Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies (IULTCS)]

'SANJOY BHAVAN', 3rd Floor, 44, Shanti Pally, Kasba, Kolkata – 700 107
Telephone : (033) 2441-3459/7320 • TeleFax : (033) 2441-3429
E-mail : admin@iltaonleather.org / mailtoilta@rediffmail.com
Website: www.iltaonleather.org

Mission & Vision

- An Association with over 600 members from India and abroad working since last 64 years for the growth and development of Leather and its allied industries.
- Organize seminars, symposiums, workshops in order to share information, knowledge & latest development and interactions for the benefit of all concerned.
- Organize Human Resource Development programmes on regular basis.
- Publish for over 60 years, a technical monthly journal namely "Journal of Indian Leather Technologists' Association" (JILTA), widely circulated through out the World.
- Publish books for the benefit of the students at various levels of study, for the Research Scholar and the Industry.
- Work as interface between Industry and the Government.
- Assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies for the growth of the Industry.
- Assist small and tiny leather goods manufacturers in marketing their products by organizing LEXPOs in Kolkata and different parts of India.

Now available

Sl. No.	Title of the Book	Author	Price per Copy*	
			Inland (INR)	Foreign (USD)
01.	Treatise on Fatliquors and Fatliquoring of Leather	Dr. Samir Dasgupta	₹ 1500.00	$ 60.00
02.	Comprehensive Footwear Technology	Mr. Shomenath Ganguly	₹ 500.00	$ 50.00
03.	An Introduction to the Principles of Leather Manufacture (New Edition)	Prof. S. S. Dutta	₹ 800.00	$ 50.00
04.	Analytical Chemistry of Leather Manufacture	Mr. P. K. Sarkar	₹ 300.00	$ 10.00
05.	Synthetic Tanning Agents	Dr. Samir Dasgupta	₹ 900.00	$ 30.00
06.	Hand - Book of Tanning	Prof. B. M. Das	₹ 750.00	$ 25.00

**** Packing & Forwarding Charge Extra***

Send your enquiries to :-

Indian Leather Technologists' Association
'SANJOY BHABAN'
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Kolkata-700 107
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Telefax : 91-33-24413429
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JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION [JILTA]

Indian Leather Technologists' Association is a premier organisation of its kind in India was established in 1950 by Late Prof. B.M.Das. It is a Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS).

The Journal of Indian Leather Technologists' Association (JILTA) is a monthly publication which encapsulates latest state of the art in processing technology of leather and its products, commerce and economics, research & development, news & views of the industry etc. It reaches to the Leather / Footwear Technologists and the decision makers all over the country and overseas.

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INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION

(Member Society of International Union of Leather Technologists and Chemists Societies)

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Mr. P. K. Bhattacharjee

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JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION [JILTA]

GST at a Glance

From the time when the highest personal income tax rates in the country were as crippling as 97% to 34.6% today, India has come a long way in rationalizing its tax structures, and Wednesday's ratification of the Constitutional Amendment Bill for GST is possibly the culmination of a long journey that began in 1991 - and, as in the case of GST which was originally kicked off by the UPA in 2006, the reforms have been pushed forward by all parties. Customs duties have fallen from their peak of 150% in 1991-92 to as low as 10% today; there are a handful of excise duty rates today centred around a median rate as opposed to the plethora earlier. India moved towards tax credits several years ago, which the GST will extend even further and, given the tremendous value-creation in the services sector that was hardly captured, a service tax was also introduced in 1993 - today, service taxes account for 14.2% of all central tax collections and, more important, socially progressive direct tax collections overtook indirect tax collections way back in FY08.

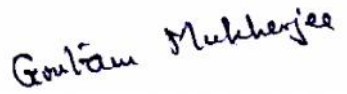
As in any such journey, there is a long list of those who made such reforms possible, starting from then finance minister Manmohan Singh. The initial reforms on direct taxes were carried out based on the prescription laid out by the late Raja Chelliah whose mantra was the evolution of a tax system focused on broadening the base and levying lower and less differentiated rates - based on a report written by M Govinda Rao, Chelliah recommended the introduction of service taxation; replacing state sales taxes with VAT was also a Chelliah recommendation. Then finance minister Yashwant Sinha took the big steps in simplifying excise duty rates and coming to a moderate central rate. While it was P Chidambaram who first proposed the GST in 2006 - it was to become operational on April 1, 2010 - a large part of the credit to ensuring the states came on board, and their concerns addressed, has to belong to the heads of the empowered committee of state finance ministers like Asim Dasgupta, Sushil Modi and Amit Mitra. While the BJP played the spoiler at that time, BJP states like Gujarat almost scuttled it this time around as well - chief economic advisor Arvind Subramanian played a stellar intellectual role in highlighting how this would hurt Make-in-India and, to their credit, both Prime Minister Narendra Modi and Finance Minister Arun Jaitley went by his advice.

Through all of this, the biggest problem was that India's tax collections didn't rise in keeping with the increased efforts at tax simplifications. At the central level, the tax-to-GDP ratio was 9.8% in 1990-91, rose to 11.9% in FY08 and is 10.6% today - at the level of the states, the ratio rose from 5.2% in 1990-91 to 6.9%in FY16. Several amnesty schemes over the past decades haven't helped much, nor have various other schemes which gave the taxman more information about spending habits of citizens. Given how a fully computerized tax information network is an integral part of the GST, once the GST Network is put in place, it will play a big role in increasing tax compliance since most transactions will get captured at some point or the other in the value-chain; the fact that real estate has been kept out of the purview of GST is a spoiler, apart from the fact that this will also lead to large amounts of un-rebated tax credits.

Apart from the fact that GST makes a fundamental shift from an origin-based tax to a destination-based one, its biggest contribution will lie in eliminating the border check-

posts that dot all state boundaries - it is these check-posts that ensure India is not a single-market which, in turn, ensures that trucks line up at border posts for hours while their cargo and manifests are subject to laborious checks. Much of the increased GDP growth that economists estimate will accrue emanates from this reduction in transportation costs - to the extent that a GST means companies will no longer plan their warehouses based on tax rates in different states, logistics costs will also get rationalized. State governments, it is true, have yet to agree to eliminate the border posts, but once all information via invoices are uploaded to the GSTN and states find their tax collections are rising, chances are check-posts will get eliminated over a period of time - if they don't, a big potential GST benefit will no longer accrue, making the exercise a less useful one.

As in any ambitious tax proposal, there are serious flaws that need fixing, and governments have several months to fix this. Asking firms to ensure that everyone before them in the value-chain has paid taxes before they get input tax credits is inexplicable and draconian, and the discretionary valuation of goods and services can cause serious problems - it is not clear why, as in the rest of the world, invoice-based valuation is not acceptable with well-defined ways to deal with discounts offered on final sales. Valuing intra-firm supplies is another huge problem area and, here too, there are well-accepted global procedures. With a well-functioning GSTN, similarly, it is not clear why firms have to register with each state/UT and pay taxes at that level. Rules on e-commerce, similarly, are very complex. The biggest issue, of lower rates, remains unaddressed - this requires slashing exemptions - and that is critical if the benefits of lower taxation, including higher compliance, are to accrue to the economy. Till then, it's too early to celebrate



Goutam Mukherjee


IULTCS 2017
INDIA
XXXIV IULTCS CONGRESS
5-8 February 2017, CSIR-CLRI, Chennai, India
www.iultcs2017.org
"Science and Technology for Sustainability of Leather"
IULTCS
INTERNATIONAL UNION OF LEATHER TECHNOLOGISTS AND CHEMISTS SOCIETIES
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Indian Finished Leather Manufacturers & Exporters Association (IFLMEA)
For further details please contact: Congress Secretariat, CSIR-CLRI, Chennai, India, Email: iultcs2017@clri.res.in

XXXIV IULTCS CONGRESS

(International Union of Leather Technologists and Chemists Societies)

"Science and Technology for Sustainability of Leather"

R&D focus of research institutes, chemical companies and organizations around the world has been the sustainable development of the leather sector. In this scenario, the congress aims to address the following technological challenges:

- Fundamentals in leather science
- Strategies for sustainability
- Innovation and value addition for leather
- Advances in chemicals for smart and intelligent leathers
- Design innovation for lifestyle leather products
- Emission control strategies
- Enriching human capacity
- Global research alliances and partnerships

Important Dates:

- Congress Dates: 5 – 8 February 2017, preceded by India International Leather Fair, Chennai (1–3 February 2017)
- Congress Localization: Chennai
- Abstract submission due: 31 October 2016
- Selection of papers: 15 November 2016
- Early bird registration till: November 2016
- Expected Number of Participants: 200 International, 300 Indian

Organizers:

- Indian Leather Technologists Association (ILTA)
- CSIR-Central Leather Research Institute (CSIR-CLRI)

Congress Partners:

- Council for Leather Exports, India (CLE)
- Indian Finished Leather Manufacturers & Exporters Association (IFLMEA)

Organization committee:

- Congress President: Dr T Ramasami, Former Secretary, S&T, Govt. of India
- Patrons:
  - Mr M Rafeeque Ahmed, Chairman, Council for Leather Exports
  - Mr N Shafeeq Ahmed, President IFLMEA

- Institutional representatives:
  - Dr B Chandrasekaran, Director CSIR-CLRI,
  - Mr Arnab Jha, President ILTA,
- Congress Convener: Dr N K Chandrababu, Chief Scientist, CSIR-CLRI;
- Working President: Dr S Rajamani, ILTA

Indian Leather Industry, through CSIR-CLRI & ILTA and through the Council for Leather Exports and IFLMEA welcome all the visitors, industrialists, academicians and researchers interested in leather to participate at the XXXIV IULTCS Congress. With India International Leather Fair, just before the congress and good climate to visit Chennai, the participants to the congress would be taken through a rich experience of S&T innovations in leather and the cultural diversity of India.

Please visit our website www.iultcs2017.org for further details.

UPDATE on The IULTCS Merit Award - 2017

The 2017 IULTCS Merit Award for Excellence in the Leather Industry has been awarded to:

Professor Dr Mariliz Gutterres, Laboratory for Leather and Environmental Studies (LACOURO), Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, RS - Brazil.

The 2017 IULTCS Merit Award will be presented at the IULTCS Congress in Chennai, 5th – 8th February 2017.

(Source: Email from Campbell Page, IULTCS Secretary – 6th July' 2016)

66th Foundation Day Celebration

14th August, 2016 – ILTA's 66th Foundation Day having fallen on a Sunday, Foundation Day Celebration Sub-Committee with E.C.'s concurrence decided to have a mini programme on 14th August itself at ILTA premises and a major Celebration programme at the Mini Auditorium of the Science City on Friday the 19th August, 2016 from 02.00 PM onwards where family Members of ILTA Members were also co-ordially invited for enjoying cultural programme.

Accordingly, including E. C. Members, some 30 Members assembled at ILTA Building on Sunday the 14th August, 2016 at 11.30 AM. After President's & General Secretary's brief address, the portrait of our Founder President Late Prof. B. M. Das was garlanded by Mr. S. D. Seth, the Founder Member followed by others. Mr. Seth as well as a few other members present cherished memories of early days of ILTA. The members present then all went to the roof of the ILTA Building where ILTA Flag was hoisted on roof top.

After return of the members back to the conference room, light refreshments were served and all were requested to participate in the main programme on 19th August, 2016 at the Mini Auditorium of Science City with family members.

The programme on 19th August at Mini Auditorium of Science City commenced with garlanding portrait of Late Prof. B. M. Das by the following at the invitation of General Secretary, Mr. Susanta Mallick :-

1. Dr. Asish Banerjee, Hon'ble Minister – in – Charge, Dept. of Science & Technology, Development & Planning and Statistics & Programme Implementation, Govt. of West Bengal.

2. Dr. B. Chandrasekaran, Director, CSIR – CLRI, Chennai.

3. Mr. Nari Kalwani, Chairman & MD, Asian Leather Limited, Kolkata.

4. Mr. Ramesh Juneja, Regional Chairman (East), Council for Leather Exports.

5. Mr. Imran Javed Khan, General Secretary, Calcutta Leather Complex Tanners' Association.

6. Mr. Arnab Jha, President, ILTA.

7. Prof. (Dr.) Sanjoy Chakraborty, Principal, GCELT.

8. Dr. Dipankar Chaudhuri, Scientist – in – Charge, RCED, CLRI, Kolkata.

9. Mr. Kanak Kr. Mitra, President, Alumni Association, GCELT.

10. Mr. Aniruddha De, Faculty, CFTC, Budge Budge.

11. Mr. Kailash Tripathi, Faculty, FDDI, Kolkata.

12. Dr. Asit Baran Mondal, Ex-Director, CSIR – CLRI, Chennai.

13. Mr. Y. K. Luthra, Editor, Leather Age.

14. Mr. B. D. Bhaiya, MD, Chem Crown.

After garlanding was over, G.S. invited Dr. Asish Banerjee, Dr. B. Chandrasekaran, Mr. Nari Kalwani, Mr. Ramesh Juneja, Mr. Imran Javed Khan & Mr. Arnab Jha to please take their seats on the dais and requested Mr. Arnab Jha to deliver his Welcome Address.

President's welcome address was followed by presentation of bouquets :-

- To Dr. Asish Banerjee by Mr. Asit Baran Kanungo, Vice President, ILTA.
- To Mr. Ramesh Juneja by Mr. Shiladitya Deb Choudhury, Jt. Secretary, ILTA
- To Mr. Imran Javed Khan by Mr, Kaushik Bhuiyan, Treasurer, ILTA.
- To Dr. B. Chandrasekaran by Prof. (Dr.) Sanjoy Chakraborty, Principal, GCELT.
- To Mr. Nari Kalwani by Mr. Jiban Dasgupta, Jt. Secretary, ILTA.
- To Dr. Asit Baran Mondal by Mr. Shiladitya Deb Choudhury, Jt. Secretary, ILTA.

Next item on the agenda was addressing the gathering by Dr. Asish Banerjee. In his address, the Hon'ble Minister appreciated the work being done by ILTA for the development of Leather Industry as the oldest such Association in India, spoke of State Govt.'s plans to assist Leather Industry in various ways and wished more involvement of ILTA in the implementation of the same where required.

Addressing the gathering by Mr. Ramesh Juneja and Mr. Imran Javed Khan followed. Both the Guests of Honour appreciated the work being done by ILTA and also talked about State Govt.'s future plans for Leather Industry.

Award giving ceremony followed which consisted of handing over of Medals & Certificates to the following award winners by Dr. Asish Banerjee :

1. B. M. Das Memorial Medal to Miss S. Akshaya for securing 1st Class 1st Position in B. Tech., Leather Technology Exam. of Anna University, Chennai in 2016.

2. B. M. Das Memorial Medal to Miss M. Vimudha for securing 1st Class 1st Position in M. Tech., Leather Technology Exam. of Anna University, Chennai in 2016.

3. B. M. Das Memorial Medal to Mr. J. Sadhanandam for securing 1st Class 1st Position in M. Tech., Footwear Science & Engineering Exam. of Anna University, Chennai in 2016.

4. B. M. Das Memorial Medal & J. M. Dey Memorial Medal to Mr. Sayandip Rana for securing 1st Class 1st in B. Tech., Leather Technology Exam. of Moulana Abul Kalam Azad University of Technology, West Bengal in 2016.

5. B. M. Das Memorial Medal to Mr. Shirshendu Ghosh for his performance in M. Tech., Leather Technology Exam. of Moulana Abul Kalam Azad University of Technology, West Bengal in 2015

J. Sinha Roy Memorial Award was handed over by Dr. B. Chandrasekaran, Director, CSIR – CLRI, Chennai to Mr. Sujit Kumar Basu, Asstt. Professor, Aligarh Muslim University for his article titled "Fashion Vs. Suitability (An Impact of High Heel Shoes on Women Body)" published in June'2015 issue of JILTA adjudged by a Committee consisting of Prof. (Dr.) Sanjoy Chakraborty, Principal, GCELT & Dr. Dipankar Chaudhuri, Scientist – in – Charge, RCED, CLRI, Kolkata , the Best of all articles published in JILTA in calendar year 2015.

Dr. B. Chandrasekaran, Director, CSIR – CLRI, Chennai was next introduced to the gathering by Mr. Arnab Jha, President, ILTA and requested to deliver the prestigious B. M. Das Memorial Lecture titled "Innovation, Translation & Transformation for Sustainability".

After the lecture, Dr. B. Chandrasekaran was presented a Memento by Prof. (Dr.) Sanjoy Chakraborty, Principal, GCELT.

Thereafter, Mr. Nari Kalwani, Chairman & MD, Asian Leather Ltd., Kolkata was introduced to the gathering by Mr. Arnab Jha and requested to deliver a lecture titled "Good Management Practices in Leather Goods Industry".

After the lecture, Mr. Nari Kalwani was presented a Memento by Mr. Susanta Mallick, General Secretary, ILTA.

Offering of Vote of Thanks by Mr. Susanta Mallick, General Secretary, ILTA followed.

Mr. Mallick expressed ssincere thanks to :

- Dr. Asish Banerjee, Hon'ble Minister – in – Charge, who kindly graced the occasion as the Chief Guest.
- Dr. B. Chandrasekaran, Director, CSIR – CLRI, Chennai, who kindly delivered the prestigious B.M. Das Memorial Lecture titled **"Innovation, Translation & Transformation for Sustainability"**.
- Mr. Nari Kalwani, Chairman & MD, Asian Leather Limited, Kolkata who kindly delivered the lecture titled **"Good Management Practices in Leather Goods Industry"**.
- Mr. Ramesh Juneja, Regional Chairman (EAST), Council for Leather Exports ***and*** Mr. Imran Javed Khan, General Secretary, Calcutta Leather Complex Tanners Association (CLCTA) who kindly graced the ceremony as Guests of Honour.

Mr. Mallick also thanked the Director, other officials & staff, Science City for allowing us to hold the programme at their Auditorium and extending necessary help and co-operation.

Thanks were also extended to Joint Commissioner of Police, Kolkata Municipal Corporation & Sale Tax Department, for giving us the necessary permission to organize the program at this Auditorium.

Award winners were congratulated for their achievements and a bright future was wished for all of them.

Mr. Mallick also stated, "Under the theme **'Science and Technology for Sustainability of Leather'**, the 34th IULTCS Congress will be organized jointly by ILTA & CSIR – CLRI at Chennai from 5th to 8th February, 2017. He requested for wholehearted support from all for successfully organizing this event.

Mr. Mallick then invited all present to have Tea/Refreshments served in the Lobby outside the Auditorium.

Second half of the programme started at around 05.30 PM with Family Quiz where the Master of Ceremony was Mr. Kaushik Bhuiyan, Treasurer, ILTA and Co-Ordinator of Foundation Day Celebration Sub-Committee & Quiz master was Mr. Rajib Sen. Mr. Prabir Kr. Dasgupta co-ordinated the Family Quiz programme in which families of members actively participated and made the programme most enjoyable.

Thereafter, a drama titled "Manush Bhoot" was staged and performed by the Mangolik Group. Over 200 members including their families thoroughly enjoyed the performance which was followed by Dinner for all.

58th Annual General Meeting

The 58th Annual General Meeting of the Association will be held at the Auditorium of Indian Science Congress Association, 14, Dr. Biresh Guha Street, Kolkata – 700 017 on Thursday, the 29th September, 2015 at 3.00 pm to transact the following business.

Normal Business :

1. To confirm the Proceedings of 57th Annual General Meeting held on 24th September 2015.

2. To consider and adopt the audited Balance Sheet and Statement of Accounts for the Financial Year ending 31st March 2016.

3. To consider and adopt the Annual Report of the General Secretary on behalf of the Executive Committee.

4. To appoint Auditors in place of M/s Ray & Ray who are retiring but are eligible for reappointment and to fix remuneration.

AGM Notice is scheduled to be posted by 8th September, 2016.

All members are co-ordially invited to attend.

You are requested to :-

a) Kindly inform us your '**E-Mail ID**', '**Mobile No**', '**Phone No**', through E-Mail ID: admin@iltaonleather.org or over Telephone Nos. : 24413459 / 3429 / 7320. This will help us to communicate you directly without help of any outsiders like Postal Department / Courier etc.

b) Kindly mention your **Membership No. (If any)** against your each and every communication, so that we can locate you easily in our record.

c) **Kindly obtain an Acknowledgement Slip (available at ILTA Office) for any document handed over to ILTA Office.**

Susanta Mallick
General Secretary

Executive Committee Members meet every Thursday at 18-30 hrs. at ILTA Office.
Members willing to participate are most welcome.

TESTING

Dinker Bajpai*

Leather Technologist, Bureau Veritas Consumer Products Services India Pvt. Ltd.

(Cont'd from last issue)

Apparel

Designation	Title
D1913 - 00(2010)	Standard Test Method for Resistance to Wetting of Garment-Type Leathers (Spray Test)
D2096 - 11	Standard Test Method for Colorfastness and Transfer of Color in the Washing of Leather
D2821 - 09	Standard Test Method for Measuring the Relative Stiffness of Leather by Means of a Torsional Wire Apparatus
D5053 - 03(2009)	Standard Test Method for Colorfastness of Crocking of Leather
D5552 - 10	Standard Test Method for Resistance of Colored Leather to Bleeding
D6012 - 03(2008)	Standard Test Method for Determination of Resistance of Leather to (Bleeding) Color Stain Transfer
D6013 - 00(2010)	Standard Test Method for Determination of Area Stability of Leather to Laundering
D6014 - 00(2010)	Standard Test Method for Determination of Dynamic Water Absorption of Leather Surfaces

Chemical Analysis

Designation	Title
D2617 - 06	Standard Test Method for Total Ash in Leather
D2807 - 93(2009)e1	Standard Test Method for Chromic Oxide in Leather (Perchloric Acid Oxidation)
D2810 - 07	Standard Test Method for pH of Leather
D2868 - 10	Standard Test Method for Nitrogen Content (Kjeldahl) and Hide Substance Content of Leather
D3495 - 10	Standard Test Method for Hexane Extraction of Leather

* Corresponding Author's e-mail ID: dinker.bajpai@in.bureauveritas.com

Designation	Title
D3790 - 79(2006)e1	Standard Test Method for Volatile Matter (Moisture) of Leather by Oven Drying
D3897 - 91(2006)	Standard Practice for Calculation of Basicity of Chrome Tanning Liquors
D3898 - 93(2009)	Standard Test Method for Chromic Oxide in Basic Chromium Tanning Liquors
D3913 - 03(2009)	Standard Test Method for Acidity in Basic Chromium Tanning Liquors
D4653 - 87(2009)	Standard Test Method for Total Chlorides in Leather
D4654 - 87(2009)	Standard Test Method for Sulfate Basicity in Leather
D4655 - 95(2006)	Standard Test Methods for Sulfates in Leather (Total, Neutral, and Combined Acid)
D4906 - 95(2006)	Standard Test Method for Total Solids and Ash Content in Leather Finishing Materials
D4907 - 10	Standard Test Method for Nitrocellulose in Finish on Leather
D5356 - 10	Standard Test Method for PH of Chrome Tanning Solutions
D6016 - 06	Standard Test Method for Determination of Nitrogen, Water Extractable in Leather
D6017 - 97(2009)	Standard Test Method for Determination of Magnesium Sulfate (Epsom Salt) in Leather
D6018 - 96(2006)	Standard Test Method for Determining the Presence of Lead Salts in Leather
D6019 - 10	Test Method for Determination of Chromic Oxide in Basic Chromium Tanning Liquors (Ammonium Persulfate Oxidation)

Fats and Oils

Designation	Title
D5346 - 93(2009)	Standard Test Method for Determination of the Pour Point of Petroleum Oil Used in Fatliquors and Softening Compounds
D5347 - 95(2006)	Standard Test Method for Determination of the Ash Content of Fats and Oils
D5348 - 95(2006)	Standard Test Method for Determination of the Moisture Content of Sulfonated and Sulfated Oils by Distillation with Xylene
D5349 - 95(2006)	Standard Test Method for Determination of the Moisture and Volatile Content of Sulfonated and Sulfated Oils by Hot-Plate Method

Designation	Title
D5350 - 95(2006)	Standard Test Method for Determination of Organically Combined Sulfuric Anhydride by Titration, Test Method A
D5351 - 93(2009)	Standard Test Method for Determination of Organically Combined Sulfuric Anhydride by Extraction Titration, Test Method B
D5352 - 95(2006)	Standard Test Method for Determination of Organically Combined Sulfuric Anhydride Ash-Gravimetric, Test Method C
D5353 - 95(2006)	Standard Test Method for Determination of Total Desulfated Fatty Matter
D5354 - 95(2006)	Standard Test Method for Determination of Total Active Ingredients in Sulfonated and Sulfated Oils
D5355 - 95(2006)	Standard Test Method for Specific Gravity of Oils and Liquid Fats
D5439 - 95(2006)	Standard Test Method for Determination of Sediment in Moellon
D5440 - 93(2009)	Standard Test Method for Determining the Melting Point of Fats and Oils
D5551 - 95(2006)	Standard Test Method for Determination of the Cloud Point of Oil
D5553 - 95(2006)	Standard Test Method for Determination of the Unsaponifiable Nonvolatile Matter in Sulfated Oils
D5554 - 95(2011)	Standard Test Method for Determination of the Iodine Value of Fats and Oils
D5555 - 95(2011)	Standard Test Method for Determination of Free Fatty Acids Contained in Animal, Marine, and Vegetable Fats and Oils Used in Fat Liquors and Stuffing Compounds
D5556 - 95(2011)	Standard Test Method for Determination of the Moisture and Other Volatile Matter Contained in Fats and Oils Used in Fat Liquors and Softening Compounds
D5557 - 95(2011)	Standard Test Method for Determination of Insoluble Impurities Contained in Fats and Oils Used in Fat Liquors and Stuffing Compounds
D5558 - 95(2011)	Standard Test Method for Determination of the Saponification Value of Fats and Oils
D5559 - 95(2011)	Standard Test Method for Determination of Acidity as Free Fatty Acids/Acid Number in the Absence of Ammonium or Triethanolamine Soaps in Sulfonated and Sulfated Oils
D5560 - 95(2011)	Standard Test Method for Determination of Neutral Fatty Matter Contained in Fats and Oils
D5562 - 95(2011)	Standard Test Method for Determination of the Acidity as Free Fatty Acids/Acid Number in the Presence of Ammonium or Triethanolamine Soaps
D5564 - 95(2011)	Standard Test Method for Determination of the Total Ammonia Contained in Sulfonated or Sulfated Oils
D5565 - 95(2011)	Standard Test Method for Determination of the Solidification Point of Fatty Acids Contained in Animal, Marine, and Vegetable Fats and Oils
D5566 - 95(2011)	Standard Test Method for Determination of Inorganic Salt Content of Sulfated and Sulfonated Oils

Footwear

Designation	Title
D2098 - 04(2008)	Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Dow Corning Leather Tester
D2099 - 05(2010)e1	Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester
D2210 - 00(2008)	Standard Test Method for Grain Crack and Extension of Leather by the Mullen Test
D2322 - 10	Standard Test Method for Resistance of Shoe Upper Leather to Artificial Perspiration
D2346 - 00(2008)	Standard Test Method for Apparent Density of Leather
D2941 - 00(2008)	Standard Test Method for Measuring Break Pattern of Leather (Break Scale)
D6015 - 10	Standard Test Method for Static Water Absorption of Leather
D7340 - 07	Standard Practice for Thermal Conductivity of Leather

Physical Properties

Designation	Title
D1516 - 05(2010)	Standard Test Method for Width of Leather
D1610 - 01(2007)	Standard Practice for Conditioning Leather and Leather Products for Testing
D1813 - 00(2010)	Standard Test Method for Measuring Thickness of Leather Test Specimens
D1814 - 70(2010)	Standard Test Method for Measuring Thickness of Leather Units
D1815 - 00(2010)	Standard Test Method for Water Absorption (Static) of Vegetable Tanned Leather
D2207 - 00(2010)	Standard Test Method for Bursting Strength of Leather by the Ball Method
D2209 - 00(2010)	Standard Test Method for Tensile Strength of Leather
D2211 - 00(2010)	Standard Test Method for Elongation of Leather
D2212 - 00(2010)	Standard Test Method for Slit Tear Resistance of Leather
D2347 - 00(2010)	Standard Test Method for Measuring Area of Leather Test Specimens

Designation	Title
D2813 - 03(2008)	Standard Practice for Sampling Leather for Physical and Chemical Tests
D4704 - 00(2010)	Standard Test Method for Tearing Strength, Tongue Tear of Leather
D4705 - 00(2010)	Standard Test Method for Stitch Tear Strength of Leather, Double Hole
D5052 - 00(2010)	Standard Test Method for Permeability of Leather to Water Vapor
D6076 - 08	Standard Test Method for Shrinkage Temperature of Leather
D6182 - 00(2010)	Standard Test Method for Flexibility and Adhesion of Finish on Leather
D6183 - 00(2010)	Standard Test Method for Tackiness of Finish on Leather
D7255 - 06e1	Standard Test Method for Abrasion Resistance of Leather (Rotary Platform, Double-Head Method)

Terminology

Designation	Title
D1517 - 10	Standard Terminology Relating to Leather

Upholstery

Designation	Title
D1912 - 00(2010)	Standard Test Method for Cold-Crack Resistance of Upholstery Leather
D2097 - 03(2010)	Standard Test Method for Flex Testing of Finish on Upholstery Leather
D2208 - 00(2010)	Standard Test Method for Breaking Strength of Leather by the Grab Method
D6077 - 10	Standard Test Method for Trapezoid Tearing Strength of Leather
D6116 - 00(2010)	Standard Test Method for Blocking

Vegetable Leather

Designation	Title
D1611 - 00(2010)	Standard Test Method for Corrosion Produced by Leather in Contact with Metal
D2213 - 00(2010)	Standard Test Method for Compressibility of Leather
D2875 - 00(2010)	Standard Test Method for Insoluble Ash of Vegetable-Tanned Leather
D2876 - 00(2010)	Standard Test Method for Water-Soluble Matter of Vegetable-Tanned Leather
D4786 - 00(2010)	Standard Test Method for Stitch Tear Strength, Single Hole
D4831 - 00(2010)	Standard Test Method for Buckle Tear Strength of Leather
D4899 - 99(2009)	Standard Practice for Analysis of Vegetable Tanning Materials-General
D4900 - 99(2009)	Standard Test Method for Lignosulfonates (Sulfite Cellulose) in Tanning Extracts
D4901 - 99(2009)	Standard Practice for Preparation of Solution of Liquid Vegetable Tannin Extracts
D4902 - 99(2009)	Standard Test Method for Evaporation and Drying of Analytical Solutions
D4903 - 99(2009)	Standard Test Method for Total Solids and Water in Vegetable Tanning Material Extracts
D4904 - 99(2009)	Standard Practice for Preparation of Solution of Liquid Vegetable Tannin Extracts
D4905 - 99(2009)	Standard Practice for Preparation of Solution of Solid, Pasty and Powdered Vegetable Tannin Extracts
D6020 - 00(2010)	Standard Practice for Calculation of (Non-Mineral) Combined Tanning Agents and Degree of Tannage
D6075 - 00(2010)	Standard Test Method for Cracking Resistance of Leather
D6401 - 99(2009)	Standard Test Method for Determining Non-Tannins and Tannin in Extracts of Vegetable Tanning Materials
D6402 - 99(2009)	Standard Test Method for Determing Soluble Solids and Insolubles in Extracts of Vegetable Tanning Materials
D6403 - 99(2009)	Standard Test Method for Determining Moisture in Raw and Spent Materials
D6404 - 99(2009)	Standard Practice for Sampling Vegetable Materials Containing Tannin

Designation	Title
D6405 - 99(2009)	Standard Practice for Extraction of Tannins from Raw and Spent Materials
D6406 - 99(2009)	Standard Test Method for Analysis of Sugar in Vegetable Tanning Materials
D6407 - 99(2009)	Standard Test Method for Analysis of Iron and Copper in Vegetable Tanning Materials
D6408 - 99(2009)	Standard Test Method for Analysis of Tannery Liquors
D6409 - 99(2009)	Standard Practice for Color Tests with Sheepskin Skiver
D6410 - 99(2009)	Standard Test Method for Determining Acidity of Vegetable Tanning Liquors

Wet Blue

Designation	Title
D4576 - 08	Standard Test Method for Mold Growth Resistance of Wet Blue
D6656 - 01(2010)e1	Standard Test Method for Determination of Chromic Oxide in Wet Blue (Perchloric Acid Oxidation)
D6657 - 08	Standard Test Method for pH of Wet Blue
D6658 - 08	Standard Test Method for Volatile Matter (Moisture) of Wet Blue by Oven Drying
D6659 - 10	Standard Practice for Sampling and Preparation of Wet Blue for Physical and Chemical Tests
D6714 - 01(2010)e1	Standard Test Method for Chromic Oxide in Ashed Wet Blue (Perchloric Acid Oxidation)
D6715 - 08	Standard Practice for Sampling and Preparation of Salt Preserved (Cured) Hides and Skins for Chemical and Physical Tests
D6716 - 08	Standard Test Method for Total Ash in Wet Blue
D7476 - 08	Standard Test Method for Brine Saturation Value of Cured (Salt-Preserved) Hides and Skins
D7477 - 08	Standard Test Method for Determining the Area Stability of Wet Blue Submersed in Boiling Water
D7584 - 10	Standard Test Method for Evaluating the Resistance of the Surface of Wet Blue to the Growth of Fungi in an Environmental Chamber
D7674 - 10	Standard Test Method for Hexane/Petroleum Ether Extract in Wet Blue and Wet White

Various Leather Tests and Descriptions

Abrasion - ASTM D 7255

A turntable (record player like) device turns a piece of leather placed on top of it. Different types of wheels with different abrasive characteristics are placed on the arm (i.e. rubber wheel with sand grains on surface). The leather is sent through however many cycles it needs before it starts to show damage along the path. taberabrasion.com

Breaking Force - ASTM 2208

The leather is pulled. It measures how much force it takes for the leather to break.

Crocking - ASTM D 5053

The leather is rubbed with a white handkerchief and then looked at to see if the color has been rubbed off the leather.

Elongation - ASTM D 2211

The leather is pulled as in the breaking force test. The distance is measured from the point the leather started being pulled (i.e. 3" apart) to where it ends up breaking (i.e. 6" apart)

Flex - EN ISO 5402 - W-Flex

The Newark Flex machine is used for this test. A piece of leather is placed on two pistons that move back and forth. When the ends come close together, the leather is crinkled. This is done thousands of times (i.e. 60,000). When this is complete, the leather is placed under a microscope to see if the finish has cracked.

Light Fastness - ISO 105-B02

This test uses carbon arch (as used in welding). The leather is placed in front of this for a certain time ranging from 24 to 72 hours. It is used to see how much the color changes. There are other light sources for this testing as well. Venom light is used which has an extremely bright bulb. It simulates sunlight (UV light). Leather is also tested under natural sunlight. It uses the grayscale where 1 is a lot of change and 5 is very little change.

Tearing Strength - ASTM D 4705 - EN ISO 3377-1

Weights are put on the leather. It measures how much force it takes for the leather to tear.

Wyzenbeek - ASTMD 4157

Similar to the abrasion test but goes straight back and forth rather than a spinning turntable. The material used in jeans is placed under a weight and thousands of repetitions (i.e. 100,000 DB. Rubs) are done back and forth. This is done until the leather shows damage.

Softness Variation - IUP 36

The machine used has two large washers. The leather is placed in between the washers. An arm with a pin is placed over the hole of the washer and pushes into the hole. The softer the leather, the further the pin goes through the hole. The result is how many millimeters the pin goes through the hole.

Color fastness to water spotting - EN ISO 15700

Water is put onto the surface of the leather. After a certain amount of time, the water is wiped off and the area is looked at to see if water has penetrated into the leather or has changed the leather. There should be no change.

Cold Crack Resistance of Finish - EN ISO 17233

The leather is placed in a freezer for approximately 1 hour. The leather is then folder on itself. The leather is then looked at to see if it has cracked.

Finish Adhesion - EN ISO 11644

This test measures how well the finish is attached to the leather. The finish should not peel easily in this test. Two Types (in both tests, glue with no solvents is used):

1. Dry Peeling - The leather is glued to a plate and then peeled from the plate. This measure how much force is needed to peel it off the plate.

2. Wet Peeling - Same as above but placed in a water environment. The finish peels easier in this test.

Flammability

There are many methods for testing flammability. Here are a few tests.

1. Horizontal Flame Resistance - A flame is put on the side of a piece of leather. The rate the flame travels horizontally along the leather is measured.

2. Vertical Flame Resistance - The flame is put on the bottom of a piece of leather. It is observed how long the flame burns, does it keep burning and does the finish drip off the leather.

3. Cigarette Ignition Resistance - A cigarette butt is placed on a piece of leather. It is observed if the leather chars and the length of the burn.

-: The End :-

HELP FOR BENGAL INDUSTRIAL PARKS

The department of industrial promotion and policy (DIPP) has assured support to Bengal to upgrade its industrial and leather parks. The DIPP may also offer a package for the modernization.

"There is no reason why Bengal will not become one of the principal hubs of industrial growth in the country. Once the Amritsar – Calcutta dedicated freight corridor becomes operational – most probably by March 2019 – there will be a sea change in the state's industrial climate," DIPP Secretary Rames Abhishek told industry members at a cosed door session organized by the CII eastern region here today.

With the Centre's start up action plan ready to be rolled out, Abhishek asked the state to be participant. DIPP is there for help.

(The Telegraph – 17/07/2016)

SHOPPER'S STOP TO RETAIL CROSS & POLICE LEATHER GOODS

Shoppers stop will exclusively retail Cross and Police branded leather accessories across all lifestyle stores. The Indian retailing company has entered into an exclusive agreement with Kolkata based Torero Corporation, who has acquired exclusive right to manufacture and distribute Cross and Police leather accessories.

As per agreement the first phase of the launch would focus on leather bags, belts and accessories, said Yashovardhan Gupta, Director & CEO, Torero Corporation.

(Economic Times – 21/07/2016)

NIKE PARTNERS WITH HP TO MAKE 3D PRINTED FOOTWEAR

Sportswear giant Nike continues focused on 3D printing technology with an aim to deliver innovative products and has signed a deal with information technology company HP.

BATA CONCENTRATES SAME STORE GROWTH

Bata India has changed its strategy of opening over 100 stores a year and would start concentrating on same store growth, a top company official said on Thursday. It also plans to set up online kiosks in some major retail stores across the country.

"……company has changed its strategy of opening 100 plus stores every year and is now concentrating more on achieving same store growth," said Chairman Uday Khanna. The shoe maker added 26 new retail stores during the last financial year, he told shareholders at the company's 83rd Annual General Meeting. "The company is planning to set up online kiosks in some of the major retail stores across the country wherein customers shall have the option to buy footwear of their choice online," Khanna said.

The company continues to penetrate into tier 2 and tier 3 cities in India and other rural markets, he said. The footwear maker has been investing to strengthen its digital multi channel business division along with logistics division with due importance for delivery of footwear and accessories, its latest annual report said. In 2015-16, online sales reached Rs.40 crore.

(Punjab Tribune.com - 04/08/2016)

LEATHER EXPORTS FALL 10% IN F.Y. 2016

India's leather exports fell 10 per cent in dollar terms in 2015-16 compared with 2014-15. The industry had achieved a cumulative annual growth rate of 13 per cent for five years till last fiscal.

The fall in leather exports in F.Y. 2016 was on account of slowdown in the EU, a major export destination for Indian leather, with a share of more than 50 per cent of total exports. Also, currency fluctuations and weak demand in a few other key markets in Asia impacted exports.

In 2015-16, export of leather and leather products stood at $5.85 billion, against $6.49 billion in the previous fiscal, a 9.86 per cent fall. In rupee terms, exports were down 3.49 per cent at Rs.38,325 crore when compared with Rs.39,712 crore in the previous year, according to the statistics of the Council for Leather Exports quoting DGCI & S (Directorate General of Commercial Intelligence & Statistics) data.

The fall in exports was across all categories, including finished leather, components, footwear, goods, garments and saddler and harness. Footwear, which accounts for a little over a third of share in India's leather exports, reported a 6 per cent decline at $2,147 million when compared with $2,278 million in the previous fiscal. Leather goods exports fell to $1,369 million from $1,453 million, while finished leather registered a 21 per cent fall at $1,046 million ($1,329 million).

Export of different categories of footwear held a share of 47 per cent in overall leather exports with an export value of $2,737.85 million in 2015-16. This is followed by leather goods & accessories with a share of 23 per cent, finished leather at 18 per cent, leather garments 9 per cent and saddler & harness at 3 per cent.

Regional Trends

In 2015-16, the major markets for Indian leather exports were US (14.25 per cent share), UK (12.24 per cent), Germany (11.51 per cent), Italy (6.97 per cent), Spain (5.6 per cent), Hong Kong (5.38 per cent), France (5.3 per cent), UAE (4.5 per cent), Netherlands (3.15 per cent), China (2.77 per cent) and Australia & Belgium (1.45 per cent each). These 12 countries together accounted for about 75 per cent of India's total leather exports.

Export to countries such as Germany, UK, Italy, Hong Kong, France, Spain, Netherlands, UAE, Belgium and China, among others witnessed a fall in 2015-16. However, exports to countries

like the US, Korea and Japan grew during the period. South India accounted for about 30 per cent of total leather exports from the country, followed by the western region at 22 per cent. The eastern and northern regions accounted for 13 per cent and 12 per cent respectively.

(Businessline – 20/08/2016)

NGT FLAT TO UP ON TANNERIES

The UP pollution has been directed by National Green Tribunal to submit details of tanneries on the banks of river Ganga at Kanpur and inform it whether they have permission from the Central Ground Water Authority for extraction of ground water.

A Bench headed by Justices UD ALVI also directed the Uttar Pradesh Pollution Control Board to dispose the consent to operate applications of tanneries in the state within four weeks in accordance with law.

(Businessline – 19/08/2016)

MISSED THE TAX RETURN FILING DEADLINE..? HERE'S WHAT TO DO

Merely paying the due amount of tax is not sufficient. In addition, the Income-tax rules require a taxpayer to also file return, irrespective of whether tax is due or not. Therefore, for all those with income above the exempted limit, tax return filing within the due date is a must.

Every year, July 31 is the date by which taxpayers are supposed to file their I-T returns (ITR). But as it has happened in quite a few previous occasions, the deadline this time was again extended till August 5, 2016, for the assessment year 2016-17, which pertains to income earned in the financial year 2015-16. Suraj Nangia, Partner, Nangia & Co, says, "With less than 3 per cent of people in India filing tax returns, the perception amongst most is that since TDS (tax deduction at source) has happened, filing of tax returns is not important. Many taxpayers also often take it easy as an income-tax return for FY 2015-16 can be filed by March 2018."

Despite repeated reminders by the I-T Department and the extension of the due date, there could be some taxpayers who have failed to file their returns. We will not go into the reasons here, but let's see the implications for those who have missed the last bus.

Belated returns can be filed by...

Filing ITR after the due date is called belated return. It can be filed before the end of the relevant assessment year or before completion of the assessment, whichever is earlier. Dr Suresh Surana, Founder, RSM Astute Consulting Group, informs, "If an individual misses the deadline of August 5, 2016 for filing return pertaining to FY 2015-16 (AY 2016-17), he can file a belated return by March 31, 2018."

But even if one is unable to file one's return, at least the taxes, if any, should be paid. Swami Saran Sharma, Director & CEO, InsuringIndia.com, suggests, "The best scenario is to pay your taxes and file your return in time. But in case one is not able to file the tax return due to some reason, it is advisable to calculate and pay the tax due before the scheduled date of filing the ITR. If all your taxes are paid, you do not attract any penalty even if the return of income is filed anytime before March 31 of the following year."

Penalty for belated filing

Not filing your return on time means you are liable to the penalty and prosecution provisions under the I-T Act, if taxes are unpaid. If you have not furnished the return within the due date and you have tax dues to be paid, you will have to pay interest on the due amount of tax as well. Nangia informs, "Penalty is levied by the tax officer in cases where the taxpayer fails to file his return before the due date. Under Section 271F, the tax officer may levy a penalty of Rs 5,000 for failure to furnish return of income. The penalty for any delay beyond August 5 is not levied automatically and is at the sole discretion of the tax officer. In extreme cases, where the taxpayer willfully fails to furnish the return in due time, the tax officer may penalize with prosecution, however, such instances are rare."

Interest on due amount of tax

If one hasn't filed on time and has due amount of tax, then interest under Section 234A will have to be paid. Nangia says, "Such interest is levied for delay in filing the return of income. In other words, if the taxpayer files the return of income after the due date, simple interest of 1 per cent per month or part of a month is levied." And the calculation of interest starts from the very next day from the due date. Surana says, "The interest applies from the date immediately following the due date, ending on the date of filing of return. For the purpose of this calculation, part of the month shall be considered as whole month."

Lesser time for those who file late returns

Starting FY 2015-16, the rules for filing belated returns have changed. Nangia informs, "In any one financial year, a taxpayer can file returns for previous two financial years. Therefore in FY 2016-17, a taxpayer can file tax returns for FY 2014-15 and FY 2015-16. Hence any return which pertains to FY 2013-14 and before is time-barred and under no circumstances can be filed. A notable change brought about during Budget 2016 is the reduction of time period for filing of belated income-tax returns. The period of filing belated returns has been reduced from two years to one. Accordingly, from the next assessment year, i.e., FY 2016-17, taxpayers will need to file returns before the end of the relevant assessment year." So, make it a habit to file I-T returns on time as the window to file belated returns will be less now.

Lost Opportunities

No time to revise

If you want to change some figures in your tax return (FY 2015-16), you can do so by filing a 'revised return', provided you had filed on time. Revision of a belated return is not allowed. So if you haven't taken credit for a deduction under chapter VI (Section 80C, etc.), there's no way I-T Department will allow that now. Also, if the Department points a mistake, you may be asked to pay a penalty.

Refund without interest

If you are eligible for a tax refund, you will get it but only from date of filing of belated return. By filing a belated return, one loses on a portion of the interest on the tax refund amount. The I-T Department pays interest of one-half per cent for every month calculated from April 1 of the assessment year. Even the refund process may get prolonged. Surana adds, "Late filing of return of income would result in delayed processing of refund."

Unable to set-off losses

Losses incurred can be carried forward to future assessment years to be set-off against future gains. However, if you have sustained a loss in a financial year, which you propose to carry forward to the subsequent year for adjustment against subsequent year(s) positive income, you must make

a claim of loss by filing your return before the due date. Surana says, "Loss (except house property loss) can be carried forward and set off in future years only if the return has been filed within the due date of filing return of income."

Conclusion

As a word of caution, Surana says, "Be careful while filing the return so that you don't have the option of filing a revised return. If a person files a belated return, he needs to fill up the income-tax return carefully to avoid any omission or error as the belated return once filed cannot be revised."

Once you have filed the belated return, don't forget to complete the verification process as the acknowledgment ITR-V has to be sent to I-T Department. One may follow the e-verification process to do the same immediately after filing. Surana says, "It may be noted that while there is no specific limit for electronic verification, it seems that time limit of 120 days in case of sending ITR-V by post could be applicable in case of electronic verification also."

YOU MAY HAVE E-FILED YOUR TAX RETURN BUT HAVE YOU VERIFIED IT ?

Heaved a sigh of relief because you managed to e-file your personal income tax return by the extended deadline of August 5, 2016? But don't relax just yet. Your e-filed return is not valid (except digitally signed returns) till you verify it.

Verification of your e-filed return is in fact a crucial step without which your entire effort will be wasted because an un-verified e-return is not treated as a valid return. This means that if you do not verify your e-filed return (filed without digital signature) within the specified deadline you would have to file your return again. "The tax return form that is e- filed has the verification section itself but for the return to be considered valid a physical copy of the ITR-V needs to be sent by post to Central Processing Centre in Bangalore within 120 days from the date of filing the tax return," says Sonu Iyer, partner & national leader - People Advisory Services, EY.

Sachin Vasudeva, senior partner and practising chartered accountant, S.C. Vasudeva & Co, explains: "Centralised Processing of Returns Scheme requires that where the return is not digitally signed, the ITR V should be verified. The scheme further provides that where the ITR V furnished is rejected on account of it being illegible, mutilated, bad quality or not as per specifications it shall be deemed that the return in respect of which the ITR V has been filed was never furnished and it shall be incumbent upon the person to file the return electronically once again followed by submission of the ITR V.

Though the scheme does not cover a case of non-filing of the ITR V explicitly but one would have to take a cue from the aforesaid paragraph and conclude that where a person does not file the verification in ITR-V it shall be deemed that his/her return was never filed, Vasudeva adds.

There are many ways of verifying the tax return you have e-filed. (Click here to Read about the ways to e-verify your return) The return can be verified electronically i.e. you can e-

verify your return or verify it by physically sending the ITR-V to CPC, Bengaluru (the full address is given at the bottom of the ITR-V). Your ITR-V is the acknowledgement of the tax return you e-file and is automatically generated when you successfully upload your return on the e-filing website.

You can download the ITR-V from your account on the income tax e-filing website. You should also receive it as an attachment in an email from the IT department after you upload your return. Check that the figures reflected in the ITR-V are correct as per the return you filed and then sign it and send it via ordinary or speed post to the address mentioned at the bottom of the ITR-V. You should get an email acknowledging receipt of this ITR-V from the IT department once this TR-V is received by them.

As an alternative to the above process, there are many ways of e-verifying your return: via Aadhar, net banking, bank account etc. Read more about how to e-verify.

Those who have filed returns physically (as opposed to returns which are e-filed) need not worry. This is because "A return which is physically filed (hard copy with the tax office) need not be verified separately as the tax payer has to sign the return before filing the same", explains Iyer. However, as e-filing is the most common method used nowadays, tax payers need to be aware of the necessity of verifying the e-return.

Since 1950

LESA

LEATHER SCIENCE ABSTRACTS

VOLUME 49 **NUMBER 08** **AUGUST, 2016**

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All enquiries for further details should be addressed to: THE DIRECTOR, **(ATTN.: EDITOR, LESA)** CENTRAL LEATHER RESEARCH INSTITUTE, ADYAR, CHENNAI-600 020, INDIA.

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LEATHER SCIENCE AND TECHNOLOGY

LEATHER INDUSTRY. HISTORY. MANAGEMENT. ECONOMICS. EDUCATION.

49.14852

Made to last. BELLESE (F), (M/s. JBS Couros, Avenida Mayinal Direita do Tiete 500. Via Jaguara-San Paulo/SP 05118-100, Brazil). (Leather Int'l; 216, 4839; 2014, Apr.; 34 & 36).

Details the company's commitment to sustainability through out the value chain. The author's insights serve as an example to the rest of the industry on how to streamline and clean up processes for the long haul. (2 Photos).

49.14853

Loading change : competencies required of a true leader. WHELAN (P), (M/s. Competitive Capabilities International(CCI), Unit 304, Century Building, Century City 7441, South Africa). (Chem. Wkly.; 59, 34; 2014, Apr., 1; 191-2).

Discussed the basic qualities which every leader must have to possess for becoming a really qualified leader and achieve maximum successes in every nature. The smooth change in the leadership can be achieved if all these qualities have been strictly followed by every leader in every organization. (1 Photo).

49.14854

Preparing a research proposal for funding in science and technology. RAVI (M), (Department of Human Genetics, Faculty of Biomedical Sciences, Technology and Research, Sri Ramachandra University, Poonthamallee High Road, Porur, Chennai-600 116, India). (Scitech J.; 1, 4; 2014, Apr.; 3-4).

Discusses the preparation of a good project that is to be submitted to a funding agency, declared it as critical and is the first step towards embarking on a research project. Also, this is important part of research methodology considering the need and possible benefits that can be obtained. Listed the various aspects that can be considered for preparing the proposals and discussed in detail about each and every one of these aspects. (1 Tab.).

49.14855

The drivers of oil prices in India. TANNAN (SK), (Faculty Raffles University, Japanese Zone, National Highway 8, Neemrana 301 020, Behror Tehsil, Alwar District, Rajasthan State, India). (Chem. Wkly.; 59, 37; 2014, Apr., 22; 191-5).

Discussed the various factors, which are both beneficial as well as adverse and serve as the drivers for the frequent fluctuations in the prices for oil India. (13 Ref.; 4 Photos).

49.14856

Algae biofuel-Opportunities for India. VENKATRAMAN (NS), (M/s. Nandini Consultancy Center, No. M60/1, 4th Cross Street, Kakkan Nagar, Besant Nagar, Chennai-600 090, India). (Chem. Wkly; 59, 34; 2014, Apr., 1; 209-11).

Discusses the indigenous and appropriate fuel source that have to be identified on urgent and priority basis by considering the fuel demand supply scenario in India and to reduce the import of crude oil and natural gas. Algae biofuel represents one of the best options for India, in view of its relevance and advantages. Discusses also the importance of algae; inputs and requirements; global research and Indian efforts; Integrated Algae Farm Complex; product inlet; project location; technology source; investment costs and recommendations. (2 Tab.; 1 Fig.; 3 Photos).

49.14857

CPHI Pharma insights : R&D market diversifying innovation, with increasing partnerships, mergers and revenue sharing models. (Chem. Wkly.; 59, 34; 2014, Apr., 1; 203-7). Examined the current trends, in evaluation, adoption and partnering solutions that have been implemented across the industry to drive greater innovations and cost efficiencies. (7 Ref.; 2 Photos).

49.14858

Go Brazilian. SETTER (S), (Leather Int'l; 216, 4839; 2014, Apr.; 22-3). Highlights a sorely needed South American education for the leather industry for the unenlightened as Brazil boats the world's largest commercial cattle herd and as the second-largest leather producer and exporter, the industry market leader is showcasting its strength globally. (1 Fig.; 1 Photo).

RAW HIDES AND SKINS

49.14859

A novel wave bird concept for marine surveillance. JACOB (JT), DEEPAK (M), (Electrical & Electronics Engineering(EEE)-Marine Department, AMET University, Plot No. : 135, East Coast Road, Kanathur, Chennai – 603 112, India). (Indian J. Sci. Technol.; 7, 6-Suppl.; 2014, Oct.; 56-60).

Discusses the use of conventional wave glider for surveillance application which is less explored due to the limitation in speed and low perspective vision due to its low profile. Proposes the design of a wave powered vehicle for fast surveillance in sea waters with real time communication with store. (7 Ref.; 3 Tab.; 7 Fig.).

49.14860

Prophylactic effect of Mucuna pruriens Linn(velvet bean) seed extract against experimental Naja sputatrix envenomation : Gene expression studies. FUNG (SY), SIM (SM), KANDIAH (J), ARUMUGAM (A), AGUIYI (JC), TAN (NH), (Faculty of Medicine and CENAR, University of

Malaysia, Jalan Universiti, 50603 Kaula Lampur, Wilayah Persekutun, Kuala Lampur, Malaysia). (Indian J. Exp. Biol.; 52, 9; 2014, Sep.; 849-59).

Describes Mucuna pruriens which is widely used in traditional medicine for treatments of various diseases. The seed is used as oral prophylactics for snakebite in certain regions of Nigeria. Rats pretreated with the aqueous extract of Mucuna pruriens seed(MPE) were protected against the lethal effects of Naja sputatrix(Javan splitting cobra) venom. The pretreatment also protected against venom-induced histopathological changes in rat heart. Examined the effects of MPE-pretreatment on gene expression profile of rat heart as well as effect of MPE-pretreatment on Naja sputatrix venom-induced gene expression alterations in rat heart for contributing to the understanding of the mechanism of Cardio-protective action and also the gene expression profiles by microarray analysis and verified by real time PCR(polymerase chain reaction). The results showed that pretreatment with MPE caused 50 genes in the rat heart substantially up-regulated of which 19 were related to immune responses, 7 were related to energy production and metabolism. The up-regulation of genes related to energy metabolism probably plays a role in maintaining the viability of the heart. Four other genes that were up-regulated(alpha synuclein, natriuretic peptide precursor, calsequestrin and triadin) were involved in the maintainance of homeostasis of the heart or maintaining its viability, thereby contributing to the direct protective action. The results demonstrated that protective effect of MPE pretreatment against snake venom poisoning may involve a direct action on the heart. (47 Ref.; 3 Tab.; 2 Fig.).

ENZYMOLOGY

49.14861

Daily variation in melatonin level, antioxidant activity and general immune response of peripheral blood mononuclear cells and lymphoid tissues of Indian goat Capra hircus during summer and winter. SINGH (AK), GHOSH (S), BASU (P), HALDAR (C), (Pineal Research Laboratory, Department of Zoology, Banaras Hindu University, Varanasi-221 005, Uttar Pradesh State, India). (Indian J. Exp. Biol.; 52, 5; 2014, May; 467-77).

Reports the daily variation in circulatory melatonin level, during different seasons, to influence immune system and free-radical scavenging capacity in mammals, including human beings. Similar studies have not been carried out on small ruminant viz. goats that are susceptible to opportunistic infections, increased oxidative load and sickness during free-grazing activity and frequent exposure to agro-chemicals. Therefore, daily variation in immune status, antioxidant enzyme activity and its possible correlation with circulatory melatonin level during two different seasons, summer(long day) and winter(short day) were studied in the Indian goat, Capra hircus. The clinically important immune parameters, such as total leukocyte count, % lymphocyte count and % stimulation ratio of T-lymphocytes presented a day/night rhythm prominently in the winter. The oxidative load in terms of Malonedialdehyde was always low during night while antioxidant enzymes superoxide dismutase, catalase and total antioxidant status were high during night time(1800 to 0600 hours). Interestingly, the studied parameters were significantly higher during the winter in

both the sexes. Rhythmometric analyses showed prominent rhythmicity in above parameters. The data presented strong positive correlation between high levels of night time melatonin levels and immune parameters during winter. It suggests that melatonin possesses immunoenhancing as well as antioxidative property during winter. This might be a necessity for maintenance of physiological harmony in goats to protect them from winter stress. (40 Ref.; 1 Tab.; 14 Fig.).

49.14862

Diffusion and reaction behavior of proteases in cattle hide matrix via FITC labeled proteases. MA (J), HOU (X), GAO (D), ZHANG (J), (College of Resources & Environment, Weiyang Campus, Shaanxi University of Science & Technology, No. : 111. County Road, Xi'an 710021, People's Republic of China and Key Laboratory of Auxiliary Chemistry and Technology for Chemical Industry, Ministry of Education, Shaanxi University of Science & Technology, Xi'an 710021, Shaanxi Province, People's Republic of China). (J. Am. Leather Chem. Assoc.; 109, 5; 2014, May; 131-40).

Enzymes play an important role in the biological treatment of animal skin collagen in the leather making process. Three proteases(2709, LimeG and SoakL) with different molecular weights were used in the treatment of cattle hide. Protein and hydroxyproline absorbance was measured to evaluate the treatment effectively. Proteases labeled by Fluorescein Isothiocyanate(FITC) were used to treat the cattle hide to observe the diffusion and reaction behavior of proteases in cattle hide matrix. The results indicate that when the cattle hide was treated with smaller molecular weight protease, the degradation degree of the protein and collagen was more than that of the cattle hide treated with larger molecular weight of protease. The fluorescence microscopy images demonstrate that during the early stages, proteases chiefly diffused into the cattle hide matrix through pores and hair follicles and then diffused into the inner layer via hair follicles to hydrolyze inter-fibrillary proteins for opening up collagen fibres. Reported a visible assessment for the diffusion and reaction behavior of proteases in the enzymatic treatment of cattle hide matrix. (29 Ref.; 1 Tab.; 11 Fig.).

49.14863

Potential applications of solid waste generated in the leather industry as a novel supporting matrix for immobilization of enzyme. HU (Y), LIU (L), DAN (W), DAN (N), (National Engineering Laboratory for Clean Technology of Leather Manufacture, Sichuan University, Wangjiang Campus, Section No. : 24 of Southern Yichuan, Chengdu 610065, Sichuan Province, People's Republic of China). (J. Am. Leather Chem. Assoc.; 98, 3; 2014, May-Jun.; 121-6).

Discusses a novel method for the immobilization of an enzyme that was established by using solid waste from tanneries as the carrier. Evaluated, a series of inorganic and organic carriers with good behaviours, in this context. The results showed that the enzyme immobilization efficiency was optimal when the enzyme offer, reaction temperature, pH, ionic strength and time were set at 335 mg enzyme per g carrier, 25°Centigrade, 6.5, 0.1 mol/L and 60 minutes, respectively. The optimal temperature and pH of the immobilized enzyme in terms of protease

were 55°Centigrade and 8.0, respectively, similar to that for the free enzyme. The immobilized enzyme, remained 64% of the original activity for keeping at 55°Centigrade for 3 hours, while the free enzyme lost nearly 54% under the same conditions, indicating the improvement of enzyme thermal stability after enzyme immobilization. Furthermore, the leather oriented application of the immobilized enzyme was intended for the dehairing of cattle hide. (8 Ref.; 1 Tab.; 19 Fig.).

49.14864

Effects of magnesium on cytomorphology and enzyme activities of thyroid of rats. CHANDRA (AK), GOSWAMI (H), SENGUPTA (P), (Endocrinology & Reproductive Laboratory, Department of Physiology, University of Calcutta, No. : 92 Acharya Prafulla Chandra Road, Kolkata-700 009, India). (Indian J. Exp. Biol.; 52, 8; 2013, Aug.; 787-92).

Till data knowledge regarding the effects of high dietary magnesium on thyroid gland is incomprehensive though certain epidemiological studies reported development of thyroid gland dysfunctions in people with chromic exposure to hard water(especially with high magnesium) despite sufficient iodine consumption. Explored the effects of chronic high dietary magnesium explore on thyroid morphology and functional status. Male adult albino Wistar strain rats were treated with graded doses of magnesium($MgSo_4$; 0.5, 1.0 and 1.5g%) for 60 days and investigated the changes in different thyroid parameters. Significantly stimulated thyroid peroxidase and Na^+-K^+-ATPase(Sodium-potassium adenosine triphosphatase) and altered idothyronine 5'-deiodinase type I activities, enhanced serum thyroxine(T4)(both total and free), total triidothyronine(T3) and thyroid stimulating hormone with decreased free T3 levels and T3/T4 ratio(T3:T4) along with enlargement of thyroid with associated histopathological changes were observed in the treated groups. The results clearly confirm that chronic high dietary magnesium exposure causes potential thyroid disruption as reported in earlier epidemiological studies. (23 Ref.; 3 Tab.; 7 Fig.).

49.14865

Protein extraction from chromium tanned leather waste by Bacillus subtilis enzymes. DETTMER (A), SANTOS (RMOd), ANJOS (PSA), (University of Caxias do Sul, Francisco Getalio Vargas Str. No. : 130 CEP 95070-560, Careias do Sul, RS, Brazil). (Aqeic Bol. Tecn.; 65, 3; 2014, Jul./Aug./Sep.; 93-100). (Spanish).

The leather industry has been facing new challenges and the need to improve and optimize processes in order to achieve required quality in their final articles as well as meet the environmental legislation. Estimates about 20% that will be transformed into chromium tanned wastes from each ton of hides. The enzymatic treatment of chromium-tanned leather wastes is a promising technology. Describes the extraction of proteins from chromium tanned wastes using crude enzymatic extracts of cultures of two new Bacillus subtilis strains. The aerobic sludge of a tannery was used as source of the microbial community for screening and selection of micro-organism. The tanned wastes were treated with alkali and then with the

crude enzymatic extract. This process permit the obtaining of gelatin and hydrolysate protein, that can be applied at fertilizer, retanning agents and in cosmetics industry and a sludge chromium concentrated, from which chromium can be recuperated and reused for leather tanning. So, this is a safe alternative for treatment and reutilization of chromium-tanned waste.

LEATHER CHEMICALS AND AUXILIARIES

49.14866

Rhodium(I)-catalyzed enantioselective hydrogenation of substituted acrylic acids with sterically similar â,â-diaryls. LI (Y), DONG (K), WANG (Z), DING (K), (State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences(CAS), No : 345 Lingling Road, Shanghai 200032, People's Republic of China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6748-52).

Describes the â,â-disubstituted acrylic acids with sterically similar germinal diaryl groups that can be hydrogenated with excellent enantioselectivities in the presence of a Rh^{I} complex formed in situ with two-component ligands, a chiral secondary phosphine oxide(SPO) and an achiral phosphine(Ph_3P). The sense of asymmetric induction was found to be controlled by the substrate configuration, thus allowing access to both enantiomers of the product with the same catalyst. (69 Ref.; 3 Tab.; 2 Schemes).

49.14867

Expression analysis of genes responsible for amino acid biosynthesis in halophilic bacterium Salinibacter ruber. SANJUKTA (RK), FAROOQI (MdS), RAI (N), RAI (A), SHARMA (N), MISHRA (DC), SINGH (DP), (Center for Agricultural Bioinformatics, Indian Agricultural Statistics Research Institute(IASRI), Library Avenue, Pusa, New Delhi-110 012, India). (Indian J. Biochem. Biophys.; 50, 3; 2013, Jun.; 177-85).

The degeneracy of the genetic code allows for multiple codons to encode the same amino acid. However, alternative codons and amino acids are used unevenly among genes, a phenomenon termed codon-usage bias. Studied the genes regulating amino acid biosynthesis of Salinibacter ruber, an extremely halophilic bacterium in order to determine the synonymous codon usage patterns. Investigated the factors responsible for codon usage variation among the genes using codon usage indices and multi-variate statistical approach. Overall codon usage data analysis indicated that codons ending in G(glycine) and/or C(cysteine) were predominant among the genes. Multi-variate statistical analysis showed that there was a single major trend in the codon usage variation among the genes, which had a strong positive correlation($r=0.93$, $P<0.01$) with (G+C) content of the genes. Further, correlation analysis indicated that genes with high expression level and showing a greater degree of codon usage bias were GC-rich and preferred codons with C or G nucleotides at the third position. Identified a set of thirteen codons through Chi-square test as optimal codons, which were preferred in highly expressed genes. It would be concluded that

mutational bias had a profound effect on codon usage pattern. In addition, translational selections also operated with a proper balance, making the genes translationally more efficient. The frequency of these codons appeared to be correlated with the level of gene expression and might be an useful indicator in the case of genes(or open-reading-frames) whose expression levels are unknown. (39 Ref.; 6 Tab.; 4 Fig.).

49.14868

Catalytic enantioselective intermolecular desymmetrization of 3-substituted oxetanes. WANG (Z), CHEN (Z), SUN (J), (Department of Chemistry, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong SAR, China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6685-8).

Describes the title reaction that proceeds in the presence of chiral Brønsted acid catalysts. This efficient ring-opening process features low catalyst loading, mild reaction conditions, broad functional group compatibility, high enantioselectivity the capability to generate chiral quaternary centers. The highly functionalized desymmetrization products are versatile chiral building blocks in organic synthesis. (59 Ref.; 4 Tab.; 2 Fig.; 2 Schemes).

49.14869

Stepwise evolution of DNA-programmable nanoparticle superlattices. SENESI (AJ), EICHELSDOERFER (DJ), MACFARLANE (RJ), JONES (MR), AUYEUNG (E), MIRKIN (CA), (X-ray Science Division, Argonne National Laboratory, 9700 South Cases Avenue, Argonne, Illinois 60439, USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6624-8).

Describes thin-film deoxyribonucleoro acid nanoparticle(DNA-NP) superlattices that can be grown one layer at a time using a stepwise assembly process on DNA substrates. Presents a new design rule for these programmable crystals and the superlattice adopts an orientation that maximizes complementary DNA interactions with a given crystal plane. (35 Ref.; 19 Fig.).

49.14870

Enantiomeric selection properties of â–HomoDNA : Enhanced pairing for heterochiral complexes. D'ALONZO (D), AMATO (J), SCHEPERS (G), FROEYEN (M), Van AERSCHOT (A), HERDEWIJN (P), GUARAGNA (A), (Dipartimento di Scienze Chimiche, Universita degli Sludi di Napoli Federico II, Via Cintia 21, 80126 Napoli, Italy). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6662-5).

Describes the â-homo deoxyribonucleoroacid(DNA) that has the singular property of being able to pair with homochiral complements of opposite chiralty, with a greater stability than the observed in the corresponding isochiral complexes. These results suggest the existence of a relationship between carbohydrate structure and stereoselectivity of the hybridization processes of the corresponding nucleic acids. (23 Ref.; 1 Tab.; 4 Fig.; 1 Scheme).

49.14871

Near infrared and pH-responsive system for reversible cell adhesion using graphene/gold nanorods functionalized with i-Motif DNA. LI (W), WANG (J), REN (J), QU (X), (Laboratory of Chemical Biology, Division of Biological Inorganic Chemistry, State Key Laboratory of Rare Earth Resource Utilization, Graduate School of the Chinese Academy of Sciences, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, No. : 5625 Renmin Road, Jilin 130022, China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6726-30).
Describes a dual near-infrared(NIR)- and pH-responsive system for the controlled catch-and-release of cells that was achieved using graphene/Au(silver) nanorods as a substrate and double-stranded deoxyribonucleoroacid(DNA) as a switchable links for cell immobilization. This substrate was shown to respond to cycles of NIR light and changes in pH and released undamaged cells from the surface. (53 Ref.; 13 Fig.; 1 Scheme).

49.14872

Gene silencing in Escherichia coli using antisense RNAs expressed from doxycycline-inducible vectors. NAKASHIMA (N), TAMURA (T), (Bioproduction Research Institute, National Institute of Advanced Industrial Sciences and Technology(AIST), 2-17-2-1 Tsukisamu-Higashi, Toyohira-ku, Sapporo 062-8517, Japan). (Lett. Appl. Microbiol.; 56, 6; 2013; 436-42).

Reports the construction, of doxycycline(tetracycline analogue)-inducible vectors that express antisense ribonucleoroacids(RNAs) in Escherichia coli. The expression genes of interest can be silenced conditionally by using these vectors. The expression of antisense RNAs from the vectors was more tightly regulated than the previously constructed isopropyl-â-D-galactopyranoside-inducible vectors. Furthermore, expression levels of antisense RNAs were enhanced by combining the doxycycline-inducible promoter with theT7 promoter-T7 RNA polymerase system; the T7 RNA polymerase gene under control of the doxycycline-inducible promoter, was integrated into the lacZ locus of the genome without leaving any antibiotic marker. The vectors are useful for investigating gene functions or altering cell phenotypes for biotechnological and industrial applications. (20 Ref.; 1 Tab.; 13 Fig.).

49.14873

Photoinduced bending of a large single crystal of a 1,2-Bis(4-pyridyl) ethylene-based pyridinium salt powered by a [2+2] cycloaddition. SUN (J), LI (W), CHEN (C), REN (C), PAN (D), ZHANG (J), (State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences(CAS), No. : 155 Yangqiao West Road, Fujian 350002, Fuzhou, Fujian Province, People's Republic of China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6653-4).

Describes the photoinduced bending of large single crystals that has been realized based on a single organic small molecule. The bending process is accompanied with high visual fluorescence contrast, which is essential for remote detection of photomechanical work. (34 Ref.; 6 Fig.; 1 Scheme).

49.14874

Important role of the C-terminal region of pig aldo-keto reductase family 1 member C1 in the NADPH-dependent reduction of steroid hormones. KWON (SG), BANG (WY), JEONG (JY), CHO (HR), PARK (DH), HWANG (JH), KIM (TW), KO (M), CHO (I), JOO (YK), JEONG (M), KIM (SW), KIM (CW), (Livestock Experimental Station, Gyeongasngnamdo Livestock Promotion Research Institute, Chunghyun 15-1, Sinan-myeon, Sancheong 666-962, Gyeongnam Province, People's Republic of Korea). (Indian J. Biochem. Biophys.; 50, 3; 2013, Jun.; 237-41).
Evaluated the NADPH(Nicotinamide Ademome Dinucleotide Phophate)-dependent reduction activities of two paralogous pig AKR1C1 with and without 19 additional amino acid residues in C-terminus against steroid hormones including 5á-dihydrotestosterone, progesterone, androstenedione and 5á-androstane-3, 17-dione, which act as substrates of the AKR1C1s. The AKR1C1s, among the hormones, exhibited the highest activity against 5á-dihydrotestasterone and the lowest activity against testosterone and progesterone. Furthermore, the AKRICIs showed the largest differential activities against 5á-dihydrotesterone, but no such charge of activities was found against progesterone and testerosterone. These results suggest that the C-terminal region of AKR1C1 plays an important effect in the reduction activities of pig AKR1C1. Thus, the differential activities of two AKR1C1 paralogs that have been observed provide important insights in understanding the molecular evolution. (21 Ref.; 1 Tab.; 10 Fig.).

49.14875

Identifying intermediates of sequential electron and hydrogen loss from a dicarbonylcobalt hydride complex. KRAFFT (MJ), BUBRIN (M), PARETZKI (A), LISSNER (F), FIEDLER (J), ZALIS (S), KAIM (W), (Institut für Anorganische Chemie, Universität Stuttgart, Pfaffenwaldering 55, 70550 Stuttgart, Germany). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6781-4).

Describes the electron- and hydrogen-transfer steps that are documented infrared(IR)-spectroelectrochemically and structurally for the H_2-producing oxidation of a dicarbonylcobalt hydride complex modified by the sterically protecting 1,1'-bis(diisopropylphosphino) ferrocene. The series complements the mechanism discussed for water-reducing cobalt compounds with less À-accepting ligands. (40 Ref.; 2 Tab.; 6 Fig.; 1 Scheme).

49.14876

Design and synthesis of chiral oxathiozinone scaffolds : Efficient synthesis of hindered enantiopure sulfonamides and sulfinyl ketimines. HAN (ZS), HERBAGE (MA), MANGUNURU (HPR), XU (Y), ZHANG (L), REEVES (JT), SIEBER (JD), LI (Z), DeCROOS (P), ZHANG (Y), LI (G), LI (N), MA (S), GRINBERG (N), WANG (X), GOYAN (N), KRISHNAMURTHY (D), LU (B), SONG (JJ), WANG (G), SENANAYAKE (CH), (Department of Chemical Development, BoehringerIngelhein Pharmaceuticals Incorporation, No. : 900 Old Ridgel Road, P.O. Box 368, Ridgefield, Connecticut 06877, USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6713-7).

Describes the title scaffolds that have a highly active and properly differentiated 5-0 bond for the efficient synthesis of enantiopure sulfonamides. The method is practical,

green and has the potential to provide an economical commercial process for the synthesis of bulky sulfonamides. (43 Ref.; 4 Tab.; 2 Schemes).

49.14877

Regioselective metalations of pyrimidines and pyrazines by using frustrated Lewis pairs of BF_3-OEt_2 and hindered magnesium-and zinc-amide bases. GROLL (K), MANOLIKAKES (SM), JOURDIN (XMd), JARIC (M), BREDIHHIN (A), KARAGHIOSOFF (K), CARELL (T), KNOCHEL (P), (Department Chemie, Ludwig-Maximilians-Universität München, Butenandstrasse 5-13, Haus F, 81377 München, Germany). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6776-80).

Describes the use of the frustrated Lewis pairs TMP(¼ 2,2,6,6-tetramethyl piperidine)-metal and BF_3-OEt_2(Borontrifluoride-diethyl etherate) that allows the regioselective metalation of pharmaceutically relevant diazines, such as pyrimidines, purines and pyrazines. These metalations are often complementary to prior deprotonations performed without BF_3-OEt_2. A new sequential regioselective full functionalization of the pyrazine scaffold with a bulky$(TM_5)_2$CH substituent is especially attractive. (73 Ref.; 2 Tab.; 5 Schemes).

49.14878

Using stable radicals to protect pentacene derivatives from photodegradation. KAWANAKA (Y), SHIMIZU (A), SHINADA (T), TANAKA (R), TEKI (Y), (Division of Molecular Material Science, Graduate School of Science, Osaka City University, 3-3-138 Sugimoto, Sumiyoshi-ku, Osaka-8585, Japan). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6643-7).

Describes the photochemical instability and insolubility in organic solvents of pentacene derivatives that prevent their use in molecular electronics. These issues were solved by using pentacene derivatives with stable radicals(Y=radical moiety, 1a and 2a) that have a lifetime of 2077 minutes in organic solvents under ambient light. The corresponding nonradical pentacene derivatives(Y=radical precursor, 1b and 2b) decay on exposure to light. (26 Ref.; 1 Tab.; 5 Fig.; 2 Schemes).

49.14879

Gold-catalyzed intramolecular region- and enantioselective cycloisomerization of 1,1-bis(indolyl)-5-alkynes. HUANG (L), YANG (H), ZHANG (D), ZHANG (Z), TANG (X), XU (Q), SHI (M), (Key Laboratory for Advanced Materials and Institute of Fine Chemicals, East China University of Science and Technology, No. : 130 Mei Long Road, Shanghai 200237, China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6767-71).

Describes the bis(indole) alkaloids analogues which were prepared under mild conditions and in high yields through a gold-catalyzed cycloisomerization of 1,1-bis(indolyl)-5-alkynes. The enantioselective version of this reaction gave the corresponding products in moderate to excellent yields(85-9%), moderate to good enantioexcess(ee) values(48-96%) and satisfactory regioselectivities. (70 Ref.; 4 Tab.; 3 Schemes).

49.14880

Silver-catalyzed nitrogenation of alkynes : A direct approach to nitriles through Ca''a''C bond cleavage. SHEN (T), WANG (T), QIN (C), JIAO (N), (State Key Laboratory of Natural and Biomimic Drugs, School of Pharmaceutical Sciences, Peking University, Xue Yuan Road, No. : 38, Beijing 100191, China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6677-80).
Describes the development of a novel direct transformation of alkynes into nitriles by a silver-catalyzed nitrogenation reaction through CC bond cleavage. This research provides both a new application for alkynes in organic synthesis and valuable mechanistic insights into nitrogenation chemistry. (94 Ref.; 1 Tab.; 1 Fig.; 5 Schemes).

49.14881

Ruthenium(II)/N-heterocyclic carbene catalyzed[3+2] carbocyclization with aromatic N-H ketimines and internal alkynes. ZHANG (J), UGRINOV (A), ZHAO (P), (Department of Chemistry and Biochemistry, North Dakota State University, Dept 275, P.O. Box 6050, Fargo, North Dakota 58108-6050, USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6681-4).

Describes the synthesis of indenamines using the title reaction, which occurs at ambient temperature, in the absence of oxidants or other metal salts and in nonpolar solvents. A proposed mechanism involves imine-directed activation of anaromatic C-H bond, alkyne insertion and carbocyclization by intramolecular imine insertion into Ru-alkenyl linkages. (68 Ref.; 1 Tab.; 3 Schemes).

49.14882

Highly selective hydroxylation of benzene to phenol by wild-type cytochrome P450BM3 assisted by decoy molecules. STOJI (O), KUNIMATSU (T), KAWAKAMI (N), WATANABE (Y), (Department of Chemistry, Graduate School of Science, Nagoya University, Faro-cho, Chikusa-ku, Nagoya, 464-8602, Japan). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6606-10).

Describes the direct hydroxylation of benzene to phenol that was catalyzed by wild-type P450BM3 in the presence of perfluorinated carboxylic acids as decoy molecules. The catalytic turnover rate reached 120 min^{-1} per P450. The selectivity towards phenol production was very high and not detected any overoxidation products. (59 Ref.; 3 Tab.; 2 Fig.; 1 Scheme).

49.14883

Enantioselective construction of á-quaternary cyclobutanones by catalytic asymmetric allylic alkylation. REEVES (CM), EIDAMSHAOS (C), KIM (J), STOLTZ (BM), (The Warren and Katherine Schlinger Laboratory for Chemistry and Chemical Engineering, Division of Chemistry and Chemical Engineering, California Institute of Technology, No. : 1200 East California Blvd, MC 101-20, Pasadena, California 91125, USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6618-21).

Reports the first transition metal-catalyzed enantioselective á-alkylation of cyclobutanones. This method employs palladium catalysis and an electro-deficient PHOC-type ligand to afford all-carbon á-quaternary cyclobutanones in good to excellent yields and enantioselectivities. (54 Ref.; 2 Tab.; 3 Fig.; 2 Schemes).

49.14884

Triggered In situ disruption and inversion of nanoparticle-stabilized droplets. KOSIF (I), CUI (M), RUSSEL (TP), EMRICK (T), (Polymer Science and Engineering Department, University of Massachusetts Amherst, 120 Governors Drive, Amherst, Massachusetts 01003, USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6620-3).

Describes the emulsion inversion, from water-in-oil(w/o) to oil-in-water(o/w), which was accomplished by employing tetrahydropuran-containing ligands that undergo facile deprotection, converting the nanoparticles from hydrophobic to hydrophilic. These ligand-tailored nanoparticles were used to prepare w/o emulsions that were disrupted and inverted, to o/w systems simply by towering the solution pH. The inversion process could be triggered by light using a photoacid generator. (21 Ref.; 14 Fig.; 1 Scheme).

49.14885

Direct asymmetric vinylogous aldol reaction of allyl ketones with isatins : Divergent synthesis of 3-hydroxy-2-oxindole derivatives. ZHU (B), ZHANG(W), LEE (R), HAN (Z), YANG (W), TAN (D), HUANG (K), JIANG (Z), (King Abdullah University of Science and Technology(KAUST), Division of Physical Sciences and Engineering and KAUST Catalysis Center, University Library, P.O. Box 4700, Thuwal 23955-6900, Saudi Arabia). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6666-70).

Describes the highly enantioselective title reaction which is mediated by a bifunctional catalyst and leads to E-configured vinylgous aldol products. These products are used as common intermediates in the synthesis of six biologically active 3-hydroxy-2-oxindole derivatives. Computational studies indicated that the observed stereoselectivity is a result of favourable secondary À-Ä* and H-bonding interactions in the transition state. (58 Ref.; 2 Tab.; 2 Fig.; 3 Schemes).

49.14886

Direct site-specific and highly enantioselective ã–functionalization of linear á,â-unsaturated ketones : Bi-functional catalytic strategy. YANG (D), WANG (L), HAN (F), ZHAO (D), ZHANG (B), WANG (R), (Key Laboratory of Preclinical study for New Drugs of Gansu Province, School of Basic Medical Sciences, Lanzhou University, No. : 199 Donggong Xi Road, Lanzhou, 730000, People's Republic of China). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6739-42).

Describes the title method that employs a Mg/L catalyst, which is well suited for the selective ã deprotonation and activation of linear á,â-unsaturated ketones for reaction with

nitroalkenes. The reaction leads to a series of optically active cyclohexane ring systems bearing multiple functional groups, systems which are not easily accessible using other methodologies. (46 Ref.; 2 Tab.; 2 Fig.; 2 Schemes).

49.14887

Rhodium-catalyzed ortho acylation of aromatic carboxylic acids. MAMONE (P), DANOUN (G), GOOSSEN (LJ), (FB Chemie-Organische Chemie, TU(Technische Universität) Kaiserslauterm, Erwin-Schrodinger-Strasse, Geb. 54, 67663 Kaiserslautern, Germany). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6704-8).
Describes the carboxylic acid functional group that directs the ortho acylation of benzoic acids with carboxylic anhydrides in the presence of a rhodium catalyst. The acylation at the ortho position is complementary to the meta selectivity of Freidel-Crafts reactions. The resulting products can undergo protodecarboxylation to deliver an aryl ketone. (88 Ref.; 2 Tab.; 5 Schemes).

49.14888

Copper-catalyzed rearrangement of N-aryl nitrones into epoxyketimines. MO (D), ANDERSON (LL), (Department of Chemistry, University of Illionois at Chicago, No. 545 West Street, Chicago, Illinois 60607. USA). (Angew. Chem.; 52, 26; 2013, Jun., 24; 6722-5).

Describes a new method for the preparation of trans-á,â-epoxyketimines that has been achieved through a copper-catalyzed rearrangement of (E)-á,â-unsaturated nitrones. Evaluates the scope and tolerance of the method and demonstrates the synthetic utility of the products. The new transformation provides facile access to an unusual, densely functionalized intermediate that can be exploited for further synthetic application. (42 Ref.; 3 Tab.; 3 Schemes).

49.14889

Gold-catalyzed regioselective synthesis of 2- and 3-alkynyl furans. BRAND (JP), WASER (J), (Laboratory of Catalysis and Organic Synthesis, Ecole Polytechnique Federale de Lausanne, EPFL SB ISIC LCSO, BCH 4306, 1015 Lausanne, Switzerland). (Angew. Chem.; 52, 26; 2013, Jan., 24; 6743-7).

Describes the selective synthesis of C2- or C3-alkynylated furans by using gold catalysis. Direct C-H alkynylation of furans was achieved with C2 selectivity and a domino cyclization/alkynylation process starting from allenes that gave C3-alkynylated products. The exact matching of the structure of the gold catalyst and an electrophilic hypervalent iodine reagent was essential for success. (80 Ref.; 3 Tab.; 2 Schemes).

49.14890

Determination of coal quality using artificial intelligence algorithms.SULJIC (M), BANJANOVIC-MEHMEDOVII (L), DZANANOVIC (Z), (Faculty of Electrical Engineering, University of Tuzla, 75000 Tuzla, Bosnia and Herzegovina Thermal Power Plant, Tuzla, 75000 Tuzla, Bosnia and Herzegovina). (J. Sci. Ind. Res.; 72, 6; 2013, Jun.; 379-86).

The main task of coal producers is to provide for sufficient quantities of coal of required quality with minimum costs of excavation. Therefore, the prediction of energy values is the most important task aiming to secure the optimal usage of coal energy value. Aims for the identification, examination and evaluation of most influential artificial intelligence algorithms that have been widely used in the data mining community in a real problem of predicting coal quality. The researches are based on the data achieved under laboratory conditions during the period(2005-2010) and include 33256 coal samples from "Kreka" Coal Mine Company. This research aims to build, based on the described data, a prediction model that will be used for predicting the coal quality class of unknown samples. Four algorithms, that have been identified are (a) C4.5, kNN, Naïve Bayes and Multilayer Perception(MLP) with the idea of finding the best model through the stages such as each of the algorithms is calibrated in order to find appropriate model division techniques which maximize the performance of the algorithms, to assess the importance of input attributes and ultimate comparison of the algorithm orders them with respect to their performance. The final evaluation of the outcomes allowed singling out the MLP to be the best predicting methods for the given domain with optimal structure for input, hidden and output layer. (26 Ref.; 2 Tab.; 3 Fig.).

49.14891

Biogas in India. VENKATESWARA RAO (P), BARAL (SS), (Department of Chemical Engineering, Birla Institute of Chemical Engineering(BITS), Pilani Campus, Vidya Vihar, Pilani-333 031, Rajasthan State, India). (Renew. Energy; 6, 5&6; 2013, Jun.; 48-51).
Discussed the utility, of the energy generation from renewable resources for bridging the gap as the fossil fuel resources are limited and their high demand. India's renewable energy resource potential is significant, with wind energy, biomass and small hydropower representing the technologies having the largest potential. (1 Tab.; 2 Photos).

49.14892

Electricity storage. (Renew. Energy; 6, 5&6; 2013, Jun.; 78-81).

Describes the electricity storage, that facilitates the grid integration of renewable power technologies, such as wind and solar-the production of which varies depending on the daily and seasonal metereological conditions, with variations lasting for seconds to minutes to hours. (2 Photos).

FINISHING MATERIALS

49.14893

Organic colorants in molecular electronics. SEKAR (N), (Dyestsuff Technology Department, Institute of Chemical Technology(ICT), Nathelal Parekh Marg, Matunga(C.Rly.), Mumbai-400 019, India). (Colourage; 61, 10; 2014, Oct.; 66&68).

Discussed the information storage, that has been shown a tremendous increase in information and remarkable miniaturization of electronic devices in the past few decades. Such a development will continue to demand an increase of the bit a real density and storage capacity in order to overcome the intrinsic physical limitations of memory-device components. Various efforts have been made for exploring and developing new recording technologies and materials that combine high density, fast response time, long retention time and rewriting capability etc. Organic materials have been declared as especially attractive in recent years among the various recording media for high-density data storage because of their low cost, simplicity, good stimuli-responsive properties and versatility in molecular design.

49.14894

Innovations in synthetic materials. GOPALAKRISHNA (G), (Shoe Design Development Center(SDDC), Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (Leather News India; 5, 10; 2014, Oct.; 41-2).

Discusses briefly about the utility and significant features of microfiber leather and the "Digital Color Printing" technology on vast leathers and the machinery used in this process. (6 Photos).

49. 14895

Preparation of new photocatalyst for removal of Alizarin Red-S from aqueous solution. ROOPAEI (H), ZOHDI (AR), ABBASI (Z), BAZRAFKAN (M), (Department of Chemistry, College of Chemistry Sciences, Marvadsht Branch, Islamic Azad University, Marvdasht, Iran). (Indian J. Sci. Technol.; 7, 11; 2014, Nov.; 1882-7).

Describes the synthesis of Hematite(á-Fe_2O_3) as a photocatalyst for removal of Alizarin red-S from aqueous solution. The as-prepared sample were characterized by -ray diffraction(XRD), scanning electron microscopy(SEM) and Fourier transform infrared(FTIR) spectra. Then photocatalytic degradation was carried out in the presence of the á–Fe_2O_3/NiS(Hematite/N-iodosuccinimide) on Alizarin red-S. Assessed the effect of catalyst dose, pH and initial dye concentration on the degradation processs. Employed the different concentrations of á–Fe_2O_3/NiS photocatalyst(0.25, 0.50, 0.75, 1.0, 1.25, 1.5, 1.75 and 2 g/), different pH values(1-10) and different concentrations of dye(10-100 ppm). (13 Ref.; 9 Fig.).

49.14896

Thermo migration of disperse dyes. SIVARAMAKRISHNAN (CN), (Colourage; 61,10; 2014, Oct.; 62&64).

Discusses about three factors, namely (a) What is thermo migration?; (b) thermo migration; (c) wet fastness properties that influence the production of dyes that possess the properties

such as good to excellent light fastness-good fiber coverage properties-good leveling characteristics-and above all good to excellent sublimation fastness properties.

49.14897

Dyeing properties of natural leather using red natural dyes. LEE (SC), SHIN (EC), KIM (WJ), (Natural Material Research Division, Korea Institute of Footwear and Leather Technology, No. : 152 DangGram Seo-Ro, Busanjin-Gu, Busan, 614-100, Korea). (J. Soc. Leather Technol. Chem.; 98, 6; 2014, Nov.-Dec.; 252-8).

Describes the development, of an environment-friendly, non-toxic, red-dyed leather by using four natural dyes namely coclineal, lac, beet red and monascus. Investigated the effects of dye concentration, dyeing time and temperature on the light fastness, rubbing fastness, colour difference and K/S values(i.e, each dyed sample's apparent depth value) to find the best natural dye for eco-dyeing the leather. The K/S value generally increased as concentrations of cochineal, monascus, lac, or beet red dyes were increased when dyeing the leather red. However, the increase in the K/S value was substantially lowered when more than 5.0% o.w.l.(on the weight of leather) was used, indicating that the optimal dye concentration is 5.0% o.w.l. A dyeing time of 100 minutes was found to be optimal because the K/S value stabilized after 100 minutes. The use of cochineal 5.0% o.w.l. resulted in a 9.18/RP(plum) and the use of lac 5.0% o.w.l. resulted in a 9.52RP. These results indicate colours that were the closest to red. Their "E* values, which were the leveling property indicators of the leather, were 0.56 and 0.13, respectively, showing superior characteristics compared to the other two dyes. (11 Ref.; 5 Tab.; 4 Fig.).

49.14898

Unique rare earth pigments for more thermally comfortable leathers. RADHIKA (SP), JAYAKUMAR (GC), SREERAM (KJ), BALACHANDRAN UNNI NAIR, (Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (J. Am. Leather Chem. Assoc.; 109, 7; 2014, Jul.; 224-30).

The investigations carried out on the synthesis characterization and optical properties of a new class of rare earth based near infrared reflective yellow pigments as an alternative to toxic inorganic pigments. The rare earth yellow pigments can be prepared by employing calcinations method. Revealed the doping of molybdenum for ceria in galodinium cerium lattice changes the color hue from cream white to dark yellow. The calcinations temperature employed for preparation of these pigments was about 1000°Centigrade. This temperature was found to be much lower than that required to achieve the intense yellow hue through conventional solid state calculations reaction(above 1500°Centigrade). X-ray diffraction (XRD) data confirm the crystalline character of the pigments. The pigment thus developed serves as a potential candidate for Near Infrared Reflectance(NIR) reflective pigments for leather applications on account of its NIR reflectance value of 96% in the wavelength region 1100 nm. Thermal images of the finished leather exposed to NIR light clearly indicate the lower heat retention character. The pigment properties were in good

agreement with industrial requirements. They also serve as environmentally safer pigments. (24 Ref.; 3 Tab.; 6 Fig.).

49.14899

Hexamine : Properties & applications. MAJUMDAR (S), (No. : H-701, Neel Padm Kunj, Vaishali, Opposite to Dbur Chowk, Gaziabad-201 012, Uttar Pradesh State, India). (Chem. Wkly.; 59, 52; 2014, Aug., 5; 203-6).

Hexamethylenetetramine[$(CH_2)_6N_4$], more commonly known as hexamine, is a heterocyclic chemical compound, formed by the reaction of formaldehyde and excess ammonia, either in an aqueous medium or in the vapour phase. Describes briefly about the physical and chemical properties, commercial trends, safety precautions and its applications in various industries including rubber, plastics, textiles, foam manufacturing, medium uses, solid fuel, food additive, reagent in organic chemistry, explosives, urea fertilizer, chipboard manufacturing as well as in other applications such as a stabilizer for polyvinyl acetate; an acid deactivator with herbicide formulations; in solvent extraction of phenol during tar & oil processing; and in the synthesis of glycine, among others. (1 Tab.; 2 Fig.; 3 Photos).

49.14900

Influence of sewing threads on seam pucker of sheep nappa leathers. WOYNSHET (G), PHEBE (K), THANIKAIVELAN (P), KRISHNARAJ (K), CHANDRASEKARAN (B), (Center for Leather Apparel & Accessories Department(CLAAD), Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (J. Soc. Leather Chem. Technol.; 98, 4; 2014, Jul.-Aug.; 158-62).

Reports an experimental investigation on the influence of securing threads on scam puckering of sheep nappa leathers with variation of stitch density, stitch type and thickness of leathers. Evaluated the scam pucker of sheep nappa leathers by using lock and zigzag stitches. Correlated the scam pucker with reversible stream, leather properties, thread properties and stitch density. The results show that core spun thread resulted in lower pucker than spun polyester thread. Also, the specimens sewn with reasonably thicker and stronger thread exhibited less pucker. It is also observed that scam pucker decreased with the increase of the stitch density. (20 Ref.; 3 Tab.; 7 Fig.).

49.14901

Chlorinated paraffins. BAJPAI (D), (Ambedkar Nagar, Guljani, Kanpur-208 022, Uttar Pradesh State, India). (J. Indian Leather Technol. Assoc.; 64, 7; 2014, Jul.; 649-60). Summarized the current regulatory status, of chlorinated paraffins(CPs), and is highlighted when properly managed, CPs are safe for use consistent with health and environment protection goals. (1 Tab.).

49.14902

X-Biomer : A new way forward in retanning chemistry. TEGTMEYER (D), (Product Development and Application Division, M/s. LANXESS AG, Headquarters, Kennedyplatz 1, 50569 Cologne, Germany). (World Leather; 27, 4; 2014, Aug./Sep.; 18-9).

Describes the development, of X-Biomer technology which is a new class of retanning agents that effectively use biopolymers for a more sustainable production of high quality leather. It means that tanners are able to produce a crust with a complete substitution of traditional resins, most polymers and possibly even complete substitution of standard syntans in future. This patent-filled technology is based on an unique production process where the biopolymer raw material is partly hydrolysed into small eligomers. It is stressed very firmly that the application techniques need to be taken into close account to the properties like hydrophilicity, fixation, isoelectrical point etc.-are different from their oil based peers in order to derive maximum benefit from these new chemical products. (3 Tab.; 1 Photo).

49.14903

Manufacturing & properties of ethylene propylene rubbers. MAJUMDAR (S), (Flat No. : H-701, Neel Padm Kunj, Vaishali, Opposite to Dabur Chowk, Ghaziabad-201 012, Uttar Pradesh State, India). (Chem. Wkly.; 60, 5; 2014, Sep., 9; 215-9).
Describes in detail about the manufacturing and properties of ethylene propylene rubbers. (6 Ref.; 3 Tab.; 4 Fig.; 2 Photos).

49.14904

Energy efficiency models : A value creator for the chemical industry. RAJAGOPAL (R), (M/s. "Chemical Weekly", Corporate Office, No. : 602, 6th Floor, B-Wing, Godrej Coliseum, Behind Everard Nagar, Off. Eastern Express Highway, K.J. Somaiya Hospital Road, Sion(East), Mumbai-400 022, India). (Chem. Wkly.; 60, 1; 2014, Aug., 12; 205-9).

Discusses the strategies for Energy Efficiency(EE) practices in the chemical industry with an emphasis on recent EE initiatives, significance of tools like Energy analysis and industry approaches. (5 Ref.; 2 Tab.).

49.14905

A simple technique for tracking individual spore and gametophyte development in Adiantum lunutanum Burm.f. using modified extra thin alginate film technique. SAREEN (B), BHATTACHARYA (A), SHARMA (M), SOOD (A), AHAJA (PS), (Division of Biotechnology, Council of Scientific and Industrial Research-Institute of Himalayan Bioresource Technology (IHBT), Post Box No. : 6, Palampur-176 061, Haryana State, India). (Indian J. Exp. Biol.; 52, 8; 2014, Aug.; 820-4).

Describes the development of a new technique for accurate calculation of percent germination and tracking of individual spores from germination to gametophyte development in Adiantum lununatum. High percentage of extra thin alginate film(ETAF) immobilized spore germination(72.4%) was followed by development of gametophytic clumps. The ETAF immobilized clumps were cut into pieces and multiplied en masse. Apomitic sporephytes developed from the gametophytes. This indicated the potential of ETAF for mass propagation of Adiantum lununatum without the need to start from spores. Since individual spores can be tracked from germination to gametophyte development, the ETAF technique has the potential to be used for (i) harvesting uniformly developed plants of similar age for extensive experimentations and commercial utilization and (ii) detailed study on developmental and reproductive biology of different fern and fern allies. (23 Ref.; 20 Fig.).

LEATHER PROCESSING MACHINES

49.14906

An experimental investigation of vapor generator characteristics in a low-pressure turbine engine. SAIAI (P), CHAITEP (S), BUNDHURAT (D), WATANAWANYOO (P), (Department of Mechanical Engineering, Faculty of Engineering, Chiang Mai University, No. : 239 Huay Kaew Road, Muang District, Chiang Mai, 50200, Thailand). (Indian J. Sci. Technol.; 7, 8; 2014, Aug.; 1130-6).

Proposed an experiment by using a vapor generator for a low-temperature heat source to drive a turbine engine. The system consists of a heat source to heat the water in the vapor generator apparatus and thus heating the water in the system of the working fluid increases the vapor turbine driving force. Here, HCFC-141b is used as a working fluid in the system because it has better thermo-physical properties, is a non-flammable liquid, is non-destructive to the atmosphere and has a high molecular mass and low boiling point. The experimental conditions comprised operating temperatures of 70 to 100°Centigrade and starting temperature of 30°Centigrade. The variables studied were the heating rate of vapor generator, mass flow rate of the working fluid flow through the vapor generator, inlet and outlet temperatures and pressures through the flow vapor generator and power output. These results were recorded to determine the performance and thermal efficiency of the vapor generator in the vaporized for driving the turbine. The results of this study show the potential of using a vapor generator for small-scale electricity production. (10 Ref.; 2 Tab.; 12 Fig.).

49.14907

Spotlight on garment processing machines-Part IV : Texcare Machines-Part 5 : Garment Dryers/ Laundry Dryers. NAIR (GP), PANDIAN (SP), (No. : B2/12, Tecnocrat Society, Off. V.S. Marg, Prabhadevi, Mumbai-400 025, India). (Colourage; 61, 10; 2014, Oct.; 106, 108 & 110-9).

Describes more recent developments in garment processing machinery. (38 Ref.; 9 Tab.; 16 Fig.).

49.14908

Spray finishing by computer. (World Leather; 27, 4; 2014, Aug./Sep.; 20).

Describes the development of a rotary spraying machinery equipped to control unwanted emissions while at the same time creating a high performance product. (1 Photo).

49.14909

Vacuum dryer technology full stream ahead. (World Leather; 27, 5; 2014, Oct./Nov.; 20).

Describes the production of a multi-table vacuum drying machine employing conventional act pump and condensation systems. It describes also the development of a new type viz. : model Eco-dry multi-table vacuum dryer working completely "dry" reducing operation costs compared with earlier "wet" machines. Technically suction in circuit is continuously high and the high vacuum achieved makes low drying temperatures possible. Highlights the non requirement, of any additional equipment as, for example, chillers for Eco-dry type dryer. (2 Photos).

SPECIAL PURPOSE LEATHERS

49.14910

Culture shock. FORGACS (A), (M/s. Modern Meadow, No. : 140 58th Street, Building A, Suite 8J, Brooklyn, New York 11220, USA). (Leather Int'l; 286, 4842; 2014, Jul.; 28).
Describes the leather that is being created from animal skin cells possibly in a manner allied to that used to create human skin for burn grafts and other uses. The process is seen as going beyond animal slaughter to supply skins to develop as a meat creating process. A future is forecast where humankind that regards the slaughter of animals for burgers and brindles as unimaginable. Developed already the fabricated meat/fish/poultry, from muscle cells and has serious financial backing. Referred the land use by livestock as being one of the largest uses and a major producer of greenhouse gases. The creation process is being told as complex but simple in concept and production.

LEATHER PROPERTIES. QUALITY CONTROL

49.14911

A comparison of low temperature softness of leather lubricated with various types of fatliquor. LI (Z), FAN (W), YANG (Q), TIAN (Y), (College of Materials and Chemical Engineering, Sichuan University of Science and Engineering, Zigong 643000, China). (J. Soc. Leather Technol. Chem.; 98, 4; 2014, Jul.-Aug.; 167-71).

Fatliquors are some of the most effective chemicals to impart softness and flexibility to leather and low temperature softness of leather is very important for the application of leather in a

low temperature environment. Aims mainly to compare low temperature of leather lubricated in the various types of fatliquors. Here, a softness tester and dynamic mechanical analysis were used to investigate the softness variation of leather which was lubricated with different types of fatliquors such as polyether silicone, sulphonated rapeseed oil, modified soybean lecithin and so on at temperatures within the range of -15°Centigrade to 25°Centigrade. The results indicate that the smallest variation in softness ratio is shown by polyether oil lubricated leather and imply that silicone oil is superior to sulphonated rapeseed oil and modified lecithin for manufacturing a leather with excellent low temperature softness. Therefore there is a great value in effectively utilizing silicone oil as a main component in fatliquoring agents to meet the new growing demand for low temperature softness of leather. (19 Ref.; 3 Tab.; 3 Fig.).

49.14912

Solving vein marks defects problem through wet end process. GOWTHAMAN (K), VIKRAM (S), NISHAD FATHIMA (N), RAGHAVA RAO (J), (Chemical Laboratory, Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (J. Am. Leather Chem. Assoc.; 109, 9; 2014, Sep.; 278-83).

Discusses the leather grading which is done on the basis of number of defects found on the leather. Investigated the defects either ante mortem or post mortem thus after the final quality and price of the leather. One of the ante mortem defects namely vein marks and developed a process for upgrading leathers with this defect. Scanning Electron Microscopic(SEM) studies clearly depict the groove or indentation due to the vein remarks. Upgradation using finishing often results in affecting the breathability of leathers. Hence, adopted a strategy of changing the post tanning recipe for upgradation of leathers with vein marks. The optimized post tanning recipe resulted in upper leathers with visibly reduced vein marks and the strength and organoleptic properties are on par with that of control leathers. Thus, it is shown that the vein marks defect in leathers, that can be overcome by suitable post tanning process modifications. (16 Ref.; 3 Tab.; 7 Fig.).

49.14913

Synthesis and application of novel functional materials as leather flame retardant. LI (B), LI (J), LI(L), JIANG (X), LI (X), (College of Chemistry, Sichuan University, Chengdu 610064, China and National Engineering Laboratory for Clean Technology of Leather Manufacture, Sichuan University, Wangjiang Campus, Section No. : 24 of Southern Yichuan, Chengdu 610065, Sichuan Province, People's Republic of China). (J. Am. Leather Chem. Assoc.; 109, 7; 2014, Jul.; 239-45).

Describes the successful synthesis, of a novel flame retardant from pentaerythritol, phosphorus oxycyloride, melamine and tetrakis-hydroxymethyl phosphonium chloride(THPC) by three steps. Its structures and properties were characterized by Fourier Transform-Infrared(FT-IR), elementary analysis(EA), mass spectrometry(MS), dynamic scanning calorimetry(DSC) and thermogravimetry(TG). It was applied to the manufacture of flame-retardant leather. Investigated the flame-retardant properties by the Limit-Oxygen Index(LOI) test and Vertical Flame test(VFT).

Evaluated the effects of the flame retardant on physical-mechanical and handle properties of leather at different conditions. The results show that this novel flame-retardant material can effectively inhibit leather burning, increase leather thermal stability and has effective flame retardant property. Furthermore, it has good synergistic effect for improving leather properties like fullness, softness, grain tightness, thus can meet requirements for leather flame-retardant technology. (13 Ref.; 5 Tab.; 6 Fig.; 1 Scheme).

BY-PRODUCTS

49.14914

Bio-based routes to bulk chemicals : isoprene. (Chem.Wkly.; 59, 52; 2014, Aug., 5; 207-9).

Isoprene(2-methyl-1,3-butadiene; CAS 78-79-5) is the second most important conjugated diolefin after butadiene. Isoprene, like isobutene, is usually produced as a by-product in the thermal cracking of naphtha in the production of ethylene. Describes the uses, conventional and renewable routes, as well as commercialization efforts. (4 Ref.; 1 Tab.; 1 Fig.; 1 Photo).

49.14915

Reuse of solid waste from juice industry(Citrus sinensis peel) in the extraction of antioxidants with enhanced activity through polymer encapsulates for the preservation of skin. MARIMUTHU (PK), VELMURUGAN (P), SREERAM (KJ), RAGHAVA RAO (J), BALACHANDRAN UNNI NAIR, (Chemical Laboratory, Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (J. Am. Leather Chem. Assoc.; 109, 7; 2014, Jul.; 231-8).
Bio-resources are finding increasing applications in the human day-to-day activities. Current research on the active ingredients of plant/fruit extracts has several applications. Suitable biocompatible carriers are needed which would increase the shelf life of the extracts to widen their applications in various fields. Studied the development of one such biocompatible carrier for encapsulation using PEG(polyethylene glycol)-Sodium alginate as a complex which acts as a model for any natural product extract viz. Citrus sinesis peel. Studied the extract for its radical and nitrite scavenging activity, inhibition of â-carotene bleaching and lipid extraction assay, before and after encapsulation in order to quantify the antioxidant activity in presence of the carrier. Discussed the observance of the better encapsulation of the antioxidant with increasing molecular weight of PEG upto 8000 Da which led to an increased shelf life and sustained release. Antioxidant PEG-8000-SA, 20:2:1(APS-8000) mixture has been optimized and used preservation of goatskin. The dehydration, rehydration and hydroxyproline assays reveal that, APS-8000 would be better alternative for the conventional sodium chloride preservation. (20 Ref.; 3 Tab.; 6 Fig.).

49.14916

Chrome adsorption characteristics of Yue Village soil fertilized with tannery sludge. DING (S), DONG (L), PAN (D), (Resources and Environmental College, Shaanxi University of Science

and Technology, Weiyang Campus, No. : 111 County Road, Xi'an, Shaanxi 710021, People's Republic of China). (J. Soc. Leather Technol. Chem.; 98, 4; 2014, Jul.-Aug.; 163-6).

Tannery sludge used in agriculture contains much organic matter like a high-quality organic fertilizer. However, the excess chrome in tannery sludge limits its expanding use in agriculture. Studied the adsorption of chrome in different forms in soil at different chrome concentrations and pHs. It is indicated in this research that both Cr(III) and Cr(VI) were easily fixed by adsorption when they entered the soil. Adsorption of Cr(III) corresponded to Freundlich adsorption isothermal pattern, while that of Cr(VI) accorded with a Langmuir adsorption isothermal pattern. pH was the vital factor which effected the adsorption of Cr(III) and Cr(VI). Most of the chrome in tannery sludge would settle in the soil when it was used as a fertilizer in agriculture, because the chrome is mainly Cr(III). (5 Ref.; 3 Tab.; 6 Fig.).

49.14917

Green solution for salinity in tannery wastewater : a step forward in leather processing. SARAVANABHAVAN (S), VELMURUGAN (P), RAGHAVA RAO (J), BALACHANDRAN UNNI NAIR, (Chemical Laboratory, Council of Scientific and Industrial Research-Central Leather Research Institute(CSIR-CLRI), Adyar, Chennai-600 020, India). (J. Am. Leather Chem. Assoc.; 109, 7; 2014, Jul.; 214-23).

Describes the conventional leather processing method that contributes to high salinity in wastewater due to the discharge of enormous amount of salts used for preservation. Hence, attempted the replacement of the salt with polyethylene glycol(PEG) to reduce the salinity in tannery wastewater. The molecular weight(MW) and percentage offer of PEG were standardized based on the rate of dehydration of hide matrix during preservation and rehydration of preserved hide matrix. The determination of hydroxyproline in spent soak liquors at various time periods during storage showed that the preservation of hides using PEG MW 2000 was more effective than sodium chloride. The reduction in total salinity by 43% is possible in tannery wastewater through PEG based preservation of raw hides. Functional characteristics of the experimental crust leathers are shown to be on par with control crust leathers. The developed greener process appears to be technically viable and economically acceptable alternative for salt based preservation. (30 Ref.; 3 Tab.; 13 Fig).

49.14918

Determination of hexavalent chromium in leather by ion-exchange chromatography. FONT (J), PEREZ (C), REYES (MR), COBOS (M), COMBALIA (F), MARSAL (A), (Instituto de Quimica Avanzada de Calatuna, IQAC(Internal Quality Assurance Cell), CSIC(Consejo Superior de Investigacions Certificas), c/Jordi Girona, 18-26, 08034, Barcelona, Spain). (J. Soc. Leather Technol. Chem.; 98, 4; 2014, Jul.-Aug.; 151-7).

Discusses the determination of traces of hexavalent chromium in leather consumer goods that has been carried out by ion-exchange chromatography(IEC). Samples are extracted at pH 7.5-8 with a phosphate buffer, according to the method of the current ISO 17075 standard.

The extracts are filtered and analyzed by high performance liquid chromatography(HPLC) using an ion-exchange stationary phase and a PDA(photodiode array) detector, without any cleanup process. An ammonium sulphate electrolyte at pH 8 is used as mobile phase. The determination of the recovery yields rates from 84 to 108%. Compared the HPLC method with the current ISO 17075 Standard, which is based in the classical method of the diphenylcarbazide. The data from these results and those of recovery rate studies, leads to the conclusion that the HPLC method is a better alternative for determining chromium(VI) in leather samples. The new method shortens the procedure of the current ISO 17075 Standard, diminishes workload, reduces the amount of laboratory wastes and its results are much more precise. HPLC is able to measure the chromium(VI) concentration of samples upto 3 mg/kg, the detection limit of the current standard. (21 Ref.; 2 Tab.; 3 Fig.).

49.14919

Antioangiogenic and antiprotiferative assessment of cyanobacteria. KYADARI (M), FATMA (T), VELPANDIAN (T), MALLIGA (P), BHARAT (N), BANO (F), (Department of Ocular Pharmacology & Pharmacy, Dr. Rajendra Prasad Center for Ophthalmic Sciences, All India Institute of Medical Sciences(AIIMS), Ansari Nagar, New Delhi-110 029, India). (Indian J. Exp. Biol.; 52, 8; 2014, Aug.; 835-42).

Describes the biologically active compounds with different modes of action such as antiproliferative, antioxidant, antimicrotubule, that have been isolated from algae and cyanobacteria. Evaluated the design of antiangiogenic and antiproliferative potential of dichloromethane and methanol(2:1) extracts of different cyanobacteria. Further, fingerprinting of the activity possessing extracts were carried out using electrospray ionization-Liquid chromatography-Mass spectroscopy/Mass spectroscopy(ESI-LC-MS/MS). Screened the extracts(25, 50 and 100 ìg) in the molecular endothelial growth factor(VEGF) induced angiogenesis in inovo chick chorioallontoic membrane assay(CAM) at various concentrations using thalidomide and normal saline as positive and untreated control groups respectively. Evaluated also the extracts for their antiproliferative activity by Microculture tetrazolium test(MTT) assay using HeLa(Henrietta Lacks) cancer cell line. The results obtained from the various algal extracts did not show any significant antiangiogenic activity as compared to VEGF control. Oscillatoria sp. and Lyngbya officinalis exhibited significant anti-proliferative activity at IC_{50} values of 220 and 260 ìg/mL respectively. ESI-LC-MS/MS of Lyngbya officinalis showed the presence of lyngbyatoxin-A and that of Oscillatoria sp. reveals the presence of malyngamide-J suggesting the possibility of antiproliferative activity. (35 Ref.; 1 Tab.; 9 Fig.).

WOOL TECHNOLOGY

49.14920

Synthesis and application of functional(anti-UV) azo dyes based on ã–acid on wool fabrics. YOUSSEF (BM), AHMED (MHM), ARIEF (MMH), MASHALY (HM), ABDELGHAFFAR (RA), MAHMOUD (SA), (National Research Center, Textile Research Division, No. : 33 Al Behou Ad Doqi Giza, Cairo, PO 12622, Egypt). (Indian J. Sci. Technol.; 7, 7; 2014, Jul.; 1005-13).

Describes the synthesis, of the several azo acid dyes with built-in ultraviolet(UV)-absorber residues(resorcinol, 2,4-dihydroxy benzophenone, 1-hydroxybenzotriazol sulfuric acid). The structure of the synthesized dyes was fully elucidated by using fourier transform infrared(FTIR) ^{1}H Nuclear Magnetic Resonance(^{1}H NMR). Reports the synthesis and application of the anti-UV dyes on wool fabrics aiming to these new dyes might reduce the undesirable photo-degradation effects of UV Radiation(UVR) on dyed fabrics and also to prevent UVR reaching the human skin which causes cell damage and skin cancer. Tested the fabrics dyed with anti-UV for color strength(K/S), rate of fading(''E) values and fastness properties. (23 Ref.; 6 Tab.).

TANNERY. ENVIRONMENTAL ASPECTS

49.14921

Energy & environmental challenges for the leather industry. KARNA (JV), (Leather News India; 5, 7; 2014, Jul.; 46-8).

Discusses in detail about the energy consumption and the environmental regulations in the leather industry; green energy options as well as the two vital issues, that are vital and need of the hour for the leather industry. (4 Photos).

49.14922

Some considerations about the international technical cooperation in the tanning industry. BULJAN (J), (J. Am. Leather Chem. Assoc.; 109, 8; 2014, Aug.; 248-60).

This article is the author's speech through which he stresses that the bilateral and multilateral cooperation should coexist and synergistically supplement each other in an effort towards improving living standards in poor developing countries for a safer and prosperous world. Otherwise, in the long-term, it is very unlikely that sophisticated technology and advanced security systems will be able to provide an effective shield against manipulated despair of millions born in poverty with no hope for better future. Indeed, as domination and pecking order are part of the nature, mutual support has been essential for survival of humans; while earlier it mainly included the extended family, tribe or nation, currently, in the globalized and nuclearized world it encompasses the whole world. (16 Ref.).

LEATHER PRODUCTS

FOOTWEAR

49.14923

Comfort in footwear-Part 2. GANGULY (SN), (J. Indian Leather Technol. Assoc.; 64, 7; 2014, Jul.; 641-8).

The four most marketed categories stressing benefits for the consumer are comfort, shock absorption, transpiration(or breathability, if one prefers) and weight relief. Most attempts at improving these features have little longevity in the market place and are eventually discarded as gimmicks. However, four recent innovations that have established themselves are successful keepers, along with some other hopeful contenders. (3 Ref.; 4 Fig.; 6 Photos).

49.14924

New dimensions in children's shoes-STRAIT. (Leather News India; 5, 7; 2014, Jul.; 42-5).

Describes an endeavor that has been made by Council of Scientific and Industrial Research-Central Leather Research Institute (CSIR-CLRI) under the caption viz. : 'Science & Technology Revolution in Leather with a Green Tech'. (1 Tab.; 5 Fig.; 17 Photos).

49.14925

Role of machines in stuck on process. GANGULY (SN), (J. Indian Leather Technol. Assoc.; 64, 8; 2014, Aug.; 743-7).

The process, "Stuck-On" is probably the most significant development in the footwear industry during twentieth century. This particular process accelerated the recent rapid growth of shoe industry in India. This process is proved as the turning point for making the process of shoe making easier, thus enabling more than 80% of the domestic production. Describes the various processes particularly the stuck-on-process that are put into use for making different products with special references to the productions of the footwear particularly the shoes. Provides a list of the machines, that are needed for the stuck on production. (8 Photos).

LEATHERGOODS

49.14926

Practical steps. HUDSON (A), (Leather and Footwear Division, SGS Headquarters, 1 Place des Alpes P.O. Box 2152, 1211 Geneva 1, Switzerland). (Leather Int'l; 216, 4841; 2014, Jun.; 26-7).

Consumer product recalls, occurring in European Union(EU), United States(US) and Australia, that have been reviewed, have very clearly demonstrated that testing for and detection of chromiumVI(crVI) in leather articles is currently a hot-button issue. Reviews how the concerns surrounding restricted substances in consumer products continue to grow and why the need to conform to legislation and brand specifications has become one of the critical tasks within the leather supply chain. (1 Tab.; 1 Photo).

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