvement. Sessions were highly interactive in nature and students actively participating in the discussions.

ADIEU - The Farewell Party 2023

ADIEU - 2023, the annual farewell party of NITRA Technical Campus (NTC) for the class of 2019-23 was held on 10th June, 2023 at NITRA, Ghaziabad. The event was celebrated with great fun and enthusiasm



where the students of 3rd and 4th year participated in large numbers. The farewell party opened with the 3rd year students presenting solo & group song, solo & group dance, poetry recitation, and a series of fun games. The program also included a colorful 'Ramp Walk' and some other rounds of various performances by the aspirants of Mr. and Ms. Evening title amongst the passing out students of 4th year. Sh.Vivek Agarwal, Dy. Director NITRA & Dean, Textiles Technology and Dr. B.K.Sharma, Asst. Director NITRA & HoD, Computer Sciences, distributed prizes along with other faculty members during the occasion.



NITRA Observes International Yoga Day

