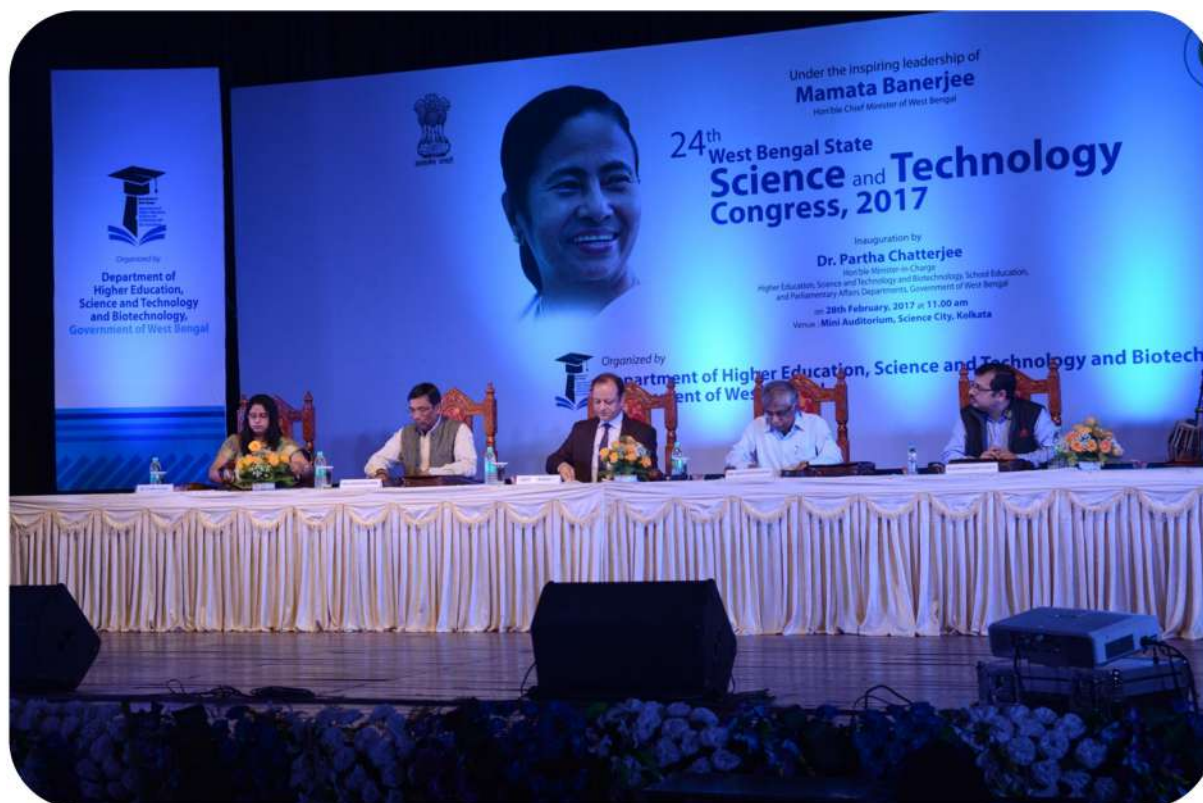


Report on  
**24th West Bengal State Science and Technology Congress, 2017**



**Organised**

**by**

**Department of Higher Education, Science and Technology**

**and Biotechnology,**

**Government of West Bengal**

The West Bengal State Science & Technology Congress is organized jointly with different Universities of the State every year. This year the 24th West Bengal State Science and Technology Congress, 2017 (WBSSTC, 2017) was organised by Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal to have a first-hand experience and develop a replicable model so that it can act as an important forum to promote, groom and encourage scientific Researchers of the State in future. The WBSSTC, 2017 was held on 28<sup>th</sup> February and 1<sup>st</sup> March, 2017 at Science City, Kolkata.

### **Wide Publicity**

To ensure maximum participation from the remote corners of the state, three Regional Science and Technology Congresses (RSTCs) were organized at erstwhile three administrative divisions of the state namely Jalpaiguri, Bardhaman and Presidency in collaboration with Ananda Chandra College, Jalpaiguri, Bankura Christian College, Bankura and NITTTTR, Kolkata respectively as fore-runner of the State Science & Technology Congress in November, 2016. The event was publicized widely through Newspaper advertisements, posters, banners, letters and emails to the Principals of Colleges, Deans and Directors of Research Institutes and Heads of various Departments of different Universities.

## Dedicated Website

A dedicated dynamic website was developed for Online Registration, Submission of Abstracts, Evaluation of Abstracts by Technical Committee and dissemination of all necessary information pertaining to the Congresses to the participants during various stages of the programme. All the major Universities, Research Institutes and Organizations and relevant State Government Departments and Organizations were also requested and subsequently they hosted a link to the 24th West Bengal State Science and Technology Congress, 2017 and Information Brochure in their official sites in order to reach maximum publicity.



### **Overwhelming Participation**

An overwhelming response was received from the scientific fraternity of the State in form of abstracts. More than 1250 abstracts were received covering 13 broad disciplines. A Technical Committee comprising of 29 reputed scientists and academicians from different academic and R&D institutes of the State evaluated the abstracts. Almost 1000 abstracts were selected for presentation in the three Regional Science and Technology Congresses, 2016.

### **Regional Science & Technology Congress, 2017**

Three Regional Science & Technology Congresses were held during November, 2017 in the then Administrative Divisions of the State at NITTTR, Kolkata for Presidency Division, Ananda Chandra College, Jalpaiguri for Jalpaiguri Division and Bankura Christian College, Bankura for Bardhaman Division. Jalpaiguri, Bardhaman and Presidency received 160, 432 and 650 abstracts respectively. After an intense peer review 131, 336 & 482 abstracts were accepted. All 131 abstracts were presented in poster/oral mode in Jalpaiguri followed by 323 & 360 in Bardhaman and Presidency respectively

### **Outstanding Paper Award**

165 abstracts (38 from Jalpaiguri, 62 from Bardhaman and 65 from Presidency) were selected from the Regional Science and Technology Congresses and awarded as 'Outstanding Paper' and invited to present the same in the State Science & Technology Congress, 2017.

## Author Workshop



The paper presenter of these ‘Outstanding Papers’ were also invited to attend the Author Workshop held on 3<sup>rd</sup> December, 2016 at Kolkata. The Workshop was organised by this Department in collaboration with a reputed International Publishing House. The objective was to help the young researchers communicate their work effectively in the national as well international platforms. Topics like Plagiarism, Technical English, Selection of Journal, different academic indices etc. were covered.



## Inaugural Session

The 24th West Bengal State Science and Technology Congress, 2017 was inaugurated at Science City, Kolkata on 28<sup>th</sup> February, 2017. The inaugural Session was presided over by Shri Vivek Kumar, IAS, Principal Secretary, Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal. Two Bhatnagar Awardees



Prof. Amitava Raychaudhuri, Palit Professor, Calcutta University and Dr. Suvendra Nath Bhattacharyya, Principal Scientist, IICB, Kolkata and Dr. Jyotirmayee Dash, Associate Professor, IACS, Kolkata, recipient of Swarnajayanti Fellowship, DST, GoI were present in the dais as Guests of Honour. Two students who won Outstanding Award at National Science Congress, 2016 were also felicitated during the Session.

### **Gopal Chandra Bhattacharya Memorial Award**

Gopal Chandra Bhattacharya Memorial Award was given to Prof. Rabindranath Chattopadhyay for his outstanding contribution in science popularization.



### **Abstract of Papers Presented**

An Abstract volume containing the selected abstracts from the Regional Science and Technology Congresses for presentation in West Bengal State Science and Technology Congress, 2017 was released during the inaugural session.

## Newspaper Advertisements

Advertisement inviting abstracts of scientific papers and about the 24th West Bengal State Science and Technology Congress, 2017 were published in leading Bengali and English Dailies.

   <p>Under the inspiring leadership of <b>Mamata Banerjee</b> Hon'ble Chief Minister of West Bengal</p> <p><b>24<sup>th</sup> West Bengal State Science and Technology Congress, 2017</b> 28th February and 1st March, 2017</p> <p><b>Dr. Partha Chatterjee</b> Hon'ble Minister-in-Charge Higher Education, Science and Technology and Biotechnology, School Education, Parliamentary Affairs Departments, Government of West Bengal</p> <p>will inaugurate the programme on <b>28th February, 2017 at 11.00 am</b> Venue : <b>Mini Auditorium, Science City, Kolkata</b></p> <p><b>PROGRAMME SCHEDULE</b></p> <table border="1"><thead><tr><th>28th February, Tuesday</th><th>1st March, Wednesday</th></tr></thead><tbody><tr><td>Inaugural Session and State Awards Ceremony followed by Prasanta Chandra Mahalanobis Memorial Lecture. Paper presentation on Agriculture- Fisheries and Animal Science, Botany, Zoology, Physiology, Medical Science, Chemistry, Intellectual Property Rights and Children's Science Session.</td><td>Paper presentation on Physics, Mathematics, Engineering, Earth Sciences, Environmental Science, Social Sciences and Children's Science Session. Invited Lecture, Panel Discussion followed by Valedictory Session.</td></tr></tbody></table> <p>Organized by <b>Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal</b></p> <p><b>Welcome invited Delegates and Participants</b> (Registration Starts from 9.00 am)</p>	28th February, Tuesday	1st March, Wednesday	Inaugural Session and State Awards Ceremony followed by Prasanta Chandra Mahalanobis Memorial Lecture. Paper presentation on Agriculture- Fisheries and Animal Science, Botany, Zoology, Physiology, Medical Science, Chemistry, Intellectual Property Rights and Children's Science Session.	Paper presentation on Physics, Mathematics, Engineering, Earth Sciences, Environmental Science, Social Sciences and Children's Science Session. Invited Lecture, Panel Discussion followed by Valedictory Session.	   <p>পশ্চিমবঙ্গের মাননীয় মুখ্যমন্ত্রী <b>শ্রীমতী মমতা বন্দ্যোপাধ্যায়ের</b> অনুপ্রেরণায়</p> <p><b>২৪<sup>তম</sup> পশ্চিমবঙ্গ রাজ্য বিজ্ঞান ও প্রযুক্তি কংগ্রেস ২০১৭</b> ২৮শে ফেব্রুয়ারি ও ১লা মার্চ, ২০১৭</p> <p>অনুষ্ঠানটির উদ্বোধন করবেন <b>ড. পার্থ চাটার্জী</b> মন্ত্রী, উচ্চশিক্ষা ও বিজ্ঞান ও প্রযুক্তি এবং জৈব প্রযুক্তি, কৃষি শিক্ষা, সম্পদ বিজ্ঞান বিভাগ, পশ্চিমবঙ্গ সরকার</p> <p><b>২৮শে ফেব্রুয়ারি ২০১৭, সকাল ১১ টা</b> স্থান : মিনি অডিটোরিয়াম, সায়েন্স সিটি, কলকাতা</p> <p><b>অনুষ্ঠান সূচী</b></p> <table border="1"><thead><tr><th>২৮শে ফেব্রুয়ারি, মঙ্গলবার</th><th>১লা মার্চ, বুধবার</th></tr></thead><tbody><tr><td>উদ্বোধনী অনুষ্ঠান ও রাজ্য পুরস্কার বিতরণী অনুষ্ঠান এবং রশ্মি শত্রু মহান্মনীষ স্মরণ সভা। কৃষি-বাড়ী ও পশু বিজ্ঞান, উদ্ভিদবিদ্যা, প্রাণীবিদ্যা, শাণীবিদ্যা, চিকিৎসা বিজ্ঞান, রসায়ন, মেগা-সম্পদ অধিকার বিষয়ক পত্রলেখা পর উপস্থাপনা এবং শিশু বিজ্ঞান অধিবেশন।</td><td>পদার্থবিদ্যা, পলিম, প্রযুক্তিবিদ্যা, কৃষি-বিজ্ঞান, সমাজ-বিজ্ঞান, পত্রলেখা বিষয়ক বিজ্ঞান পত্র উপস্থাপনা এবং শিশু বিজ্ঞান অধিবেশন। আবেদিত অর্থাধিবেশন বন্ধুতা, স্যাম্পলিং-এবং মহোত্তর অধিবেশন।</td></tr></tbody></table> <p>আয়োজক <b>উচ্চ শিক্ষা, বিজ্ঞান ও প্রযুক্তি এবং জৈবপ্রযুক্তি দপ্তর, পশ্চিমবঙ্গ সরকার</b></p> <p><b>আমন্ত্রিত প্রতিনিধি ও অংশগ্রহণকারীরা স্বাগত</b> (সকাল ৯টা থেকে রেজিস্ট্রেশন শুরু)</p>	২৮শে ফেব্রুয়ারি, মঙ্গলবার	১লা মার্চ, বুধবার	উদ্বোধনী অনুষ্ঠান ও রাজ্য পুরস্কার বিতরণী অনুষ্ঠান এবং রশ্মি শত্রু মহান্মনীষ স্মরণ সভা। কৃষি-বাড়ী ও পশু বিজ্ঞান, উদ্ভিদবিদ্যা, প্রাণীবিদ্যা, শাণীবিদ্যা, চিকিৎসা বিজ্ঞান, রসায়ন, মেগা-সম্পদ অধিকার বিষয়ক পত্রলেখা পর উপস্থাপনা এবং শিশু বিজ্ঞান অধিবেশন।	পদার্থবিদ্যা, পলিম, প্রযুক্তিবিদ্যা, কৃষি-বিজ্ঞান, সমাজ-বিজ্ঞান, পত্রলেখা বিষয়ক বিজ্ঞান পত্র উপস্থাপনা এবং শিশু বিজ্ঞান অধিবেশন। আবেদিত অর্থাধিবেশন বন্ধুতা, স্যাম্পলিং-এবং মহোত্তর অধিবেশন।
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## Prasanta Chandra Mahalanobis Memorial Lecture

The Prasanta Chandra Mahalanobis Memorial Lecture was delivered by Prof. Dipankar Das Sarma, IISc Bengaluru on Nanotechnology. The lecture was delivered simple, lucid and was easily comprehensible to the widely heterogeneous audience comprising of school students to young researchers to eminent scientists and academicians. The lecture was highly appreciated by everyone.



## Invited Lecture

Prof Joyashree Roy, Department of Economics, Jadavpur University delivered an invited lecture on Climate Change and Economics.



## **Panel Discussion**

A panel discussion on the Topic -‘Research should be an Integral part of School Education’ was organized. The panelists were Shri A. D. Choudhury, Director, Science City, NCSM, GoI, Dr. Emdadul Islam, Director, Birla Industrial and Technological Museum, Kolkata, Prof. Maitree Bhattacharyya, Director, JBNSTS and Prof. Subhashis Mukherjee, Calcutta University. The panel discussion was highly praised by the audience.



## Technical Sessions

Twenty six renowned scientists and academicians from different fields acted as Chairman and Co-chairman for Technical Sessions on thirteen disciplines. They selected three papers from each category for ‘Outstanding Award’.

Details of Abstracts selected for ‘Outstanding Award’ are provided in Annexure –I





## Children's Science Session

Apart for the Technical Sessions there was a Session dedicated for the child scientists. Around 42 Child Scientists who represented the state in the National Children's Science Congress presented their papers in this Session. Two Child Scientists who won accolades in the District, State and National level were also felicitated during the Science Congress.



## Cultural program

On 28<sup>th</sup> February evening, a musical program was organized followed by a Play.



## Valedictory Session

The Congress was concluded with Valedictory Session, chaired by eminent scientist Prof. Dhrubajyoti Mukhopadhyay, FNA, FNASc. Two other Bhatnagar awardees Dr. Santanu Bhattacharya, Director and Senior Professor, IACS, Kolkata and Dr. Sanghamitra Bandyopadhyay, Director, ISI, Kolkata graced the occasion as Guests of Honour.

39 Researchers in 13 disciplines were handed over the Certificate, Memento and a cash prize of Rs 3000/- each. Three Child scientists were awarded similarly. The Child Scientists who represented the State in National level were also felicitated.



## Feedback

The feedback received during and post events were very encouraging. The evaluation system for received abstracts, judgement on the day of event, overall planning and management of the events starting from Regional Level to the State level was praised by the participants, judges and the dignitaries.

## 24th West Bengal State Science and Technology Congress, 2017

### List of papers awarded as 'Outstanding' in State Science and Technology Congress, 2017

PRESENTER and Co-authors	Affiliations	Title of the Paper
<b>AGRICULTURE-FISHERIES AND ANIMAL SCIENCE</b>		
ARPITA RAKSHIT	Department of Zoology, Ramsaday College, Amta, Howrah	Study on Genotoxic Effect of Industrial Effluents on Spotted Snakehead Fish, <i>Channa punctatus</i> : Cytogenetic and Molecular Aspects
ARUNA PAL, Samiddha Banerjee, Paresh Nath Chatterjee, Subhashis Batobyal and Purnendu Biswas	West Bengal University of Animal and Fishery Sciences, Kolkata	Birbhum - an indigenous breed of sheep identified from the Birbhum district of West Bengal and confirmed Through Next Generation Sequencing
RUPSANATAN MANDAL <sup>1</sup> , Laksmi Hijam <sup>1</sup> , Moumita Chakraborty <sup>1</sup> , Nirmal Mandal <sup>2</sup> and Jayanta Tarafdar <sup>2</sup>	<sup>1</sup> Regional Research Station, Terai Zone, Directorate of Research, Uttar Banga Krishi Viswavidyalaya  <sup>2</sup> Bidhan Chandra Krishi Viswavidyalaya	Biotechnological intervention for selection of Taro genotypes having lower levels of Calcium oxalate Content and Resistant to <i>Phytophthora</i> Leaf Blight
<b>BOTANY</b>		
CYARIA GURUNG <sup>1</sup> , Jnan Bikash Bhandari <sup>1</sup> and Anirudra Gurung <sup>2</sup>	<sup>1</sup> Dept. of Botany, Siliguri College, Siliguri  <sup>2</sup> Dept. of Botany, St. Joseph's College, Darjeeling	Evaluation of Root Dipping and Media Culture Hydroponic Techniques Vis-A-Vis Conventional Techniques for cultivation of some vegetables

KISHORE KUMAR THAPA, Sanjib Saba <sup>1</sup> , Bappa Sarkar <sup>2</sup> and Manjil Gupta <sup>3</sup>	<sup>1</sup> Dept. of Botany, <sup>2</sup> Dept. of Geography, <sup>3</sup> Dept. of Zoology, Dinhata College, Cooch Behar	Present status and future prospects of Sitalpati in Cooch Behar
PRITHA CHOUDHURY, Atish Barua, Chinmay Kumar Panda and Prosenjit Saha	Chittaranjan National Cancer Institute, Kolkata	Therapeutic efficacy of eugenol thorough induction of apoptosis in Ehrlich Ascites Carcinoma (EAC) cell line
<b>CHEMISTRY</b>		
Tapas Majumdar <sup>1</sup> and ARABINDA MALLICK <sup>2</sup>	<sup>1</sup> Dept. of Chemistry, University of Kalyani, Nadia <sup>2</sup> Dept. of Chemistry, Kashipur Michael Madhusudan Mahavidyalaya, Purulia	A Newly Developed Dual Channel Optochemical Molecular Lock with Resettable and Reconfigurable Password: A Rational Design Strategy
DEBMALYA SANTRA, Arnab Goswami, Sujoy Mandal, Anupam Ghosh, Sourav Kar, Anim Kumar Basu, Angsuman Santra, and Uttam Kumar Ghorai	Dept. of Industrial Chemistry and Applied Chemistry, Swami Vivekananda Research Center, Ramakrishna Mission Vidyamandir, Belur Math, Howrah	Determination of pH of a Solution Using Acid Base Indicators and Lab made designed portable devices
PIYALI ADAK <sup>1</sup> and Shyamal Kumar Chattopadhyay <sup>2</sup>	<sup>1</sup> Dept. of Applied Science and Humanities, Guru Nanak Institute of Technology, Sodepur, Kolkata-114. <sup>2</sup> Dept. of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur, Howrah	Catecholase activity, DNA binding and Cytotoxicity studies of a water soluble binuclear Cu(II) complex of pyridoxal Schiff base

## EARTH SCIENCES

POUSHALI ROY	Dept. of Geography, Kashipur Michael Madhusudan Mahavidyalaya, Purulia	Estimation of Soil Erosion in the Sub humid, Red Soil Region of India Using A Modified USLE Raster Model
SAYONI MONDAL and Priyank Pravin Patel	Dept. of Geography, Presidency University, Kolkata	Predicting Streambank Erosion using the BSTEM Approach for the Silabati River in West Bengal
URMI HALDER, Aparna Banerjee and Rajib Bandopadhyay	Dept. of Botany, The University of Burdwan, Golapbag, Burdwan	From upper Stratosphere (41km) to Deep Southern Ocean (3.8km): widespread <i>Bacillus</i> sp.

## ENGINEERING

ARDHENDU KUNDU <sup>1</sup> , Kaushik Patra <sup>1</sup> , S. B. Belamgi <sup>1</sup> , Bhaskar Gupta <sup>1</sup> and Amirul Mallick <sup>2</sup>	<sup>1</sup> Electronics and Telecommunication Engineering Department, Jadavpur University, Kolkata <sup>2</sup> Dept. of Biological Sciences, Indian Institute of Science Education and Research, Kolkata	A Practical Investigation on Radio Frequency Absorption and Shielding Effectiveness in Chinese <i>Tabernaemontana divaricata</i> Plants at GSM 1.8 GHz
KAUNSAR JABEEN and Pavuluri Srinivasa Rao	Agricultural and Food Engineering Department, Indian Institute of Technology Kharagpur	Effect of High Pressure Processing on the Rheological Properties of Hydrocolloids
SREEJANA GHOSH and B.K. Sanfui	Dept. of Ceramic Technology Govt. College of Engineering and Ceramic Technology, Kolkata	Fabrication and Characterization of Organoclay Reinforced Polycarbonate Matrix Composite Films

## ENVIRONMENTAL SCIENCE

APARNA BANERJEE and Rajib Bandopadhyay	UGC- Center of Advanced Study, Department of Botany, The University of Burdwan, Golapbag	A non-pathogenic, exopolysaccharide producing, thermophilic <i>Bacillus anthracis</i> from Panifala hot water spring of Bengal, India
DEEP CHAKRABORTY and Naba Kumar Mondal	Dept. of Environmental Science, The University of Burdwan	Effects of Indoor air pollution from solid biomass fuel on Blood pressure, Heart rate and BMI among women: A rural population-based approach in West Bengal
DEEPANJAN MAJUMDAR <sup>1</sup> and Sudipta Ghosh <sup>2</sup>	<sup>1</sup> Kolkata Zonal Centre, CSIR-National Environmental Engineering Research Institute, Kolkata <sup>2</sup> Asutosh College (University of Calcutta), Kolkata	Atmospheric Fallout of Alkali and Alkaline Earth Metals (Na, K, Ca, Mg and Li) and Anionic Species ( $\text{SO}_4^{2-}$ , $\text{Cl}^-$ , $\text{PO}_4^{3-}$ , $\text{F}^-$ , $\text{HCO}_3^-$ ) over Kolkata Mega City

## IPR

JNUI DEB MALLICK DATTA and M. K. Sanyal	Indian Institute of Engineering Science and Technology (IEST), Shibpur	Entrepreneurship in Traditional knowledge-based Healthcare System: Scopes and Challenges in Indian scenario
SHREYAS SANTRA and Kavita Sharma	Rajiv Gandhi School of Intellectual Property Law, IIT, Kharagpur	Technology Transfer in Defense Sector and the need for Holistic Approach in IP Protection
RIYA DEY and Mahuya Hom Choudhury	Patent Information Centre (PIC), West Bengal State Council of Science and Technology	Patent analysis on Turmeric: Traces of prior-art in Indian perspective



## MATHEMATICS

Krishna Dalal <sup>1</sup> , Devjyoti Dalal <sup>1</sup> , ABHIJIT CHATTERJEE <sup>2</sup> , Jyotirmoy Chatterjee <sup>3</sup> and Debjani Chakraborty <sup>2</sup>	<sup>1</sup> All India Institute of Medical Sciences, New Delhi <sup>2</sup> Dept. of Mathematics, Indian Institute of Technology, Kharagpur <sup>3</sup> School of Medical Science & Technology, Indian Institute of Technology, Kharagpur	Adjudging the Mathematical Dimension of Reflexology Diagnostics: Expounding Cutaneous SS-OCT Attributes
Shilpan Dutta and DAMODAR PRASAD GOSWAMI	Dinabandhu Andrews Institute of Technology and Management, Narula Institute of Technology	On some prime generating functions
SUDIPTA SINHA	Department of Mathematics, Burdwan Raj College	The Fibonacci Numbers and Its Amazing Application

## MEDICAL SCIENCE

BHOOMIKA BASU MALLIK <sup>1</sup> , Rimashree Baishya <sup>1</sup> , Prasanta Kumar Maiti <sup>2</sup> , Anjan Adhikari <sup>3</sup> and Soma Banerjee <sup>1</sup>	<sup>1</sup> Dept. of Biotechnology, Heritage Institute of Technology, Kolkata <sup>2</sup> Dept. of Microbiology, IPGMER Medical College, Kolkata. <sup>3</sup> Dept. of Pharmacology, RG Kar Medical College, Kolkata.	Anti-inflammatory and anti-biofilm activity study of <i>Mikania scandens</i>
GOUTAM PATRA, Sreema Adhikary, Arindam Naskar, Ayan Basu, Yogiraj Roy, Manab Ghosh, Debananda Gonjhu, Bibhuti Saha and Sumi	Calcutta School of Tropical Medicine, Kolkata	High IL8/IL6 Titres and Enhanced Erythrocyte Oxidative Damage Are Indicator(s) of Dengue Severity

Mukhopadhyay		
JAYEETA HALDAR, Poulami Mukherjee, Rehana Parveen, Raja Ray and Prasanta Kr. Maiti	Department of Microbiology, Institute of Post Graduate Medical Education & Research, Kolkata.	Innovation of simpler technique for Anaerobic Culture
<b>PHYSICS</b>		
ABHISHEK DHAR <sup>1</sup> , Argha Dey <sup>2</sup> , Subhasis Roy <sup>2</sup> and Sharmistha Paul <sup>1</sup>	<sup>1</sup> West Bengal State Council of Science & Technology, Dept. of Science & Technology, Government of West Bengal, Kolkata <sup>2</sup> Dept. of Chemical Engineering, Rajabazar Science College, University of Calcutta	Synthesis and characterization of the organo-lead halide-based perovskite Solar Cell
DEBABRATA BHADRA <sup>1,2</sup> and B. K. Chaudhuri <sup>2,3</sup>	<sup>1</sup> Dept. of Physics, Bhairab Ganguly College, Kolkata <sup>2</sup> Dept. of Solid State Physics, Indian Association for the Cultivation of Science, Kolkata <sup>3</sup> Centre for Rural and Cryogenic Technology, Jadavpur University	Low Voltage and High Field-Effect Mobility Thin Film Transistor using Crystalline Polymer Nanocomposite as Gate Dielectric
SOUMYAJYOTI KABI	Hijli College, Hijli Co-Operative Society, Kharagpur	Investigation of mean square displacement of lithium ions and its dependence on frequency and temperature in an Ionic Glass Matrix
<b>PHYSIOLOGY</b>		
M. Yousuf <sup>1</sup> , DEBARATI	<sup>1</sup> Department of Chemistry, University	Synthesis and Biological Evaluation of Ferrocenylquinoline as a

MUKHERJEE, Debarati Mukherjee <sup>2</sup> , Abhishek Pal <sup>1</sup> , Somaditya Dey <sup>2</sup> , Supratim Mandal <sup>2</sup> , Chiranjib Pal <sup>2</sup> and Susanta Adhikari <sup>1</sup>	of Calcutta <sup>2</sup> Cellular Immunology and Experimental Therapeutics Laboratory, Department of Zoology, West Bengal State University	Potential Antileishmanial Agent
RAJEN HALDAR, Amartya Roy, Jyotirmoy Sikdar and Paromita Seal	Biophysics Laboratory, Department of Physiology, University of Calcutta	Cigarette Smoking and Hemoglobin: Future of Erythrocyte
TAMALIKA SANYAL and Pritha Bhattacharjee	Environmental Epigenomics Laboatory, Department of Environmental Science, University of Calcutta	Altered Mitochondrial Epigenetic Regulation in Arsenic Exposed Individuals
<b>SOCIAL SCIENCES</b>		
Mallika Banerjee and CHAITI DASGUPTA	Department of Psychology, University of Calcutta	That's my favorite place: A qualitative exploration of children's relatedness to everyday environmental settings in Kolkata
ISHANI GHATAK and Soumendu Chatterjee	Dept. of Geography, Presidency University, Kolkata	Socio-Economic Vulnerability and Insecurity of Street Vendors of Chinese Community in Kolkata: A Case Study
Arpita Banerjee <sup>1</sup> , Pubali Dhar <sup>1</sup> and SARBANI GANGULY <sup>2</sup>	<sup>1</sup> Viharilal College Campus, Calcutta University. <sup>2</sup> Narula Institute of Technology, Kolkata, West Bengal	Utilisation of sesame seed meal by lactobacillus strains under aerobic and anaerobic conditions
<b>ZOOLOGY</b>		
ANANYA NAYAK <sup>1</sup> and Santi Prasad Sinha Babu <sup>2</sup>	<sup>1</sup> Raja Rammohun Roy Mahavidyalaya, Department of Zoology, Radhanagar,	In vitro effect of a natural isoflavone against filarial worm <i>Setaria cervi</i>

	Hooghly <sup>2</sup> Parasitology Laboratory, Department of Zoology, Visva-Bharati University, Santiniketan	
SOURAV KUNDU <sup>1</sup> , Puja Pal <sup>2</sup> , Nithya Narayanan <sup>3</sup> , Srikanth Givvimani <sup>3</sup> , Sathnur B. Pushpakumar <sup>3</sup> and Utpal Sen <sup>3</sup>	<sup>1</sup> Life Science Division, Institute of Advanced Study in Science and Technology, Guwahati, Assam <sup>2</sup> Department of Zoology, Taki Govt, College, Taki, Hasnabad <sup>3</sup> Department of Physiology and Biophysics, University of Louisville, School of Medicine, Louisville, Kentucky, USA	A rapid and improved method for extraction and HPLC-UV detection of total homocysteine from plasma and tissue
SUBHAMAY PANDA <sup>1,2</sup> & Goutam Chandra <sup>3</sup>	<sup>1</sup> Division of Biological Sciences, Department of Pharmacy, Gupta College of Technological Sciences, Asansol <sup>2</sup> Indian Institute of Human and Social Sciences, Sitarampur <sup>3</sup> Mosquito, Microbiology and Nanotechnology Research Units, Parasitology Laboratory, Department of Zoology, University of Burdwan	The unraveling of evolutionary journey of snake venom serine protease and octopus venom serine protease