



**October-  
December  
2023**

## **NATIONAL SUGAR INSTITUTE KANPUR – 208017 (U.P.) INDIA**

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*The institute remained vibrant during the period due to multiple activities including hosting the “International Conference & Sugar Expo”. The two day’s event witnessed participation from Australia, England, Iran, China, Indonesia, Fiji, Sri Lanka, Thailand and many other countries. As we talk about attaining carbon neutrality by 2070 and role of green hydrogen, demonstration of a pilot plant producing green hydrogen via methane pyrolysis route was also made.*

*With thrust on prime activities of the institute, teaching, research and consultancy continued, institute efforts for making it an institute of global presence continued. Institute while signed a MoU with ICIDCA, Cuba, training programme for the technical personnel from PT PG Rajawali I sugar group of Indonesia also commenced. Institute is all set to sign another MoU with Fiji Sugar Corporation.*

*On the industry front with the change in the policy with respect to diversion of intermediate feed stocks for producing ethanol and other alcohols, institute got actively associated with industry to render technical support for making required changes in the system. As I said earlier, I reiterate, the industry has to look for alternate feed stocks, particularly, non-food feed stocks to achieve ethanol blending targets in future.*

**Narendra Mohan  
Director**

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## ❖ FOUNDATION DAY ORGANIZED:

88<sup>th</sup> Foundation Day of the National Sugar Institute, Kanpur celebrated on 4<sup>th</sup> October 2023. Alumni of the institute who turned "**Job Creators**" and also "**Progressive Sugarcane Farmers**" were felicitated by Sadhvi Niranjan Jyoti, Hon'ble Minister of State, Ministry of Consumer Affairs, Food & Public Distribution and Rural Development.

In her address, she lauded the efforts made by the institute in growth and development of the Indian Sugar Industry. Hon'ble Minister also released the new Logo of NSI, Kanpur during Foundation Day celebration.



## ❖ INTERNATIONAL CONFERENCE & EXPO:

International Conference & Sugar Expo on the topic "**Sugar Industry- Modernization & Diversification for Sustainability**" jointly organized by National Sugar Institute and UP Sugar Mills Association commenced on 11<sup>th</sup> – 12<sup>th</sup> October 2023. The conference and expo was inaugurated by Shri Sanjeev Chopra, IAS, Secretary (Food & Public Distribution), Government of India. The conference was attended by large no. of delegates including those from overseas countries viz. Australia, England, China, Indonesia, Fiji, Iran, Sri Lanka, Thailand and Uganda etc.



In the inaugural session, 10 distinguished alumni were conferred "**Sharkarshri**", while "**Excellence**



**Award”** were given to 06 eminent personalities who have contributed immensely in growth and development of Indian Sugar Industry. 12 sugar companies were also felicitated for their exemplary contribution in boosting ethanol production, productivity enhancement and production of specialty sugar & other value added products.

### ❖ EDUCATIONAL TOUR ORGANIZED FOR STUDENTS:

National Sugar Institute, Kanpur organized educational tours for the students of Post Graduate Diploma Course of Associateship of National Sugar Institute in Sugar Engineering (ANSI-SE), Post Graduate Diploma Course in Industrial Fermentation and Alcohol Technology (DIFAT) and Post Graduate Diploma Course in Sugarcane Productivity & Maturity Management (DSPMM), to sugar factories, distilleries & related organizations of the different areas to learn about sugarcane management, process techniques for producing different sugar qualities, ethanol



manufacturing process, raw & refined sugar manufacturing process, engineering techniques, etc. during the month.

### ❖ EXPERT LECTURE:

National Sugar Institute, Kanpur organized an expert lecture by Prof. Ikuo Kawauchi, Strategy Advisor for Educational Institutions from Japan on 1<sup>st</sup> December 2023. He addressed the staff and students of institute on the topic **“The global business development and the role of Indian youth from the view point of Japanese”**.



### ❖ BOOK RELEASED:

मिलों को “दुर्घटना रहित, दक्षता सहित” चलाने के लिए “चीनी मिलों के कुशल संचालन” पर राष्ट्रीय

शर्करा संस्थान, कानपुर द्वारा हिंदी में तैयार की गयी मार्गदर्शिका, संस्थान के निदेशक श्री नरेंद्र मोहन द्वारा एक समारोह में जारी की गयी ।



#### ❖ WORKSHOP ON GREEN HYDROGEN GAS:

A workshop on **“Production of Green Hydrogen from Sugar Industry- Opportunities and Challenges”** organized on 6<sup>th</sup> December 2023 at National Sugar Institute, Kanpur which was graced by Managing Director, Maharashtra State Cooperative Sugar Federation as Chief Guest. Demonstration of a pilot plant based on production of green hydrogen from compressed bio-gas through methane pyrolysis was also made at the Experimental Sugar Factory of the institute.



On this occasion, sugar units making commendable contribution in production of clean, green and renewable energy were conferred **“Green Initiative Awards”**.

#### ❖ TRAINING PROGRAMME FOR INDONESIA:

A specially designed training programme of six week’s duration organized from 16<sup>th</sup> December 2023 for three senior technical officers of PT PG Rajawali Sugar Group, Indonesia. Theory classes were taken by NSI officials related to raw-refined sugar production and on the topic such as defecation process, refined sugar process including melt clarification & secondary decolourization process, energy economy, water conservation, equipment designing, etc.







The participants shall also undertake in plant training in two reputed sugar refineries for a month under the supervision of institute staff.

### ❖ RESEARCH WORK:

**1. Studies on Sweet Sorghum Bagasse (SSB) value addition:** The purification of crude 5-Chloromethyl furfural (CMF) involved various sets of solvents such as Hexane, after synthesizing CMF from sweet sorghum bagasse derived cellulose. The synthesis occurred in the presence of chlorobenzene and hydrochloric acid at temperatures 80 and 90 degree Celsius accompanied by vigorous stirring for two hours. Further work is in progress.

**2. Comparative study of Five varieties of sweet sorghum for production of ethanol yield:** Five varieties of sweet sorghum viz. SSV 74, SSV 84, CSH 22SS, Phule Vashundhara and ICSSH 28 were sown during August, 2023 and phase wise harvesting started from 14<sup>th</sup> December. An average stalk yield of 48-55 T/hectare was obtained. In the resultant juice obtained after milling in laboratory crusher, brix% and total

reducing sugar content% ranged from 15-17 and 11-13 respectively. The juices were then fermented and distilled for ethanol production in pilot plant. Results are being compiled.



In other field trials, sweet sorghum variety viz. CSH 22SS was sown during last week of July, 2023 and harvested during second week of December, 2023 at M/S Balrampur Chini Mills Ltd., Maizapur. Stalk yield of 50 T/hectare was obtained while in the juices, brix%, purity and total reducing content of 17.06, 56.38 and 13.05 was observed. The juices were then fermented and distilled for ethanol production at M/s BCML, Maizapur.

**3. Cane juice syrup study for shelf-life and production of alcohol:** After completion of initial studies on deterioration patterns in syrup for seven months, wherein few units of TRS deterioration (negligible) in the stored syrup was observed, syrup samples were collected from M/s Wave Sugar Mills, Dhanaura, U.P and M/s Saraswati Sugar Mills, Yamuna Nagar, Haryana for taking up further studies to validate the results. Efforts shall be made to identify the standard

conditions for storage of syrup during the off-season.

#### **4. Comparative study on polarization by using lead, non-lead clarificants and NIR polarimetry:**

Analysis carried out on the B- Heavy molasses sample and during the analysis it was observed that the sucrose % of the samples were lower by 3% when clarified with Carrez reagent in comparison to sucrose analysis using lead sub acetate.

Further analysis on with Carrez reagent and lead sub-acetate will be conducted in the subsequent months to validate the results.



**5. Production of low G.I. liquid sugar/ low G.I. sugar vitamin 'A' fortified liquid sugar:** Low GI liquid sugar as prepared earlier from raw sugar was dosed with monk extract (99 % pure) this time. Quarterly analysis of parameters such as Brix%, Pol%, Purity, RS%, TRS%, Color (IU) is being carried out. The analytical results are as given here under-

Solids% - 81.70,  
Colour (IU) – 449.99,

GI Value – 66.33

It is pertinent to mention that the initial trials with monk fruit extract did not yield promising result. The GI value did not fall under expected range and therefore a repeat trial for the same shall be carried out. The reasons for unexpected reading may be inappropriate dosing of the extract during the process or errors during calculations of the GI value. The same would be monitored carefully to avoid any errors to the best possible.



**6. Shelf life study of press mud over the period of time:** Ten press mud Samples from sugar factories situated in UP, Bihar, Haryana and Chhattisgarh were collected and stored keeping the environment same as at the factory front. 10 Raw + 10 Treated sample of press mud of each factory as being analyzed for following parameters such as pH, Total Solids (moisture content), Ash content, Total volatile solids (TVS), Lignin and Total Convertible Volatile Solids (TCVS) on monthly basis. During eleven months of analysis as observed degradation (Fungal Growth) is occurring in both

raw as well as treated press mud samples.

- pH of the raw press mud was observed to be in the range of 6.80 – 7.38 while that for PM stab (treated sample) was observed to be in the range of 4.64 – 6.65.
- The Total Solids for raw press mud and treated press mud were in the range of 88.6 – 89.42% and 22.31 – 26.31% respectively.
- The ash content of the stored raw and treated press mud samples were in the range of 29.39 – 36.81 % and 5.23 – 8.23% respectively.

**7. Shelf life study of Vitamin-A fortified sugar:** Vitamin A fortified raw sugar samples (amorphous sugar) prepared using dosing vitamin A @ 15.5 – 16.8 µg/g of vitamin A per gm of sugar is being analyzed for vitamin A content on monthly basis using vitamin A analyzer to observe the reduction of vitamin A content over the storage period of time starting from May.

The above observations indicate that the % reduction in vitamin A content of sugar over eight months of storage has been around 33.73%. It is worth mentioning that for the month of November and December the vitamin A content reduction has been observed to be stable with no prominent degradation. Further whether the same trend continues in the coming months is under observation.

**8. Essential Oil Extraction from Sugarcane Molasses:** The process of extracting essential oil from the

molasses by hydro distillation was carried out repeatedly for 5-6 hours in the 1:1 ratio (Molasses: Water).

After 5-6 hours of hydro distillation a layer of yellow coloured volatile liquid formed which was separated from the distillate.

In hydro distillation the same ratio 1:1 (molasses: water) was repeated 10-15 times to collect appropriate amount of essential oil for further analysis and the process of extracting essential oil continues with the same ratio.

#### ❖ RESEARCH PAPERS/ PRESENTATIONS:

1. A presentation on topic **“Possibilities of production of green hydrogen from the sugar industry”** was made by Ms. Neelam Chaturvedi, Research Fellow on 6<sup>th</sup> December 2023, during one day national workshop on **“Green Chemistry from Sugar Industry –Opportunity & Challenges”** at the institute.
2. A presentation on topic **“Vehicular Pollution, Sugar Industry and Green Hydrogen”** was made by Ms. Shalini Kumari, Research Fellow on 6<sup>th</sup> December 2023, during one day national workshop on **“Green Chemistry from Sugar Industry – Opportunity & Challenges”** at the institute.
3. A research paper entitled **“VEHICULAR POLLUTION, SUGAR INDUSTRY AND GREEN HYDROGEN”** by Shalini Kumari and Narendra Mohan has been sent for publication in the symposium of Bharatiya Sugar

being organized at Kolhapur on 10th February 2024.

4. A research paper entitled **“Sugar Industry & Green Hydrogen”** by Neelam Chaturvedi, Shalini Kumari and Narendra Mohan published in “SHARKARA- October – December 2023”, Volume : 55, No. 03.

5. A research paper entitled **“Sugar Production to Meet Changing Market Requirements”** by Anushka Akash Kanodia and Narendra Mohan has been sent for publication in the symposium of Bharatiya Sugar being organized at Kolhapur on 10th February 2024.

6. A paper entitled **“Mitigating Issues with Sugar Consumption”** by Narendra Mohan and Anushka Akash Kanodia has sent for presentation during 8<sup>th</sup> IAPSIT International Sugar Conference ISC-2024 & Sugarcon-2024.

7. A paper entitled **“Sugarcane Industry: A Possible Bio-Energy Hub”** by Narendra Mohan has sent for presentation during 8<sup>th</sup> IAPSIT International Sugar Conference ISC-2024 & Sugarcon-2024.

❖ **MoU SIGNED:**

1. National Sugar Institute, Kanpur (NSI) signed MoU with Cuban Research Institute on Sugarcane Derivatives (ICIDCA), Cuba on virtual platform on 13<sup>th</sup> December 2023. NSI, Kanpur to help in modernization of Cuban Sugar Industry. The two institutes to work on developing technologies for producing

value added products from by-products and waste from sugar industry.

❖ **CONSULTANCY:**

Requests for availing consultancy services of the institute were received and also provided to various sugar factories ethanol& other allied units on various technical matters relating to diversion of B Heavy molasses/syrup, validation of ETP’s, preparation of DPR’s, validation of no increase in pollution loads in ethanol units upon enhancement in capacity etc.

<b>Sr. No.</b>	<b>Factory Name</b>
1	M/s Wave Industries Pvt. Ltd., Bidvi, Saharanpur, U.P.
2	M/s Wave Industries Pvt. Ltd., Malasia, Amroha, U.P.
3	M/s Wave Industries Pvt. Ltd., Bijnor, U.P.
4	PBS Foods (Sugar) Pvt. Ltd., Bijnor,
5	Dhampur Bio Organic Ltd., Asmoli, Sambhal, U.P.
6	M/s The Gurdaspur Co-operative Sugar Mills Ltd., Gurdaspur, Punjab
7	M/s Dalmia Bharat Sugar & Industries Ltd., Ramgarh, Sitapur, U.P.
8	M/s Avadh Sugar & Energy Ltd., Unit – Seohara, Bijnor, U.P.
9	M/s L.H. Sugar Factories Ltd., Unit – Pilibhit, Pilibhit, U.P.
10	M/s Bajaj Hindusthan Sugar Ltd., Unit – Thanabhawan, Shamli, U.P.
11	M/s Dalmia Bharat Sugar & Ind. Ltd., Unit – Ramgarh, Sitapur, U.P.



12	M/s Triveni Engineering & Ind. Ltd., Unit – Khatauli, Muzaffarnagar, U.P.
13	M/s Dhampur Bio-organic Ltd., Unit – Meerganj, Bareilly, U.P.
14	M/s Bajaj Hindusthan Sugar Ltd., Unit – Distillery Kinauni, Meerut, U.P.
15	M/s Bajaj Hindusthan Sugar Ltd., Unit – Distillery Kinauni, Meerut, U.P.
16	M/s Bajaj Hindusthan Sugar Ltd., Unit – Gangnauli, Saharanpur, U.P.
17	M/s Triveni Engineering & Ind. Ltd., Unit – Deoband, Saharanpur, U.P.
18	M/s Triveni Engineering & Ind. Ltd., Unit – Raninangal, Moradabad, U.P.
19	M/s Uttam Sugar Mills Ltd., Unit – Barkatpur, Bijnor, U.P.
20	M/s Uttam Sugar Mills Ltd., Unit – Khaikheri, Saharanpur, U.P.
21	M/s Uttam Sugar Mills Ltd., Unit – Shermau, Saharanpur, U.P.
22	M/s Avadh Sugar & Energy Ltd., Unit – Hargaon, Sitapur, U.P.
23	M/s DCM Shriram Ltd., Unit – Ajbapur, Lakhimpur, U.P.
24	M/s Triveni Engineering & Ind. Ltd., Unit – Milak Narayanpur, Rampur, U.P.
25	M/s Bajaj Hindusthan Sugar Ltd., Unit – Utraula, Balrampur, U.P.
26	M/s Bajaj Hindusthan Sugar Ltd., Unit – Pratappur, Deoria, U.P.
27	M/s Bajaj Hindusthan Sugar Ltd., Unit – Kundarkhi, Gonda, U.P.
28	M/s Magadh Sugar & Energy Ltd., Unit – Bharat Sugar Mill, Gopalganj, Bihar
29	M/s Sraswati Sugar Mills Ltd., Yamunanagar, Haryana

30	M/s Indian Potash Ltd., Distillery Unit – Rohana Mill, Muzaffarnagar, U.P.
31	M/s Balrampur, Chini Mills Ltd., Unit – Mankapur, Gonda, U.P.
32	M/s Balrampur, Chini Mills Ltd., Unit – Gularia, Lakhimpur Kheri, U.P.
33	M/s Balrampur, Chini Mills Ltd., Unit – Kumbhi, Lakhimpur Kheri, U.P.
34	M/s Balrampur, Chini Mills Ltd., Unit – Tulsipur, Balrampur, U.P.
35	M/s Bajaj Hindusthan Sugar Ltd., Unit – Palia Kalan, Lakhimpur Kheri, U.P.
36	M/s Triveni Engineering & Ind. Ltd., Unit – Chandanpur, Amroha, U.P.
37	M/s Rai Bahadur Narain Singh Sugar Mills Ltd., Distillery Division – Laksar, U.K.
38	M/s Naglamal Sugar Complex, Unit – Naglamal, Meerut, U.P.
39	M/s Harinagar Sugar Mills Ltd., Unit – Harinagar, West Champaran, Bihar
40	M/s Magadh Sugar & Energy Ltd., Narkatiaganj, W. Champaran, Bihar
41	M/s PBS Foods (Sugar) Private Ltd., Unit – Chandpur, Bijnor, U.P.
42	M/s Wave Industries Pvt. Ltd., Unit – Bulandshahar, U.P.
43	M/s Wave Industries Pvt. Ltd., Unit – Dhanaura, Jyitba Phule Nagar, U.P.
44	M/s Dhampur Bio-Organic Ltd., Unit – Meerganj, Bareilly, U.P.
45	M/s Trualt Bio-energy Ltd., Unit – 1, Distillery Division, Karnataka
46	M/s Trualt Bio-energy Ltd., Unit – 2, Distillery Division, Karnataka
47	M/s Trualt Bio-energy Ltd., Unit – 3, Distillery Division, Karnataka

## ❖ ANALYTICAL SERVICES:

Besides analysis of sugar & sugar house products, ethanol and effluents etc., Institute offers testing of Ethyl Alcohol based Sanitizer in its sophisticated, most modern NABL accredited analytical laboratory and other laboratories of the institute. Testing of bagasse for determination of GCV and lime for various constituents also taken up during the period. Analytical services were rendered to following:

Sr. No.	Factory Name
1	M/s Kisan Sahkari Chini Mills, Gajraula, Amroha, U.P.
2	M/s Kisan Sahkari Chini Mills, Mahmudabad, Sitapur, U.P.
3	M/s Sarju Sahkari Chini Mills, Belrayan, Lakhimpur, U.P.
4	M/s Dhampur Bio-Organic Ltd., Unit – Meerganj, Bareilly, U.P.
5	M/s Dhampur Bio-Organic Ltd., Unit – Asmoli, Sambhal, U.P.
6	M/s Dhampur Bio-Organic Ltd., Unit –, Mansurpur, Muzaffarnagar, U.P.
7	M/s Triveni Engineering & Ind. Ltd., Unit – Khatauli, Muzaffarnagar, U.P.
8	M/s Triveni Engineering & Ind. Ltd., Chandanpur, Amroha, U.P.

## ❖ OUR OTHER ACTIVITIES:

1. National Sugar Institute felicitated "**Safai Mitra's**" on 1<sup>st</sup> October 2023 for their untiring and commendable efforts in maintaining cleanliness and for putting special efforts during the Swachhta Campaign.



2. National Sugar Institute, Kanpur paid tributes to the sons of the soil, Mahatma Gandhi and Shri Lal Bahadur Shastri, and made a commitment to continuously strive for India's advancement and development on 2<sup>nd</sup> October 2023. "**Walkathon**" and "**Nukkad Natak**" were also organized to create awareness about swachhata.





3. As a part of swachhata campaign “**EKDIN EK GHANTA**”, officers, staff and students carried out “**Shramdaan**” at Parmat Ghat on the banks of holy river Ganges on 1<sup>st</sup> October 2023. Shri Satydev Pachauri, Member of Parliament also joined the institute campaign. A “**Bio-toilet**” was donated to Shri Kasturba Higher Secondary School, Nawabganj, Kanpur.



4. राष्ट्रीय शर्करा संस्थान, कानपुर द्वारा गत वर्षों की भाँति इस वर्ष भी वार्षिक खेलकूद संस्थान में आयोजित किये गये। दिनांक 08 अक्टूबर 2023 को आयोजित पुरस्कार वितरण समारोह में प्रतिभागियों को निदेशक, राष्ट्रीय शर्करा संस्थान, कानपुर द्वारा पुरस्कार प्रदान किये गए। निदेशक ने एकल आउटडोर एवं इंडोर प्रतियोगिता के विजेताओं के अतिरिक्त टीम स्पर्धा के विजेताओं को भी पुरस्कृत किया।



5. Eighteen member delegation of Fiji Sugarcane Grower Council to visit India to study recent developments in the areas of sugarcane agriculture. Programme finalized in a meeting attended by Director, NSI and officials of MEA, Indian Embassy in Fiji and Fiji Sugar Corporation on 17<sup>th</sup> October 2023.



6. केंद्र सरकार के कार्यालयों एवं अन्य संस्थानों में हिंदी को बढ़ावा देने हेतु केंद्रीय गृह मंत्रालय के तहत कार्यरत नगर राजभाषा कार्यान्वयन समिति द्वारा भारतीय प्रौद्योगिकी संस्थान (IIT), कानपुर में दिनांक 25 अक्टूबर 2023 को आयोजित कार्यक्रम में राष्ट्रीय शर्करा संस्थान को उनके द्वारा राजभाषा हिंदी में किये जा रहे उल्लेखनीय कार्य हेतु सम्मानित किया गया।





7. उप निदेशक, उत्तर क्षेत्रीय कार्यान्वयन कार्यालय द्वारा राष्ट्रीय शर्करा संस्थान कानपुर के द्वारा किये जा रहे राजभाषा सम्बन्धी कार्यों का निरीक्षण दिनांक 25 अक्टूबर 2023 को किया गया। निरीक्षण उपरांत समिति द्वारा संस्थान द्वारा किये जा रहे राजभाषा सम्बन्धी कार्यों पर संतोष व्यक्त किया गया।



Integrity Pledge was administered to officers and staff of National Sugar Institute, Kanpur on 30<sup>th</sup> October 2023 by the Director.

9. On National Unity Day organized on 31<sup>st</sup> October 2023, after paying floral tributes to Sardar Vallabhbhai Patel, "**Ekta Diwas Pledge**" was administered to the staff and students. "**Run for Unity**" was also organized on this occasion.



8. "**Vigilance Awareness Week**" was organized at the institute from 30<sup>th</sup> October to 5<sup>th</sup> November 2023.



10. National Sugar Institute, Kanpur organized meeting on 3<sup>rd</sup> November 2023 and discussed with UP Sugar Mills Association (UPSMA) & factory officials, regarding water management and particularly for fixing norms for fresh water intake and effluent discharge for various models of sugar - ethanol -power production.



11. Director, NSI, Kanpur inaugurated **“Project Laboratory”** at the institute on 9<sup>th</sup> November 2023, in the direction of establishing **“Centre of Excellence for Specialty Sugars”** and **“Centre of Excellence for Bio-fuels”**. Project Laboratory is dedicated for analysis of samples related to various projects viz. bio-fuels, specialty sugars and RO technique for juice concentration etc.



12. National Sugar Institute, Kanpur launched awareness campaign about safe and pollution free Diwali on 11<sup>th</sup> November 2023, in the areas of high footfalls, metro railway station, Bank ATM, Sugar Factory and also in Institute premises. Cloth bags were also distributed in market to inspire people not to use plastic carry bags.



13. Director, National Sugar Institute, Kanpur visited the UP Council of Sugarcane Research, Shahjahanpur on 18<sup>th</sup> November 2023, and discussed about Breeder Seed Development programme at the institute. NSI thus to help sugar industry in providing seeds of newer varieties in future.



14. Director, National Sugar Institute, Kanpur visited M/s Dalmia Bharat



Sugar Industries Ltd., Nigohi, Shahjahanpur and inspected the pilot plant trials for concentrating sugarcane juice by Reverse Osmosis technique.



15. Research Fellows of the Sugar Technology Division of NSI Kanpur succeeded in developing Low Glycemic Index (low GI) Sugar and Low Glycemic Index (Low GI) Fortified Sugar using minimum amount of chemicals. Foods having Low Glycemic Index provide lesser spike in blood sugar levels and are helpful in diabetes management.



16. National Sugar Institute, Kanpur, celebrated **“Indian Constitution Day”** on 26<sup>th</sup> November 2022. Preamble to the Indian Constitution was read by the Officers and Staff of NSI, Kanpur.



17. राष्ट्रीय शर्करा संस्थान में तृतीय हिंदी कार्यशाला का आयोजन दिनांक 24 नवंबर 2023, को किया गया। इस अवसर पर वरिष्ठ तकनीकी अधीक्षक (अनुवाद), भारतीय प्रौद्योगिकी संस्थान द्वारा हिंदी के अधिकाधिक प्रयोग हेतु महत्वपूर्ण जानकारी प्रदान की गयी।



18. National Sugar Institute, Kanpur organized a Meditation Programme **"Sahaj Yog"** on 11<sup>th</sup> December 2023 for the benefit of staff and students of the institute. Methodology for practicing meditation “Dhyan” was explained by the experts of the organization who also detailed its benefit in stress relieving and making a healthier and happier life. On this occasion, Ms. Anandita Basu, a world renowned name in Sufi music carried out vocal recital and sung bhajans and qawwali's.





19. राष्ट्रीय शर्करा संस्थान, कानपुर द्वारा दिनांक 19 दिसंबर 2023 को नगर राजभाषा कार्यान्वयन समिति, कानपुर कार्यालय-3 के तत्वावधान में नगर स्थित केंद्रीय सरकार के कार्यालय में कार्यरत अधिकारियों एवं कर्मचारियों के लिए एक निबंध प्रतियोगिता का सफल आयोजन किया गया ।



20. Director NSI, Kanpur visited M/s Triveni Engineering & Industries Ltd., Chandanpur and newly established M/s Bindals Paper Mills Ltd. (Sugar

Division). M/s Bindals Paper Mills Ltd., plant is different in many ways with focus on bagasse saving, de-pithing and utilization of fibre in paper mill. It has unique Evaporator configuration working with seven FFE's with steam consumption of around 26% (with B Heavy molasses diversion).



During his visit to M/s Triveni Engineering & Industries Ltd., Chandanpur, he called upon the sugar industry to develop various business models producing various products using entire sugarcane value chain. We can produce many value added products using by-products and the waste from the sugar industry and thus the future of the Indian Sugar Industry lies in converting sugar factories to “Agri Business Complexes” or to “Bio-refineries”, he said.

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