

# **RAMAKRISHNA MISSION VIVEKANANDA CENTENARY COLLEGE**



## ***Short Report*** **2021**

**RAHARA**

**KOLKATA – 700 118**

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## **Introduction**

*The Ramakrishna Mission Boys' Home at Rahara, a branch centre of the Ramakrishna Mission, was founded in 1944 as an orphanage with a nucleus of 37 boys rendered orphan by the Great Bengal Famine of 1942-1943. Since then the Home grew in dimensions and activities adhering to the principle of service to mankind in the spirit of worship. Today, the Home is an educational complex with several schools and colleges wherein nearly four thousand students are receiving education and training in different subjects and trades according to the aptitude of each individual.*

*This College which forms an integral part and unit of this educational complex is owned and managed by the Ramakrishna Mission. The foundation stone of the College was laid by Srimat Swami Vireswaranandaji Maharaj, the then General Secretary of the Ramakrishna Mission, on 3rd December, 1961 and the College started functioning in July, 1963. The College was established with a view to commemorating the First Birth Centenary of Swami Vivekananda, the Illustrious Patriot-Saint of India and with a view to imparting a general, value-based education in the light of the teachings of Ramakrishna-Vivekananda so that the young pupils may get ample opportunities to build up their character to make themselves useful to their families and to fulfill at the same time their basic obligation to the country.*

*The college is situated in the district of North 24-Parganas, identified by the Government as a district highly populated by citizens belonging to SC/ST, OBC and minority community. The district is also identified by the UGC Committee as low GER (**G**ross **E**nrolment **R**atio) district. The college not only caters the need of local students but it also attracts a large number of students belonging to lower-middle and low income groups from remote areas of West Bengal situated in the districts of South 24 Parganas, West Midnapore, Maldaha and areas adjacent to international border with Bangladesh.*

*The college offers higher education in seven science branches – UG & PG courses in Chemistry Mathematics & Botany and UG courses in Botany, Mathematics, Physics, Microbiology, Computer Science and Zoology. Since its very beginning, the vision of this college has been two-fold –(i) exposing young minds to advanced scientific topics*

*and imparting hands-on experiencing to sophisticated analytical instruments and (ii) establish the college as a potential center of research activities; thus creating a strong tradition of academic activities and an ambience that favours the scholarly activities.*

*In all these years, the students of this college has excelled academically in the University Exams and secured high ranks in merit lists. The students of this college are also very enthusiastic to assess their talents in different National-level Examinations [e.g. JAM conducted by IITs, entrance tests conducted by IISc (Bangalore), JNCASR (Bangalore, ISM Dhanbad()) and various other Indian Universities such as Jadavpur University etc.]. Students from our Post Graduate Department of Chemistry has qualified in various National-level examinations such as NET, GATE etc. to become eligible to receive research scholarships.*

*As is evident from the trends emerging in recent years, majority of the UG students pursue higher studies in pure science or technology in the universities, with a few opting for job-oriented courses such as MBA, MCA etc. The choice of the PG students has been either to pursue a research career or to undertake intensive preparation for different jobs. Overall, the placement record over the past four decades have been satisfactory. Our students are well placed in different Nationally and internationally acclaimed academic and research institutions, in schools, in Government and semi-Government jobs, in private sectors, NGOs etc.*

*It is probably one of the very few undergraduate colleges in West Bengal which undertook research projects/programmes a decade ago. The devoted and untiring efforts of the staff members and research scholars have so far produced around **100** publications (in internationally refereed journals). The college has so far produced seven Ph.D. s, and currently fourteen(14) students are persuing research work for their Ph.D degrees..*

*The college envisions itself as a potential center of higher education in near future with increasing thrust in undertaking research projects in advanced scientific topics, thus attracting and engaging the best of the students to the frontier areas of respective discipline. With its currently available limited human resource, infrastructural and*

*instrumental facilities, attaining those higher standards have become more difficult. The college expects a generous funding from the various Government / Non-Government agencies to meet its scientific and social obligations.*

*Our college has achieved the following milestones (2020- 2021) :*

- **NAAC accreditation** : Accredited with Grade A (CGPA : 3.14),
- **CPE Status** : College with Potential for Excellence (CPE) by the UGC from 2016
- **WBDST-FIST Award** : Physics, Chemistry, Botany and Zoology have been awarded WBDST-FIST from 2014-2015 (for 3 years)
- **DST-FIST Award** : The College as a whole has been awarded by the DST, Govt of India from the session 2013-2018
- West Bengal State University has approved our college as a Research Centre named “**Swami Vivekananda Centre for Multidisciplinary Research in Basic Sciences and Social Sciences**” on 2015.
- UGC has conferred the status of **Autonomy** to our college from the session 2017-2018.
- **NIRF** India ranking-2019 is 8<sup>th</sup> and ranking-2020 is 11<sup>th</sup> in India.
- The college is the **INSTITUTIONAL MEMBER of ASIA PACIFIC QUALITY NETWORK** in 2019
- Recognition of **SIROs** by Ministry of Science and Technology, New Delhi.
- **DBT STAR** College status by The Department of Biotechnology, Govt. of India.

### **Vision and Mission of the Institution**

#### **Vision**

The college is a unit of Ramakrishna Mission Boys' Home, Rahara which is a branch centre of the worldwide organization, Ramakrishna Math & Ramakrishna Mission established by Swami Vivekananda.

Swami Vivekananda said 'My ideal indeed can be put into a few words and that is: to preach unto mankind their divinity, and how to make it manifest in every movement of life' & emphasized the need of 'Modern Science coupled with Vedanta'. Poised in these two visions the institution tries to follow the ideal of *Atmano mokshartham jagaddhitaya cha*, freedom from the bondage of all ignorance & misery by realizing one's divine Self and mending the path for material, intellectual and spiritual good of the entire world. Imbibing this spirit, the college envisions to manifest itself into a powerful

centre of higher education aiming the full-fledged growth and fulfillment of all those coming in contact with it.

### **Mission**

The method followed to achieve the supreme good for oneself and for all others is 'Shivajnane jivaseva' – service done in a spirit of worship. Here in this college, the goal is to serve the students mostly coming from economically constrained circumstances by providing them quality education in the field of Science and in the art of all-square Personality Development by:

- (i) Exposing young minds to advanced scientific topics and imparting hands-on training over sophisticated analytical instruments
- (ii) To establish the college as a potential center of research activities thus creating a strong tradition of deep-rooted academic pursuits and an ambience that favours the scholarly activities
- (iii) Imparting a man-making, character-building education by a balanced development of the 3H's- Head, Heart and Hand so that the students may turn out to be wise citizens able to shoulder the responsibility of the Nation.
- (iv) A culture of labour and service, focus and perseverance, simple living and high thinking is transmitted to the students who are the future of the nation.

This sort of education system which harmonizes the best of the 3 'S's - Science, Service and Spirituality is indeed one of the striking features of the college. Thus the institution stands tall to reach unimaginable heights which many others may only dream about.

### **Detailed Existing Facilities of the college**

<b>Facilities</b>	<b>Details of facilities</b>	<b>Numbers and other details</b>
Auditorium/seminar complex with infrastructural facilities		3
Sports facilities	Playground	5
	Gymnasium	2

Residential facilities for teaching and non-teaching staff	For teaching staff	5 residential quarters
	For non -teaching staff	6 residential quarters
Cafeteria		1
	Inpatient facility	Ramakrishna Mission Sevapratishthan being a branch center of the same organization, can be availed
	Outpatient facility	Ramakrishna Mission Boys' Home, Rahara Dispensary service is available
	Emergency care facility	Ramakrishna Mission Boys' Home, Rahara Hospital is available
	Qualified doctor- Part Time	10
	Qualified Male Attendant - Full Time	04
	Qualified Male Attendant - Part Time	02
Facilities like banking, post office, book shops	Bank	United Bank of India, Rahara Branch
	Post Office	Rahara Post Office
	Book Shops	Vivekananda Book House (rented)
		Sales Counter For Books on Value Education
Biological waste disposal	Organic waste management system	All the microbiological waste products and equipments used for that purpose are autoclaved on a regular basis
Generator or other facility for management/ regulation of	Generator	Three (3)125 KVA
	Green power supply with large battery bank	1. 5 kVA (three numbers)

electricity and voltage		2. 10 kVA (one number)
		3. 3 kVA (five number)
	Solar power (on-grid)	92 Kwatt
Solid waste management facility		This is regularly done by Khardah Municipality

### List of Seminars/Webinars organized:

Date	Webinar	Speaker
04 <sup>th</sup> October, 2021	Induction Programme for the newly admitted PG students of Chemistry  Topic: Crystal Engineering of Solid-state Pharmaceuticals: From Synthons to Salt- Cocrystal Drugs	Prof. Ashwini Nangia, Professor of Chemistry, University of Hyderabad, Hyderabad, Former Director, CSIR National Chemical Laboratory, Pune
05 <sup>th</sup> October, 2021	Induction Programme for the newly admitted PG students of Zoology  Topic: Genotype to Phenotype through Omics: An Overview.	Prof. Ranganath, Hassan Annegowda  Visiting Professor at Indian Institute of Science, Bangalore;  Chairman, Board of Governors, IIIT Kurnool;  Distinguished Professor for Life, University of Mysore;  Formerly Director, National Assessment and Accreditation Council (NAAC); Former Vice Chancellor, Bangalore University

Date	Webinar	Speaker
06 <sup>th</sup> October, 2021	<p>Webinar on IPR: Issues and Challenges in Higher Education</p> <p>Topic: A Peep into IPR on Academic Research: Role of Information Professionals</p>	Dr. Saptarshi Ghosh, University of North Bengal
07 <sup>th</sup> October, 2021	<p>Induction Programme for the newly admitted PG students of Botany</p> <p>Topic: Why and how to be a Plant Scientist?</p>	<p>Prof. Ravinder K Kohli, PhD</p> <p>Vice-Chancellor, Amity University Punjab</p> <p>Former Vice-Chancellor, Central university, Punjab</p> <p>JC Bose National Fellow</p>
08 <sup>th</sup> October, 2021	<p>Induction Programme for the newly admitted PG students of Mathematics</p> <p>Topic: The games that mathematicians play!</p>	<p>Prof. Gadadhar Misra</p> <p>Professor, Department of Mathematics (IISc.),</p> <p>Former Chairman Department of Mathematics, IISc, Bangalore</p> <p>Vice President, Indian National Science Academy</p>
08 <sup>th</sup> October, 2021	<p>Opportunities and Scopes in Forest Services In India</p> <p>Orientations and Career Counseling for UG students of our college</p>	Dr. Narayan Chandra Saha, Former Dy. Director, DVC, Forest



Date	Webinar	Speaker
09 <sup>th</sup> October, 2021	Topic: Topic: Plagiarism in scholarly publication: What, Why and How?	Dr. Sibsankar Jana, Assistant Prof., University of Kalyani
26 <sup>th</sup> October, 2021	DBT STAR COLLEGE Programme organized by the Department of Zoology  The story of how life could have originated on Earth	Dr. Sudha Rajamani,  Indian Institute of Science Education and Research (IISER), Pune
08 November 2021 to 15 November 2021	National level Intercollegiate Online Faculty Development Program on Outcome Based Education & Bloom's Taxonomy  Organized by Internal Quality Assurance Cell (IQAC)	in association with IPSR solutions limited, Kottayam.
21 <sup>st</sup> December, 2021	DBT Star College Program  Workshop On Sampling, Isolation, Preservation &  Identification Of Soil Microarthropods	Dr. Guru Pada Mandal Scientist E Zoological Survey of India

Date	Webinar	Speaker
23 <sup>rd</sup> December, 2021	<p>Workshop Organised by the Department of Zoology</p> <p>In Collaboration with Purba Midnapore Forest Division</p> <p>Monitoring And Survey Of Plantation Created By Purba Midnapore Forest Division Through Mgnrega During 2021-2022 As Directed By Honorable Chief Minister To Protect Sea Coast From Natural Calamities</p>	<p>Dr. Anupam Khan W.B.F.S., Divisional Forest Officer, Purba Medinipur Forest Division</p> <p>Mr. Balaram Panja W.B.F.S., Assistant Divisional Forest Officer, Purba Medinipur Forest Division</p>
7 <sup>th</sup> & 28 <sup>th</sup> December, 2021	<p>National Level Seminar On “Planetary Crisis and Human Liberation”</p> <p>Sponsored by Indian Council of Philosophical Research</p>	<ol style="list-style-type: none"> <li>1) Prof. Sankar Kumar Ghosh, Former Vice Chancellor, Kalyani University, Professor, Department of Biotechnology, Assam University, Silchar</li> <li>2) Prof. Projit Kumar Palit, Professor, Department of History, Assam university, Silchar</li> <li>3) Prof. Anil Kumar Sarkar, Professor of History, University of Kalyani, West Bengal</li> <li>4) Prof Subhabrata Dutta, Professor , Department of Social Work, Assam University, Silchar</li> <li>5) Prof. Sirajul Islam, Professor and Former Head Dept. of Philosophy and</li> </ol>

		Religion, Visva-Bharati University, Santiniketan
		6) Professor Kantilal Das, Department of Philosophy, North Bengal University, West-Bengal
		7) Professor Bhupendra Chandra Das, Head, Department of Philosophy, Vidyasagar University
		8) Prof. Amal Kumar Harh, Professor, Department of Philosophy,
		9) Cooch Behar Panchanan Barma University, Cooch Behar.
		10) Pin: 736101., West-Bengal
		11) Dr. Akhil Sarkar, Assistant Professor, Nabadwip Vidyasagar College, Nadia, West Bengal
		12) Dr. Santanu Dey, Associate Professor, Department of History, Ramakrishna Mission Vidyamandira, Belur Math.
		13) Prof Rajkumar Modak, Department of Philosophy, Sidho-Kanho-Birsha University, Purulia, West Bengal
		14) Dr. Kuheli Biswas, Assistant Professor, Department of Philosophy
		15) University of Kalyani,
		16) Dr. Lily Biswas, Department of Philosophy, University of Kalyani

		<p>17) Prof. SaswatiMutsuddy, Former Head, Department of Pali, University of Calcutta</p> <p>18) Dr.MrinalkantiChattoopadhyay, Principal, KandraRadhakantaKunduMahavidyalaya, West Bengal</p> <p>19) Dr.Buddhadev Bhattacharya, Sr. Assistant Professor, Dept. of Philosophy, Nava Nalanda Mahavihara, (Deemed University), Ministry of Culture, Govt. of India, Nalanda, Bihar.</p> <p>20) Prof. Samar Kumar Mondal, Professor, Department of Philosophy, Jadavpur University</p> <p>21) Dr Prasanta Sarkar, Assistant Professor Department: Philosophy, University of Burdwan</p> <p>22) Swami Vedanuragananda, Controller of Examinations, RKMVCC</p>
28 <sup>th</sup> December, 2021	<p>Sri Ramakrishna Endowment Lecture</p> <p>Instituted byProf. Projit Kumar Palit, Professor, Department of History, Assam university, Silchar</p> <p>Topic: Swami</p>	<p>Revered Swami Suparnanandaji Maharaj, Secretary, The Ramakrishna Mission Institute of Culture, Golpark</p>

	Vivekananda's Practical Vedanta	
30 <sup>th</sup> December, 2022	<p>Webinar on "Food Technology for a Better Tomorrow"</p> <p>Organised by Dept. of Microbiology, RKMVCC, Rahara</p>	Prof. Hari Niwas Mishra, Dept. of Agricultural and Food Engineering, IIT Kharagpur
12 <sup>th</sup> February, 2022	<p>One Day Seminar under DBT STAR College Scheme on "The Art of Science Communication"</p> <p>Organised by Dept. of Zoology, RKMVCC, Rahara</p>	Dr. Manas Pratim Das, Programme Executive, All India Radio, Kolkata
12 <sup>th</sup> March, 2022	<p>One day DBT STAR career Orientation Program in collaboration with Current affairsreview</p> <p>Organised by Dept. of Mathematics, RKMVCC, Rahara</p>	Sri Amit Kumar Bose, Eminent person in Civil Service Coaching
12 <sup>th</sup> March, 2022	<p>One Day DBT STAR seminar on - Life style modification &amp; health promotion program for students: prevention, counseling &amp; wellbeing.</p> <p>Organised by Dept. of</p>	Dr. Biswajit Das, Chief Medical officer, Coal India Limited, Govt. of India.

	Botany, RKMVCC, Rahara	
15 <sup>th</sup> - 20 <sup>th</sup> March, 2022	<p>National Level Workshop on – Herbarium Methodology and plant Nomenclature.</p> <p>Organised by Dept. of Botany, RKMVCC, Rahara In collaboration with Central national Herbarium (CNH), ENVIS resource partner on Biodiversity (Flor), Botanical Survey of India (MoEF &amp; CC)</p>	Dr. K. Karthigeyan, Scientist-E, CNH, BSI
21 <sup>st</sup> March, 2022	<p>One day seminar on – ABC of Genome Editing.</p> <p>Organised by Dept. of Botany, RKMVCC, Rahara</p>	Dr. Kutubuddin Ali Molla, Scientist, Crop Improvement Division, ICAR National Rice Research institution, Cuttack.
22 <sup>nd</sup> march, 2022	<p>One day international Seminar on- Regulatory mechanism of eukaryotic gene expression and genome integrity with implication in disease pathogenesis and therapeutic development</p> <p>Organised by Dept. of Chemistry, RKMVCC, Rahara</p>	Prof. Sukesh Ranjan Bhoumik, Prof., Dept. of Biochemistry and Molecular Biology, Southern Illinois University School of Medicine.

27 <sup>th</sup> March, 2022	One day international Seminar on- NMR in Life and Science.  Organised by Dept. of Chemistry, RKMVCC, Rahara	Prof. Tapas Mal, Prof., Dept. of Chemistry , NMR Director, The Pennsylvania State University
11.02.22, 12.02.22, 25.02.22, 26.02.22, 11.03.22, 12.03.22, 25.03.22, 26.03.22	Workshop on Arc GIS  Organized by the DBT STAR College Scheme, Dept. of Zoology	<ul style="list-style-type: none"> <li>• Dr. Tanoy Mukherjee, Research Associate, Zoological Survey of India</li> </ul>
12.02.22, 09.04.22, 22.04.22, 23.04.22	Workshop on Uses of R software by the DBT STAR College Scheme, Dept. of Zoology	<ul style="list-style-type: none"> <li>• Dr. Tanoy Mukherjee, Research Associate, Zoological Survey of India</li> </ul>
28.03.2022	Special Workshop on Vermicompost Preparation and Sustainable Farming by the DBT STAR College Scheme, Dept. of Zoology	<ul style="list-style-type: none"> <li>• Mr. Krishnapada Biswas (Biofarmer)</li> </ul>
08.03.2022	Interdisciplinary seminar on Chiron amino acids derived heterocycles and natural products: isolation, design, synthesis and biological activity by the DBT STAR College Scheme, Dept. of Zoology	<ul style="list-style-type: none"> <li>• Dr. Goutam Panda, CDRI</li> </ul>
12 <sup>th</sup> March, 2022	Seminar on Life style modification & health promotion program for students: prevention, counselling and wellbeing	Dr. Biswajit Das, Chief Medical Officer (CMO), Coal India Limited

	by the DBT STAR College Scheme, Dept. of Botany	
12 <sup>th</sup> March, 2022	Civil Services as Career Option and How To Start Preparing?	Sri Amit Kumar Bose, An eminent faculty in the field of Civil Services Coaching
17 <sup>th</sup> March, 2022	Freshers' Welcome & Inauguration of Swami Vijnanananda Gallery on Indian Knowledge Systems	<ul style="list-style-type: none"> <li>• Revered Swami Balabhadranandaji Maharaj, Assistant General Secretary, Ramakrishna Math &amp; Ramakrishna Mission, Belur Math</li> <li>• Prof. Virendra Kumar Tewari, Director, IIT Kharagpur</li> <li>• Prof. Joy Sen, Chairperson, Centre of Excellence for Indian Knowledge System, IIT Kharagpur</li> <li>• Prof. Suman Chakraborty, Dean SRIC, IIT Kharagpur</li> </ul>
23rd Feb, 2022	Seminar on Bioprospecting & Plant Biotechnology by the DBT STAR College Scheme, Dept. of Botany	Dr. B. Ghosh
22nd March 2022	Interdepartmental Poster and Elocution Competition on "Earth Day by the DBT STAR College Scheme, Dept. of Botany	Teachers of Department of Botany
29th March, 2022	Workshop on Methods in Bioinformatics by the DBT STAR College Scheme, Dept. of Botany	Teachers of Department of Botany
26.03.2022	Famers' meet on the Farming Techniques of Medicinal Plants	Coordinator Dr. B. Ghosh 110 farmers participated

#### Students' achievements:



- Sourabh Kundu from Department of Microbiology has successfully completed one-month summer internship on the subject **“Single molecule level detection of cisplatin drug treated DNA”** under the guidance of Dr. Rupa Mukhopadhyay, senior scientist, Department of Life science, Indian Association for the Cultivation of Science (IACS), Kolkata
- Somnath Roy, Joydip Majumder, and Sohamdeep Chakraborty from Department of Microbiology has successfully completed one-month summer internship training on the subject **“Principles of Computer aided Drug Design”** at NIELT (National Institute of Electronics and Information Technology) Guwahati during 29<sup>th</sup> June to 30<sup>th</sup> July, 2021.
- Anubhab Das, from Department of Microbiology qualify the Young Academy of India’s MentX 2021 programme and doing the internship on **“Laser molecular spectroscopy and imaging methods for fast label-free detection of viruses”** under the guidance of Dr. Mrinal Majumder, Department of Biophysics Manipal School of Life science.
- Koushik Bhattacharya, and Rakesh Ghosh from Department of Microbiology has successfully completed one-month summer internship training on the subject **“Adaptive Evolution in Microbial Genome”** Under the guidance of Prof. Sujoy Chattopadhyay, head, Center of Health Science and Technology at JIS Institute of Advance Studies and Research, Kolkata
- Arghya Acharya, UG Fifth Semester student and Arya Mukherjee, UG Third Semester student from the Department of Zoology got selected Young Academy of India’s MentX programme for doing the internship under Dileep Vasudevan, PhD, Scientist, DBT - Institute of Life Sciences, Bhubaneswar .
- A paper entitled ‘Proving inequalities via definite integration: a visual approach’ by Nazrul Haque, a Sem VI student of the Dept. of Mathematics has been accepted for publication by The Mathematical Gazette of the Cambridge University Press.

- Sawan Bhattacharya, a Fourth Semester, Computer Science Hons student received the Certificate of Quantum Excellence in 2021 Qiskit Global Summer School on Quantum Machine Learning in the field of Quantum Computing, Quantum Machine Learning which continued from July, 2021 to August, 2021 where he received the highest grade 100/100. He completed the two-week intensive course provided by IBM Quantum, completing all graded lab work assignments with a final cumulative score above 75%, demonstrating applied understanding and comfort with and about Quantum Computing and Quantum Machine Learning using Qiskit.
- Sawan Bhattacharya received the Certificate of achievement for successful completion of two months summer internship at QRDLAB Pvt Ltd during 20/5/2021 to 18/07/2021.
- 18 students of the Second Semester student of the Department of Zoology Devjyoti Mondal, Swapnamoy Chakraborty, Anamitra Sen, Debnath Bid, Kaushik Mitra, Sandip Acharya, Debjyoti Goswami, Akash Roy, Subhamoy Mondal, Tathagata Chowdhury, Pratyush Kumar Datta, Arya Mukherjee, Debabrata Das, Subhagata Ghosh, Akash Chatterjee, Debayan Chakroborty, Rajat Subhra Bhattacharya participated in the Online International Summer Program 2021 Osaka University, Graduate School of Science.
- Arghya Acharya, Sem IV student and Anamitra Sen, Sem II student from the Dept. of Zoology received a Certificate of Appreciation from WWF-India, West Bengal State Office for exceptional performance in a virtual interactive session for the observation of World Environment Day in a virtual programme on 'Sharing thoughts for Ecological Restoration' on 6<sup>th</sup> June, 2021 on the topics 'Ecological restoration for Wildlife and Biodiversity' and 'Ecological restoration for climate & environment' respectively.
- Koushik Bhattacharya participated a workshop on "Computational Structural Based Screening and Molecular based Dynamics" conducted by Rajiv Gandhi Centre for Biotechnology (RGCB)
- Anamitra Sen, Third Semester student of the Department of Zoology submitted a proposal on the topic 'Non-conventional way of Hydrogen Economy - Hydrogen fuel & car in greener & cost-

efficient way' for Nasser Bin Hamad International Youth Creativity Award which has got selected for the judging round.

- Sukriti Maity, a Fifth Semester student in the Department of Zoology has been selected internationally amongst the top 50 candidates to participate in Scientific Illustration Workshop organized by the Centre for Cognitive and Brain Sciences, IIT Gandhinagar.
- Sukriti Maity, a Fifth Semester student in the Department of Zoology has participated in the hands-on training program on NGS & Other large scale biological data analysis conducted by Shodhaka Life Sciences Pvt. Ltd., from 5th June 2021 to 19th June 2021. The training mainly focused on the use of biological databases and tools for mass scale data analysis.
- Sukriti Maity, a Fifth Semester student in the Department of Zoology successfully completed the online quiz with 95% score conducted by Junglemahal Zoological Park, Jhargram held on 1st July 2021 by the Directorate of Forests, Govt. of West Bengal Jhargram Division.
- Many students qualified for the entrance examinations in different M.Sc. and Integrated Ph.D courses in reputed institutions like TIFR, IITs, IISERs, HRI, Kerala School of Mathematics, RKMVERI etc.
- Students of the Department of Computer Science got job placements in various reputed companies like WIPRO, TCS etc.

#### **Workshops organized:**

- Department of Microbiology, Ramakrishna Mission Vivekananda Centenary College, Rahara organized 14 days' Intradepartmental workshop on **"Biostatistics & Bioinformatics"** by Dr. Sekhar Pal, Asst. Professor, Department of Microbiology, Ramakrishna Mission Vivekananda Centenary College, Rahara.

- An interdepartmental Workshop on '**How to Write a Review : through Computational Approach**' was organised by Department of Zoology, DBT STAR College with Dr. Ajoy Mallik, Asst. Professor, Department of Zoology, Ramakrishna Mission Vivekananda Centenary College, Rahara as the resource person, for the students of the Department of Botany, Zoology and Microbiology from 9/05/2021 to 20/05/2021 where 159 students enrolled and for the students of the Departments of Physics, Chemistry, Mathematics and Computer Science on the topic '**Review Paper Writing : Processes & Prospects In Future Research**' from 20/09/2021 to 05/10/2021 where 198 students enrolled.

#### **Students Achievements:**

**1) Rishav Kar**, Department of **Microbiology**, got **Young Researcher Award 2021**, organized by Institute of Scholars (INSC) Bengaluru. for his review article Medico Ethnobotanical Effects and Other Health Benefits on Nine Divine Plants of Navapatrika, published in International Journal of Engineering Applied Sciences and Technology, Vol. 5, Issue 3

**2) Sayonil Sen**, Department of **Zoology** got the **Second Prize in Online Poster Competition** on Environmental Pollution on 10<sup>th</sup> February, 2021 organised by COHORT Team DS Bengal-Can supported by Switch on Foundation

**3) Chandan Bahumik**, our 2018 B.Sc. Mathematics Hons. alumnus, received the **Chairman Board of Governors Gold Medal** after completing M.Sc. in Maths and Computing from IIT Kharagpur in **2021**

**4) Sawan Bhattacharyya** presented his dissertation work on 'Post Quantum Cryptography- A brief survey of classical cryptosystems, their fallacy and the advent of post-quantum cryptography with the deep insight into hashed based signature scheme' done under the supervision of **Dr. Amlan Chakraborti**. AK Chowdhury School of Information Technology, University of Calcutta at **the 5th International Conference on Data Management, Analytics and Innovation (ICDMAI 2021)** on 17<sup>th</sup> January, 2021

#### **Outreach Programme:**

Outreach Programme organized Ramakrishna Mission Vivekananda Centenary College, Rahara by under DBT STAR College Scheme in collaboration with Govt Sponsored Multipurpose School for Boys' Taki House on 9th April 2021 (Friday):

**Lecture 1** **Dr Arunava Mukherjee**

**Subject: Zoology**

**Title: *Why We Need To Know Ecology***

**Lecture 2** **Dr Sougata Sarkar**

**Subject: Chemistry**

**Title: *History of Coordination Chemistry***

**Lecture 3** **Dr Kalyan Brata Chatterjee**

**Subject: Physics**

**Title: *Origami and Modern Science***

**Lecture 4** **Dr Avik Kumar Choudhury**

**Subject: Botany**

**Title: *Light and Life: The Indispensible Process of Photosynthesis***

**Interdepartmental Enrichment Programe:**

Organized Ramakrishna Mission Vivekananda Centenary College, Rahara by under DBT STAR College Scheme

**7th April, 2021 (11am – 4.00pm)**

Dr. Kalayan Brata Chatterjee, Physics, RKMVCC ( Topic :The art of estimation)

Dr. Anirban Kundu, Botany, RKMVCC ( Topic: Protein bioinformatics – Structural dynamics and properties )

Dr. Sougata Sarkar, Chemistry, RKMVCC ( Topic: Chemistry of Buffer Solution)

Dr. Subham Mookherjee, Zoology, RKMVCC ( Topic: Environmental water sources and diarrhea)

Dr. Phonindra Nath Das, Mathematics ( Topic: LaTeX for scientific documentation)

### **Students Achievements:**

#### **1) Intercollege competitions as a part of Student Development Program-**

**Date- 5th June, 2021, on the occasion of World Environment Day**

Organized by- Department of Environmental Science, Department of Microbiology, Department of Botany and Department of Zoology, research and guidance cell of Vijaygarh Jyotish Ray College, Kolkata in collaboration with the Science Association of Bengal, Kolkata

Topic- 'Nature and Development go hand in hand'

#### **2) Intercollege debate competition**

1st position secured by: Nirmalendu Mukherjee, Department of Microbiology, RKMVCC Rahara

2nd position secured by: Tamonash Debnath, Department of Microbiology, RKMVCC Rahara

#### **3) Intercollege quiz competition**

Sandip Acharyya, Dept. of Zoology, RKMVCC Rahara stood 3rd in quiz program organized by Bijoygarh Jyotish Roy college

#### **4) World Environment Day Competitions organized by Alipore Zoo, Kolkata:**

1. Sandip Acharyya, Dept. of Zoology, RKMVCC Rahara stood 3rd in online quiz contest

2. Abhishek Shyam Chowdhury and Arpan Mondal, Department of Botany stood 3<sup>rd</sup> in poster competition organized by Acharya Brojendra Nath Seal College Cooch behar.

#### **5) Competition on Concept note on Ecological Restoration WWF-INDIA**

Prizes won by our students:

🏆 Ecological Restoration for Wildlife and Biodiversity - Arghya Acharyya, Dept. of Zoology, RKMVCC Rahara

🏆 Ecological Restoration for Climate and Environment - Anamitra Sen, Arghya Acharyya, Dept. of Zoology, RKMVCC Rahara

🏆 Ecological Restoration for Habitat and Home - Mayukh Mitra, Arghya Acharyya, Dept. of Zoology, RKMVCC Rahara

#### 6) PPT Presentation Competition by Team Bengal CAN:

Mr. Anamitra Sen, Mr. Akash Chatterjee and Mr. Mayukh Mitra students of Ramakrishna Mission Vivekananda Centenary College have secured the winners position for the PPT Presentation competition on 24th April 2021 at Earth Day Competition themed “Restore our Earth” by Team Bengal CAN.

#### 7) Internships:

- 5 students from PG section of our College has been selected for summer internship at **INST, Mohali**. They are pursuing their internship at INST Mohali from April-June 2021
- Anamitra Sen from Ramakrishna Mission Vivekananda Centenary College (Autonomous), Rahara, Kolkata has successfully secured COVID-19 Awareness Survey & Research internship at Dr. APJ Abdul Kalam Research Foundation through **Internshala**.
- Anamitra Sen from Ramakrishna Mission Vivekananda Centenary College (Autonomous), Rahara, Kolkata has successfully secured Research (Biologist) internship at FaunaNation (Flora & Fauna Conservation & Development Society) through **Internshala**.

**Student Publications:**

Journal	Article	Author
International Research Journal of Modernization in Engineering Technology and Sciences, Vol. 2, Issue 7	Pathogenesis of RNA Virus and Recently Available Therapeutics in Treatment – A Review	Rishav Kar, Kaushik Bhattacharya  Dept of Microbiology
International Journal of Engineering Applied Sciences and Technology, Vol. 5, Issue 3	Medico Ethnobotanical Effects and Other Health Benefits on Nine Divine Plants of Navapatrika	Rishav Kar  Dept of Microbiology
International Journal of Scientific Research in Engineering and Management, Vol. 4, Issue 8	Molecular Inhibitor for Inhibiting Breast Cancer – A path other than surgery	Nobendu Mukherjee  Dept of Microbiology
International Journal of Science and Research (IJSR)	Polycystic Ovary Syndrome (PCOS) Symptoms, Causes & Treatments – A Review	Nobendu Mukherjee  Dept of Microbiology
International Journal of Research	Neuroimaging & Other Biomarkers For Alzheimer's Disease – a brief review	Nobendu Mukherjee
Cancer Research Journal	Uses Of R.O.S.(H <sub>2</sub> O <sub>2</sub> ) In Nano-robot Technology : For Aggressive Cancer Treatment Without Side Effects	Arghya Acharyya  Dept. of Zoology
International Journal of Research in Engineering and Science (IJRES) vol. 8, Issue 10.	A Brief Glimpse on Advancement of CRISPER/Cas in Research	Nobendu Mukherjee  Dept. of Microbiology
International Journal of Science and Research (IJSR)	A Brief Review on the Overview on Immunology of COVID-19: Current State of the Research	Nobendu Mukherjee  Dept. of Microbiology



International Journal of Pharmaceutical Research and Applications (IJPRA) Vol. 6, Issue 1	Analysis of Potentiality and Anti-Tumour activity of Cap in cancer treatment	Nobendu Mukherjee, Dept. of Microbiology
mbient Science, 2021: Vol. 08(1); 39-40	First Report of Geocoris (Geocoris) lituratus (Geocoridae: Hemiptera) as Egg Predator of Graphium agamemnon (Papilionidae: Lepidoptera) in Urban Landscape, West Bengal	Dipak Shil, Amarttya Bagchi, Prachyaprachetah Sarkar, Dept. of Zoology
Rejoy Chakraborty, Arpan Bairagi and Prof. Samir Kumar Bandyopadhyay	Design and implementation of Two Layer Encryption System in Cryptography	International Journal of Scientific Development and Research - IJSDR [ISSN: 2455-2631]
Arpan Bairagi, Rejoy Chakraborty, Shree Mitra and DR. Soumya Paul	A Novel Approach for Searching an Element in a Sorted Array – Log Search	International Journal of Information Science and Computing [Print ISSN: 2348-7437 & Online ISSN: 2454-9533]
Soumen Halder and Anubrata Das	IoT on E-Health: Application and Security Challenges	International Journal of Information Science and Computing [Print ISSN: 2348-7437 & Online ISSN: 2454-9533]
Soumen Halder and Prof. Samir Kumar Bandyopadhyay	A Smart Application of IoT for Green Environment	International Journal for Research in Applied Science & Engineering Technology - IJRASET [ISSN: 2321-9653]

Rohan Kr Biswas (PG Botany) & Dr. Avik Kumar Choudhury (Dept. of Botany, RKMVCC, Rahara)	Diatoms: Miniscule biological entities with immense importance in synthesis of targeted novel bioparticles and biomonitoring	Journal of Biosciences volume 46, Article number: 102 (2021)
Dhruba Datta, Department of Zoology Vth Semester Ramakrishna Mission Vivekananda Centenary College, Rahara.	PLAUSIBLE ROLE OF IL-4 AND TGF- B IN ACTIVATION OF TH2 AND WUCHERERIA BANCROFTI MEDIATED INFLAMMATION AMELIORATION BY APPLYING ROCAGLAMIDE	ADVENT : The Biological Magazine Volume-1(2021) published by The Advent Biological Society TABS
Anamitra Sen ,UG Course in Zoology, Semester-III, Department of Zoology, Ramakrishna Mission Vivekananda Centenary College (Autonomous),Rahara	STUDY OF AVIAN NEIGHBOURS OF BARANILPUR, ARYAPALLY, PURBA BARDDHAMAN, WEST BENGAL, INDIA	ADVENT : The Biological Magazine Volume-1(2021) published by The Advent Biological Society TABS
RitamSinha, PG Sem IV, Dept. of Mathematics, Ramakrishna Mission Vivekananda Centenary College— West Bengal, India	Proof Without Words: The Sum of Odd Integers is a Perfect Square	Ohio Journal of School Mathematics, 89

List of Book Chapters			
Sl. No.	Authors	Book Chapter Title	Publisher Name
1	Soumen Halder, Arkadip Maitra and DR. Soumya Paul	Comparative study of Different Data Science Classification Algorithms	Information, Communications and Computation Technology (ICCT): The Pillar for Transformation by New Delhi Publisher [ ISBN: 978-

			93-88879-95-8 ]
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### Special Achievements and Certifications

Special certificate to the college ( 31 certificate or recognition received from national and international bodies):

Sl. No.	Purpose	Authority	Date
1	Jal Shakti Abhiyan : Catch The Rain"	National Water Mission & MyGov. in	17/04/2021
2	The Festivals of India	MyGov Manipur	17/04/2021
3	Wetland Management and Biodiversity Conservation	Govt of India	13/06/2021
4	International Day of Yoga	Ministry of Ayush MoA, Govt. Of India	13/06/2021
5	Clinical management of patients with COVID 19:  Initial approach to the acutely ill patient	World Health organization	16/06/2021
6	COVID-19 and work: Staying healthy and safe at work during the COVID-19 pandemic	World Health organization	16/06/2021
7	Guidance on mask use in the context of COVID 19	World Health organization	16/06/2021
8	COVID-19 vaccine-specific resources	World Health organization	16/06/2021
9	Health and peace: Concepts and tools for frontline workers	World Health organization	16/06/2021
10	Prevention, identification and	World Health organization	16/06/2021

	management of infections in health workers in the context of COVID 19		
11	Introduction to Infection Prevention & Control (IPC)	World Health organization	16/06/2021
12	Leadership and programme management in Infection Prevention and Control (IPC)	World Health organization	16/06/2021
13	Standard precautions: The role of personal protective equipment (PPE)	World Health organization	16/06/2021
14	Transmission-based Precautions	World Health organization	16/06/2021
15	COVID-19 infodemic management: risk communication and community engagement challenges	World Health organization	16/06/2021
16	Clinical management of patients with COVID-19  - Rehabilitation of patients with COVID-19	World Health organization	16/06/2021
17	COVID-19 vaccination training for health workers	World Health organization	16/06/2021
18	Neglected tropical diseases in the context of the COVID 19 pandemic: impact and guidance	World Health organization	16/06/2021
19	Orientation to national deployment and vaccination planning for COVID-19 vaccines	World Health organization	16/06/2021
20	Clinical management of patients with COVID-19 - General considerations	World Health organization	17/06/2021

**Recognition received by the college:**

Agency	Area	Date
UNICEF	Centre of Eminence in MANAGEMENT INFORMATION SYSTEM of the Institution	03.09.2021
UNICEF	Centre of Excellence in Capability Enhancement and Development Schemes	03.09.2021
UNICEF	Playing active role in setting up INCUBATION CENTRES and START-UPS	03.09.2021
UNICEF	RKMVCC-Rahara-NSS for commendable efforts in various service activities conducted in rural villages	03.09.2021
UNICEF	RKMVCC-Rahara-Alumni for commendable efforts in relief work during the COVID-19 pandemic	03.09.2021
UNICEF	Swami Vivekananda Centre for Multidisciplinary Research in Basic Science and Social Science , as a "Centre of Excellence in Research and Education for Social Transformation"	01.08.2021
Stanford University School of Medicine	Swami Vivekananda Centre for Multidisciplinary Research in Basic Science and Social Science , as a "Centre of Excellence in Research and Education for Social Transformation"	01.08.2021
UNICEF	Centre of Eminence in Online teaching and learning	30.7.2021

UNICEF	Centre of Excellence in Environmental Management and Green Management	30.7.2021
UNICEF	Centre of Excellence in Energy Management and Conservation	30.7.2021
UNICEF	Centre of Eminence in Green Building Audit	20.08.2021

Dr. Bulganin Mitra, Dept. of Zoology, received the Life Time Achievement Awards, 2021 from Mr Debashis Sen, Chairman, Hidco On Behalf Of Nature Mates.

#### **Student's achievements:**

#### **India Book of Records:**

Deep Chakraborty, Semester I , PG Botany has been finalized for the record titled, ' Maximum varieties of Hibiscus plant grown through cross-pollination ' under India Book of Records 2023. He grew 30 varieties of Hibiscus from seeds and registered two of them, 'Bengal Sunrise' (registered on 2021-10-31) and 'Moonlight Yellow' (registered on 2021-11-09) in the International Hibiscus Society. He also penned a chapter on the plant in 'Text Book on Floriculture' (VOL-1) under the guidance of scientists from Bidhan Chandra Krishi Viswavidyalaya, as confirmed on November 24, 2021.

#### **Awards:**

- Sukriti Maity, Semester V student, Dept. of Zoology received the CUBE-CURE Kishor Bharti STEM (Science Technology Engineering and Mathematics ) Leadership Award 2021. CUBE is a programme by HBCSE, TIFR (Mumbai).
- Anamitra Sen of Ramakrishna Mission Vivekananda Centenary College (Autonomous), Rahara, Kolkata was awarded First Prize in the Online Inter-college Paper Presentation Competition held on 5 th October, 2021, as part of "Listen to Youth Initiative" organized by Department of Botany and Zoology , under the aegis of IQAC of Vidyasagar Metropolitan College, Calcutta

**Students' participation:**

Sashadhar Dutta PG Semester I student, Dept. of Mathematics of Ramakrishna Mission Vivekananda Centenary College participated in international webinar DHISHANA 2021 In Association with The Kerala State Higher Education Council (Multidisciplinary International Webinar Series) on "AN INVITATION TO UNIFORM CONVERGENCE" organized by the department of MATHEMATICS, KR'S SREE NARAYANACOLLEGE, VALANCHERY on 12 November 2021

Sashadhar Dutta PG Semester I student, Dept. of Mathematics participated in the International Youth Math Challenge, 2021

**Mentx Internship:**

Devjyoti Mondal, UG Semester III student in Zoology got selected for the Mentx internship under the guidance of Dr. Ahmad Masood Khan, Assistant Professor, Biodiversity & Environmental Studies, Department of Wildlife Sciences, Aligarh Muslim University, Aligarh.

**Placement Programme by Magic Bus Foundation:**

A placement related training programme by Magic Bus Foundation was organized online by the college in collaboration with Ramakrishna Mission, Vidyamandira, Belur Math and Ramakrishna Mission Residential College, Narendrapur on 31<sup>st</sup> January, 2022. 102 students enrolled for the programme. 8 students are currently short listed for the training.

**DBT STAR College Scheme Outreach Programme:**

Students from 5 schools participated in a One Day Science Promotion Programme organized by the College under the DBT STAR College Scheme. Total 50 students accompanied by their teachers visited different labs in the Departments of Physics, Chemistry, Mathematics, Botany and Zoology for a firsthand knowledge on various aspects of Science. The Schools which participated included Sodepur Chandrachur College, Madhyamgram High School, Madhyamgram Girls' School, Bhabanath Girls' School, Taki Govt School for Boys.

**Book Release:**

A book 'Hindu Religion and Ecology' AAYU PUBLICATIONS, New Delhi by Projit Kumar Palit & Swami Kamalasthananda, was released by Revered Swami Suparnanandaji Maharaj, Secretary, The Ramakrishna Mission Institute of Culture, Golpark on 28<sup>th</sup> December, 2021

A book 'Elementary History of Indo Bangladesh', by Dr. S.M. Sarwar Morshed, AAYU Publications, New Delhi was released in the College by Prof. Sankar Kumar Ghosh, Former Vice Chancellor, Kalyani University, Professor, Department of Biotechnology, Assam university, Silchar on 27<sup>th</sup> December, 2021.

#### **Student's achievements:**

##### **Awards:**

- Deep Chakraborty, Semester I , PG Botany has been finalized for the record titled, ' Maximum varieties of Hibiscus plant grown through cross-pollination ' under India Book of Records 2023 for growing 30 varieties of Hibiscus from seeds received an award from the Green Friends Third Meetup 2022.
- Tarun Halder, Research Scholar, Post-graduate Department of Botany of R K Mission Vivekananda Centenary College, Rahara has received "Best Oral Presentation Award" in the two Days National Seminar (Online), 2022 on Cytogenetics, in vitro Culture and Phytochemistry of Plants and Microbes for Sustainable Use Jointly Organized By Department of Botany, ( UGC DRS & DST-FIST Sponsored) Siksha-Bhavana, Visva-Bharati, Shantiniketan, West Bengal-731235 & Department Of Botany, Raidighi College (A NAAC Accredited College, affiliated under University of Calcutta), 24 Parganas (S), Pin-743383 held on 22.01.2022 and 23.01.2022. The title of his presentation was "In vitro clonal propagation of selected elite chemotype and synthesis of secondary metabolites of three important solanaceous medicinal plants"

**Details of research papers per teacher in CARE Journals notified on UGC website during the year 21-22**



<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Molecular Insight into the Effect of a Single-Nucleotide Polymorphic Variation on the Structure and Dynamics of Methionine Synthase Reductase and Its Association with Neural Tube Defects	Susanta Sadhukhan 1, Subhajit Maity 1 2, Sandipan Chakraborty 3, Silpita Paul 1, Dinesh Munian 4, Arup Kumar Pattanayak 1, Biman Jana 5, Madhusudan Das 1	Zoology	ACS Omega	2021	2470-1343	WoS, Scopus, UGC care
Organometallic Folate Gold Nanoparticles Ameliorate Lipopolysaccharide-Induced Oxidative Damage and Inflammation in Zebrafish Brain	Susanta Sadhukhan 1, Mahamed Moniruzzaman 1, Subhajit Maity 1, Sudakshina Ghosh 2, Arup Kumar Pattanayak 1, Suman Bhusan Chakraborty 1, Biswanath Maity 3, Madhusudan Das 1	Zoology	ACS Omega	2022	2470-1344	WoS, Scopus, UGC care
Naringenin Ameliorates Palmitic Acid-induced Fatty Acid Stress in Hepatocytes	Maity, Subhajit; Chakrabarti, Partha; Chakraborti, Abhay S.	Zoology	The Natural Products Journal	2021	2210-3155	WoS, Scopus, UGC care

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Molecular Insight into the Effect of a Single-Nucleotide Polymorphic Variation on the Structure and Dynamics of Methionine Synthase Reductase and Its Association with Neural Tube Defects	Susanta Sadhukhan, <sup>†</sup> # Subhaji Maity, <sup>†</sup> # Sandipan Chakraborty, <sup>§</sup> # Silpita Paul, <sup>†</sup> Dinesh Munian, <sup>  </sup> Arup Kumar Pattanayak, <sup>†</sup> Biman Jana,corresponding author* <sup>⊥</sup> and Madhusudan Dascorresponding author* <sup>†</sup>	Zoology	ACS Omega	2021	2470-1343	WoS, Scopus, UGC care
Genetic Counselling: the biomedical bridge between molecular diagnosis and precision treatment	Emili Banerjee & Koutilya Bhattacharjee	Zoology	Egyptian Journal of Medical Human Genetics	2022	2090-2441	WoS, Scopus
Arsenic level in bladder tumor of patients from an exposed population: association with progression and prognosis	Sabnam Ghosh, Mukta Basu , Kalyan Banerjee, Snigdha Pal Chaudhury, Tanmoy Paul, Dipak Kumar Bera, Dilip Kumar Pal , Ugir Hossain Sk, Chinmay Kumar Panda <sup>‡</sup> & Amlan Ghosh <sup>‡</sup>	Zoology	Future Oncology	2021	1479-6694	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Vascular onco-therapies targeting continuous and intermittent intra-tumor hypoxia	Tanmoy Paul, Sharmita Basu	Zoology	Journal of Cancer Research and Practice	2022	2311-3006	WoS, Scopus
Environmental Drivers of the Seasonal Prevalence of Enteropathogenic Bacteria in the Gulf Ecosystem of Gujarat, India: Unravelling Its Diarrheal Enigma.	Saha S, Mookerjee S, Palit A.	Zoology	Wseas Transactions On Biology And Biomedicine	2021	2224-2902	WoS, Scopus
First insect faunal inventory from the recently declared Raimona National Park, Assam.	Mukherjee, A., Sardar, S., Mandal, B, Saha, N.C. and Mitra, B.	Zoology	International Journal of Entomology Research	2022	2455-4758	WoS, Scopus
A review for understanding the reasons for vanishing sundari trees Herteira fomes Buchannan-	Mandal, B., Ganguly, A. and Mukherjee, A.	Zoology	Environment and Ecology	2022	2331-6268	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Hamilton from Sundarban mangroves.						
Interaction with avian assemblages with the local environment of solid waste disposal area: a case study from Promodnagar waste dumping ground in Kolkata Metropolitan city.	Dutta, T. Sardar, S., Mitra, Mukherjee, A. and B., Mandal, B.	Zoology	Ecology, Environment and Conservation	2022	0971-765X	WoS, Scopus
Effectiveness of natural carotenoids and coloured chemical factors on growth and colouration in red molly <i>Poecilia latipinna</i> (Lesueur, 1821)	Mandal, B., Mukherjee, A. and Ganguly, A.	Zoology	Journal of Environment & sociobiology	2021	2454-2601	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
First report of <i>Geocoris lituratus</i> (Geocoridae: Hemiptera) as egg predator of <i>Graphium agamemnon</i> (Papilionidae: Lepidoptera) in urban landscape, West Bengal.	Shil, D, Bagchi, A., Sarkar, P., Sardar, S., Mandal, B., Mukherjee, A. and Mitra, B.	Zoology	Ambient Science	2021	2348-8980	WoS, Scopus
Identification and characterization of novel microRNAs in disease-resistant and disease-susceptible <i>Penaeus monodon</i> .	Mondal D, Chakrabarty U, Dutta S, Mallik A, Mandal N	Zoology	Fish & Shellfish Immunology	2021	10959947 , 10504648	WoS, Scopus
Microorganisms and sustainable development: A special emphasis in Bioelectricity	Sekhar Pal	Microbiology	Proceedings of the 1st International e-conference on Revisiting Strategies for Sustainable Development (e-ConSus	2021	978-93-90937-61-5	WoS, Scopus

Title of the Paper	Name of the Author(s)	Department	Name of the Journal	Year of publication	ISSN	Enlistment of the Journal
			2020)			
In Vitro Exploitation of Medicinal Plants for Continuous Supply of Antidiabetic Bioactive Compounds	Subrata Kundu, Sk Moquammel Haque, Biswajit Ghosh	Microbiology	Biotechnology of Anti-diabetic Medicinal Plants	2021	978-981-16-3529-8	WoS, Scopus
Vanadium complexes encompassing antidiabetic, carbonic anhydrase inhibitory and cytotoxic activities	C. Ghosh, D. Patra, N. Bala, I. Majumder, N. Sepay, P. Mukhopadhyay, S. Das, R. Kundu, M. G. B. Drew, A. R. León, T. Ghosh and M. Pradhan	Chemistry	Biometals	2022	1572-8773 (web)	WoS, Scopus
Insights into the transformation of VO <sub>2</sub> <sup>+</sup> motif to VO <sub>3</sub> <sup>+</sup> , V <sub>2</sub> O <sub>3</sub> <sup>4+</sup> and VO <sub>2</sub> <sup>+</sup> motifs and their interconversion along with a	D. Patra, A. Pal, S. Nath, R. Kundu, M. G. B. Drew and T. Ghosh	Chemistry	J. Inorg. Biochem	2022	01620134, 18733344	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
detailed mechanistic study of their anti-cancer activity in SiHa cervical cancer cells						
Cu(II)-Based Nanofibrous Metallogel for Phenoxazinone Synthase-like Activity	S. Sarkar, P. K. Maji, Y. Negishi, S. Dutta, T. N. Das, R. Pan and S. Sarkar	Chemistry	ACS Appl. Nano Mater	2021	2574-0970	WoS, Scopus
Structural and electronic properties of wide band gap charge transfer insulator Hg <sub>2</sub> Cl <sub>2</sub> : Insights from the first-principle calculations	S. Ghosh, S. Sarkar and J. Chowdhury	Chemistry	Mater. Chem. Phys	2022	0254-0584	WoS, Scopus
An insight of anopheline larvicidal mechanism of <i>Trichoderma asperellum</i> (TaspSKGN2)	Swapan Kumar Ghosh, Dipanjan Podder & Anirvan Mukherjee	Botany	Scientific Reports	2021	2045-2322 (online)	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Benzoic acid treated <i>Drosophila melanogaster</i> : the genetic disruption of larval brain stem cells and non-neural cells during metamorphosis	Tridip Chatterjee, Swapan Kumar Ghosh, Shauvik Paik, Amit Chakravarty & Ashim Kumar Basak	Botany	Toxicology and Environmental Health Sciences	13-Jul-05	2233-7784(online)	WoS, Scopus
De-polymerization of LDPE plastic by <i>Penicillium simplicissimum</i> isolated from municipality garbage plastic and identified by ITSs locus of rDNA	Swapan Kumar Ghosh & Sujoy Pal	Botany	Vegetos	2021	2229-4473	WoS, Scopus
Neem leaf glycoprotein salvages T cell functions from Myeloid-derived suppressor cells-suppression by altering IL-10/STAT3 axis in melanoma tumor	Madhurima Sarkar, Sarbari Ghosh, Akata Saha,; Avishek Bhuniya, Anirban Sarkar,; Saurav Bera,; Sukanya Dhar, Tithi Ghosh, Ipsita Guha, Shayani Dasgupta, Smarajit Pal, Swapan K Ghosh, Anamika Bose, Rathindranath Baral	Botany	Melanoma Research	2021	1473-5636	WoS, Scopus



<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
microenvironment						
Occurrence and Diversity of Major Naphthoquinones in Higher Plants: Their .....	Ghosh B, Santra I , Mukherjee B	Botany	Sustainable development and diversity	2022		WoS, Scopus
Cytogenetical evaluation and quantification of rosmarinic acid in <i>Coleus scutellarioides</i> (L.) R.Br. an allopolyploid ornamental medicinal plant	Ghosh B, Santra I, Halder T	Botany	Cytologia	2022	2165-5391	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Endophytic fungal diversity in Solanaceae and their beneficial impact. In medicinal plant: biodiversity, biotechnology and conservation	Ghosh B, Biswas D, Chakraborty A, Haque SM,	Botany	Sustainable development and diversity	2022		WoS, Scopus
Artificial neural network (ANN) model for prediction and optimization of bacoside A content in Bacopa monnieri: a statistical approach and experimental validation.	Ghosh B, Padhiari B, Ray A, Halder T, Nayak S	Botany	Plant Biosystems	2022	1126-3504	WoS, Scopus
Application of a multilayer perceptron Artificial Neural Network for the prediction and optimization of the andrographolid	Ghosh B, Champati BB, Padhiari BM, Ray A, Halder T, Jena S, Sahoo A, Kar B, Kamila PK, Panda PC, Nayak S	Botany	Molecules	2022	1420-3049	WoS, Scopus

Title of the Paper	Name of the Author(s)	Department	Name of the Journal	Year of publication	ISSN	Enlistment of the Journal
e content in <i>Andrographis paniculata</i> .						
Detection of UTI pathogen-killing properties of <i>Coleus forskohlii</i> from tissue cultured in vitro and ex vitro plants	Ghosh B, Chakraborty A, Haque SM, Dey D, Mukherjee S,	Botany	Proceedings of the National Academy of Sciences India Section B - Biological Sciences	2022	0369-8211	WoS, Scopus
Identification of elite germplasm of medicinally important <i>Andrographis paniculata</i> (Burm. f.) Nees with high content of four active diterpenoids in aerial parts from wild populations of eastern India.	Ghosh B, Champati BB, Padhiari B, Halder T, Nayak S	Botany	Plant Genetic Resources	2021	1479-2621	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Quality Control and Discrimination of <i>Bacopa monnieri</i> (Burm. f.) Nees based on High Performance Liquid Chromatography Fingerprinting Combined with Chemometric Approaches.	Ghosh B, Padhiari B, Ray A, Halder T, Jena S, Champati B, Sahoo A, Kar B, Panda P, Nayak S	Botany	Pharmacognosy Magazine	2021	0973-1296	WoS, Scopus
Cytological, Genetical and Phytochemically stable meta-Topolin (mT) - induced mass propagation of underutilized <i>Physalis minima</i> L. for production of withaferin A	Ghosh B, Halder T	Botany	Biocatalysis and Agricultural Biotechnology	2021	1878-8181	WoS, Scopus

<b>Title of the Paper</b>	<b>Name of the Author(s)</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Year of publication</b>	<b>ISSN</b>	<b>Enlistment of the Journal</b>
Quality Control and Discrimination of <i>Andrographis paniculata</i> (Burm. f.) Nees based on High Performance Liquid Chromatography Fingerprinting Combined with Chemometric Approaches.	Ghosh B, Champati BB, Jena S, Halder T, Nayak S	Botany	Indian Journal of Pharmaceutical Sciences	2021	0250-474X	WoS, Scopus
Somatic and gametic chromosomal characterization with fluorescence banding of <i>Giloy</i> ( <i>Tinospora cordifolia</i> ): A berberine synthesizing important medicinal plant of India.	Ghosh B, Santra I, Halder T	Botany	Caryologia	2021	2165-5391	WoS, Scopus

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Effect of different drying treatments on the physicochemical, functional, and antioxidant properties of <i>Bacopa monnieri</i>	Ghosh B, Padhiari B, Ray A, Halder T, Nayak S	Botany	Biotechnology	2021	0860-7796	WoS, Scopus
The influence of COVID-19 pandemic on biomedical waste management, the impact beyond infection	Anirban Bhar, Rohan Kr Biswas, Avik Kumar Choudhury	Botany	Proceedings of the Indian National Science Academy	2022	2454-9983	WoS, Scopus
Diatoms: Miniscule biological entities with immense importance in synthesis of targeted novel bioparticles and biomonitoring	Rohan Kr Biswas, Avik Kumar Choudhury	Botany	Journal of Biosciences	2021	0973-7138	WoS, Scopus

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An assessment of the temporal alterations in the trophic status and habitat heterogeneity of the anthropogenically influenced Bhagirathi–Hooghly estuary in reference to phytoplankton community and environmental variables	Soumak Dutta, Avik Kumar Choudhury	Botany	Environmental Science and Pollution Research	2021	1614-7499	WoS, Scopus
Assessment of foliar and floral micromorphology, pollen morphology and other reproductive traits of different colour-forms of <i>Caesalpinia pulcherrima</i> (L.) Sw	Samrat Goswami, Milan Karmakar, Biswajit Roy	Botany	J. Botan. Soc. Bengal	2021	0971-2976	WoS, Scopus
Natural therapeutics against SARS CoV2: the	Anirban Bhar, Akansha Jain, Sampa Das	Botany	Vegetos	2022	2229-4473	WoS, Scopus

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potentiality and challenges.						
The influence of COVID-19 pandemic on biomedical waste management, the impact beyond infection.	Anirban Bhar, Rohan Kumar Biswas, Avik Kumar Choudhury	Botany	Proceedings of the Indian National Science Academy	2022	2454-9983	WoS, Scopus
Plant responses to biotic stress: Old memories matter.	Anirban Bhar, Amrita Chakraborty, Amit Roy	Botany	Plants	2021	2223-7747	WoS, Scopus
Is it possible to ensure COVID19 vaccine supply by using plants?	Anirban Bhar	Botany	The Nucleus	2021	0976-7975	WoS, Scopus
Fusarium oxysporum induced wilt disease in chickpea: a review on its dynamicity and possible control strategies	Anirban Bhar, Akansha Jain, Sampa Das	Botany	Proceedings of the Indian National Science Academy	2021	2454-9983	WoS, Scopus



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Antimicrobial potentials of two freshwater heterocystous cyanobacteria <i>Westiellopsis prolifica</i> and <i>Nostochopsis lobatus</i> collected from Similipal Biosphere Reserve, Odisha, India	Dey, H.S. and Bastia, A.K.	Botany	Journal of Advanced Scientific Research	2021	0976-9595	WoS, Scopus
Diversity of Cyanobacteria from Paddy Fields of Purba Bardhaman District of West Bengal, India	Dey, H.S. and Mallick, T	Botany	Indian Hydrobiology	2021	0971-6548	WoS, Scopus
Growth Characteristics and Antimicrobial Activity of <i>Pithophora</i> sp. isolated from Wastewater	Dey, H.S., Sengupta, S. and Behera, B.C.	Botany	Advances in Bioresearch	2021	0976-4585	WoS, Scopus
Exploring the GRAS gene family in common bean ( <i>Phaseolus</i>	Parvej Laskar, Saswati Bhattacharya, Atreyee Chaudhuri and Anirban Kundu	Botany	Planta	2021	1432-2048	WoS, Scopus

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vulgaris L.): Characterization , evolutionary relationships, and expression analyses in response to abiotic stresses						
Word Segmentation of Offline Handwritten Bangla Text Lines	Agarwal, K., Mantry, A., Halder, C.	Comp. Science	Advances in Intelligent Systems and Computing	2022	2194-5357	UGC care
A Generalised Line Segmentation Method for Multi-Script Handwritten Text Documents	Payel Rakshit, Chayan Halder, Obaidullah Md Sk, Kaushik Roy	Comp. Science	Communicated to Expert Systems With Applications	2021	0957-4174	UGC care
Comparative study on the performance of the state-of-the-art CNN models for handwritten Bangla character recognition	Payel Rakshit, Somnath Chatterjee, Chayan Halder, Shibaprasad Sen, Sk Md Obaidullah, Kaushik Roy	Comp. Science	Communicated to Multimedia Tools and Applications	2022	13807501 , 15737721	UGC care

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Historical digit recognition using CNN: A study with English handwritten digits	Payel Rakshit, Himadri Mukherjee, Chayan Halder, Sk Md Obaidullah and Kaushik Roy	Comp. Science	Communicated to SADHANA	2022	0973-7677	UGC care