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Excellence
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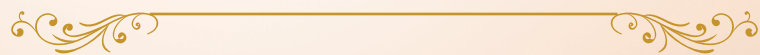
Annual Report 2020



Jagadis Bose National Science Talent Search



Knowledge is never the exclusive possession of any favoured race; the whole world is interdependent and a constant stream of thought had through ages enriched the common heritage of mankind.



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

(Registered under Act XXI of 1860)

Memorandum of The Association

1. Name of the Society : JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
2. The Registered Office of the Society is situated at 93/1, Acharya Prafulla Chandra Road, Calcutta – 9 in the State of West Bengal
3. The object for which the Society is established are: to select students with the special aptitude for Science and providing a scheme for counseling. Conserving and helping this most precious resource, namely human talent, which is necessary for building up the nation, by award of scholarships and otherwise. The scheme of JBNSTS shall extend to the whole of West Bengal and may later be extended to other areas.
4. The Names and Addresses and Description of the present members of the Executive Committee (Governing Body) are :

DR. B C ROY, Writers' Buildings, Calcutta – 1, President, Governing Body;

SIRJEHANGIRGHANDY, Tata Iron & Steel Co. Ltd., Jamshedpur, Chairman, Governing Body;

SIR RAMASWAMY MUDALIAR, 9, Lower Rawdon Street, Calcutta – 16, Member, Governing Body;

MR. R P BILLIMORIA, Tata Iron & Steel Co. Ltd., Jamshedpur, Member, Governing Body;

DR. D M BOSE, Bose Institute, Calcutta – 9, Member, Governing Body;

DR. P K BOSE, Bose Institute, Calcutta – 9, Member, Governing Body;

DR. D M SEN, Writers', Buildings, Calcutta – 1, Member, Governing Body;

DR. R L SENGUPTA, Presidency College, Calcutta – 12, Member, Governing Body;

DR. S K MITRA, Institute of Radio Physics, Calcutta – 9, Member, Governing Body

DR. S C MITRA, 12, Hindustan Road, Calcutta – 29, Member, Governing Body;

DR. K MITRA, 93/1 Acharya Prafulla Chandra Road, Calcutta – 9, Secretary, Governing Body.



Pandit Jawaharlal Nehru addressing the Inaugural Award Giving Ceremony on 11th April, 1961



MEMBERS OF THE GOVERNING BODY OF JBNSTS

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DR. SUDIP CHATTERJEE

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PROF. (DR.) MAITREE BHATTACHARYYA

Director and Member-Secretary (Ex-officio),
Jagadis Bose National Science Talent Search
1300, Rajdanga Main Road, Kolkata - 700107

Chairman's Message to the new awardees



It gives us great pride today to warmly welcome the newest JBNSTS Awardees to this elite group. Congratulations! You have excelled in your studies and your problem solving skills, out-of-the-box thinking, and originality have set you apart from the others. These qualities will propel you to greater heights in your life. Surely, there will be difficulties every now and then. But you will overcome all of these through the very special qualities you possess. We have high hopes.

Congratulations also go out to your parents, guardians, and the teachers who have played a critical role in your development.

You should bear in mind that being chosen for this prestigious scholarship also throws a challenge. Previous JBNSTS awardees have excelled in their professions, be it science, engineering, medicine, or beyond. They have spread worldwide and left their mark in their area of work. I am sure they will serve as a beacon for you and your performance will bring greater glory to JBNSTS.

These are difficult times. The Covid-19 pandemic has affected all of us in diverse ways. Scientists have risen to the occasion to create vaccines in record time. Still there is a long road to recovery ahead of us. We expect some of you in later life will play leadership roles in addressing such unforeseen events.

There are some prominent schools which we find are, as always, excelling in their science training of the young. A trend which greatly encourages us is that several scholarship winners are now emerging from relatively remote and less prominent schools, especially in the districts. It is our hope that this will continue to grow and we consider this as an indication of a brighter future science base for the region.

The expansion of JBNSTS over time is a tribute to the vision of the organisation and its leadership. What started as a scholarship program for exceptional science, engineering, and medical students at the school-leaving stage has now emerged as a platform for the encouragement of excellence in science and its teaching in the state. Today the diverse array of scholarships -- the flagship senior level, the junior level, and the Kanya scholarships for girls -- still remain the cornerstone. At the same time other nurture programs for students, teacher training workshops, creativity programmes, preparation for Olympiads, motivating camps in diverse locations are all contributing to the development of a firmer science base. Needless to say, this continuing expansion would have been impossible if the Government of West Bengal had not been so steadfast with financial support for JBNSTS. We remain truly thankful.

Prof. (Dr.) Amitava Raychaudhuri
Chairman, JBNSTS



One of the feelings I love most about science is that any given day could be the one on which you make a discovery or gain some startling new insight. ----

Professor Madhavi Krishnan
(University of Oxford)

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From the Director's Desk



Honorable Chairman Sir, eminent members of the governing body, all our dear scholars and awardees, my colleagues at JBNSTS and several well-wishers and alumnae of the institute... I welcome all of you to the ceremonial occasion of Annual Award Program of JBNSTS.

Congratulations!! My heartiest congratulations to all these young scholars that you are the torch bearers of science and technology in the days ahead. This is an exceptional time –the world faced a pandemic after a century! But you have been able to win the challenge of the pandemic, in spite of this dreadful scenario your talent made a mark to all of us.

I could never imagine a year ago that we would welcome all of our brilliant student scientists on the digital platform which is in utter contrast to our regular practice. During the preceding year, the world had turned topsy-turvy as we were confronted with a virus SARS-CoV-2 that had left us in the lurch. During last one year, world was always thinking of science—this novel virus, molecular mechanism of its infectivity, diverse masks to resist the virus, sanitizer, immunity, antibody, diagnostic kit, RT-PCR and finally the vaccine. Human society was struggling to fight out a virus of nanometer dimension. The contribution of Covid heroes would continue to inspire us in our steadfast resolve of prevailing over the alarming situation.

To my dear students, I must say, that adversities brings out the best in us. This phase will only empower you to emerge stronger in life. Human lives were splintered and sociability, the subtle microcosm structure of the existence of human race incurred a severe blow which gave rise to digital divide in education as online mode of learning

replaced the joyfulness of classroom learning. JBNSTS assumed the role of **Harbinger of Change** and developed enterprising programs on the digital platform through a series of phenomenal web-based seminars for the talented youths from the nook and corner of West Bengal. We started organizing Teachers' Training program, Biotechnology workshops, Talent Enrichment programs for research scholars and many more using Google Meet and Zoom platforms. The online interactions ensured substantial participation of our girl students from various parts of our state overcoming the barriers of gender divide and economic divide. Special emphasis was given on experimental activity-based programs which were telecasted in real-time mode through multitude of cameras positioned in JBNSTS Rosalind Franklin Laboratory to participants located in remote areas all over West Bengal. We had several programs for science teachers on digital platform.

But definitely I regret, we missed the vibrant interactions with our scholars, we missed the sky watching programs, we missed the workshop in collaboration with IISER, we missed the visit to the renowned scientific institutions of India and finally, we missed the gala festivity of Annual award ceremony, 2020.

I am really happy that, you achieved your success through the home-based on-line proctored examination system and interview. The amazing response from several quarters of the society with regard to unique methodology of conducting talent search tests truly validates the aptness of organizing the examinations in the digital platform when all the academic activities across the globe were conspicuously clouded by the threat of the pandemic. We have identified 200 junior scholars, 55 senior scholars and 50 Bigyani Kanya Medha Britti awardees for the year 2020. In this context, I would mention, JBNSTS had established a synergy with globally acclaimed scientists, virologists, front-line Covid warriors who exposed the young minds to enthralling discourses over myriad transnational topics of science and latest technology. JBNSTS took a commendable virtual task of creating profound space of communion for all of our present and past scholars along with conducting counselling sessions to them even who are located overseas. JBNSTS humbly acknowledges the role of esteemed academicians, scientists, technologists, professionals from various walks of the society who have made our dream come true. In this context, I am happy to announce, that JBNSTS has been entrusted with the responsibility of conducting Vidyasagar State Science Olympiad from 2021 in coordination with Directorate of School Education, Government of West Bengal. I believe it will be a landmark effort for the progress of science education in West



Bengal. We have also initiated a program with Vigyan Prasar, Government of India with the aim of spreading science in regional vernacular language, translating good science books etc.

Science is the elixir of life... our world shall soon regain her vibrancy due to the immensity of science and its ground-breaking inventions and innovations which will enable us to triumph against the transient devastations. The relentless support from the Government of West Bengal would undoubtedly enable us to foster the talents of our state who could become the future scientists and professionals and may be the builders of modern India.

I sincerely acknowledge the complete support from Department of Higher Education, Government of West Bengal. My sincere acknowledgement to Department of Science and Technology and Biotechnology, Government of West Bengal. It is their strong support that enables the young scholars to be developed as the best human resources of India. We may humbly assert that we do have appropriate vision and adequate courage to fulfill our objectives.

I believe teamwork and communication are two important skills the scholars must learn to boost the career prospects. In the unprecedented situation of the global pandemic, JBNSTS functioned as a vibrant team which effortlessly discharged talent search tests/ scholarship examinations on the virtual medium on a large scale. We humbly pledge to sustain our commitments towards science from the organizational platform like the bygone years and aim to groom more students from all over the state having inclination towards science in the coming days. May all my dear scholars reach the pinnacle of success in life and make our nation proud through your inventions and innovations. I would like to conclude by quoting eminent Professor Stephen Hawking: "However difficult life may seem, there is always something you can do, and succeed at. Intelligence is the ability to adapt to change. It matters that you don't just give up....."

Thank You All!!

Closing with profound regards and sincere wishes unto everyone.

Prof. (Dr.) Maitree Bhattacharyya

Director, JBNSTS Kolkata

<p><i>Vision</i></p>	<p>Identify Motivate and Nurture to develop the world's brightest minds.</p>
<p><i>Mission Statement</i></p>	<p>To see every talented student of science realize their potential and to harness their talent for nation building.</p> <p>To convey the joy of learning science amongst high ability students and to create innovative learning environments for them.</p> <p>To build up human resource in applied and basic sciences to produce future leaders in science and technology.</p>
<p><i>Our Manifold Activities</i></p>	<ul style="list-style-type: none"> ➤ Senior Scholarship Program ➤ Junior Scholarship Program ➤ Bigyani Kanya Medha Britti ➤ West Bengal District School Program ➤ Teachers' Training Program ➤ Talent Enrichment Program ➤ Biotechnology Program for Middle & High School Students ➤ JBNSTS- Vigyan Prasar Initiative ➤ Vidyasagar State Science Olympiad



Dr. Paromita Roy



Prof. (Dr.) Maitree Bhattacharyya



Mr. Joydeep Das



Dr. Avijit Kar



OUR JBNSTS TEAM



Dr. Smarajit Manna



Mr. Prasenjit Chakraborty



Mr. Dipankar Sarkar



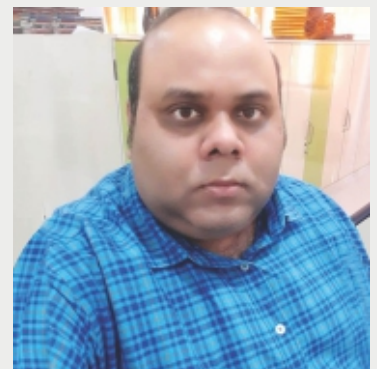
Ms. Swapna Dey



Mr. Sanjay Dutta



Mr. Raja Das



Mr. Sougata Roy



Dr. Arnab Pramanik



Mr. Ranjit Kumar Mallik



Dr. Pijush Basak



Ms. Puspa Biswas



OUR JBNSTS TEAM



Mr. Puskar Naskar



Mr. Sudip Das



Ms. Sanchari Chattopadhyay



Ms. Sweta Chakraborty



Dr. Rituparna De



Ms. Paromita Majumder



Ms. Shrayasi Chatterjee



Mr. Sudip Nag



Mr. Debmalya Chowdhury



Ms. Prakriti Saha



Mr. Mahadev Das



Mr. Debnarayan Mukherjee



Mr. Sukanta Manna



Mr. Subhadeep Banerjee





JBNSTS SENIOR SCHOLARSHIP PROGRAM

Our cult program since last
six decades : pioneer of first
talent search test of the nation

A Program supported by
Department of Science and Technology
and Biotechnology, Government of West Bengal



SENIOR TALENT SEARCH TEST

A heritage endeavour dedicated to the nation for creation of best resources

Preamble and foundation of the initiative

Science learning advocates enquiry-based cognition which is not confined to mere accretion of knowledge, but mostly acquiring special competency and skill-set that renders confidence to the human resources to flourish in life by inculcating a rational understanding of the world, depending on STEM education.

Our country has been embellished by the talent search endeavour of JBNSTS which dates back to 1960 and has nurtured faculties of talented students through the medium of science and technology since then. The JBNSTS senior scholarship program is India's first and foremost talent search initiative which fosters young undergraduate science aspirants in West Bengal and catapult them to the pinnacle of excellence in STEM.

Founding principles of the program

The pertinent objectives of senior scholarship initiative may be explained below:

- ❖ Induction of talented minds in the genre of advances research by incorporating basic and applied science.
- ❖ Assimilation of global trends of research and development and exploring novel avenues of science and technology.
- ❖ Financial assistance aimed to facilitate the academic needs of the student scientists of curricula namely, Basic Science/ Medicine/ Engineering.
- ❖ Forming a dominant scientific temper amongst the scholars which would be effective in creation of repository of knowledge base in the oceanic plane of science and be a significant contributor in the growth trajectory of our country.

Process of selection of JBNSTS Senior Scholar, 2020

Eligibility Criteria: The STST aspirants would have qualified 12th standard board examination from any recognised board (WBCHSE/ ISC/ CBSE) in 2020 and studying/ aspiring to study Basic Science (Hons.)/ Medicine/ Engineering/ BS-MS (Integrated) in the undergraduate framework in 2020 within West Bengal.

Process of applying for Senior Talent Search Test 2020

The appalling pandemic situation had given rise to a tectonic shift in the regular pattern of the workflow of Senior Talent Search Test in the year of 2020 which had resulted in remodelling of the

procedural structure and components of the examination in the previous years. The following account reveals the revamped scheme of the examination.

- ❖ The exam notification was published in different newspapers, media and digital platforms and online and offline application was invited from the prospective candidates during the months of October and November, 2020.
- ❖ A robust awareness campaign of 60th edition of STST was initiated on the digital platform to reach out to all the interested and eligible students of all across West Bengal through numerous online web-based orientation sessions, seminars and social media.
- ❖ It is imperative to mention in this context that several mock drills were organised to make the students comfortable to the home based online proctored examination system. Similar practicing exercise was also performed for the interview and scientific creativity test for the students who qualified the written test. All the qualifying tests were performed on digital platform to avoid the risks of the pandemic situation.

Details of Senior Scholarship by JBNSTS

Financial Benefits availed by Medicine and Engineering aspirants	<p>A senior scholar is entitled to receive Rs. 4,000/- as scholarship grant along with one-time Rs. 5,000/- as book grant for 4/5 years till completion of undergraduate studies in engineering and medicine.</p> <ul style="list-style-type: none"> • The scholarship and book grants are sponsored by Department of Science and Technology and Biotechnology, Government of West Bengal.
INSPIRE Fellowship	<p>Rs. 60,000 + Rs. 20,000 per annum is awarded to JBNSTS senior scholars till completion of Master's Degree in Basic Science curriculum vis-à-vis DST INSPIRE norms and regulation, Government of India.</p>

A student drawing scholarship benefits from any other sources is not eligible to avail financial benefits of this particular scholarship.

In addition to the pecuniary benefits, the JBNSTS senior scholars are entitled to participate in myriad nurturing programs, workshops, symposia etc. and produce publications based on short-term research projects performed under eminent experts in the entire course of their studies.

Special award for Senior Scholars: An exemplary JBNSTS initiative

In appreciation of the academic requirement of the senior scholars, top ten boy scholars and top ten

IMAGINATION IS MORE IMPORTANT THAN KNOWLEDGE. KNOWLEDGE IS LIMITED BUT IMAGINATION ENCIRCLES THE WORLD.

Albert Einstein



Department of Science and Technology and Biotechnology, Government of West Bengal substantiating our effort.

Snapshot of Senior Talent Search Test 2020

Total number of Candidates	Phase I Written Test	Phase II Interview
	2020	321
Timeline of stages of the examination	13th day of December, 2020 Sunday	18.01.2021 to 22.01.2021

Finally, based on the bi-phased examination, final result of STST 2020 was published on 08/02/2021 which revealed 55 number of candidates being selected as JBNSTS senior scholars for the year, 2020.

JBNSTS Senior Scholars: 2020 (Rank wise)

Name of the Scholars	Present Institute	Subject of Study
Aritra Mitra	Indian Institute of Technology, Kharagpur	Computer Science and Engineering (Dual Degree)
Priyanka Bhowmik	Medical College, Kolkata	MBBS
Subham Ghosh	Indian Institute of Technology, Kharagpur	Computer Science and Engineering
Soumyajyoti Sarkar	Institute of PG Medical Education and Research, Kolkata	MBBS
Tarang Sur Chaudhury	Indian Institute of Technology, Kharagpur	Electronics & Electrical Communication Engineering
Maitreyo Bhattacharjee	Indian Association for the Cultivation of Science, Kolkata.	BS-MS
Jenifer Bhattacharya	Netaji Nagar College for Women, Kolkata	Chemistry (Hons.)
Subhradip Paul	Nil Ratan Sircar Medical College and Hospital, Kolkata	MBBS
Sunita Mondal	Calcutta National Medical College, Kolkata	MBBS
Lopamudra Patra	Bankura Sammilani Medical College, Bankura	MBBS
Sayan Ali	Medical College, Kolkata	MBBS

Name of the Scholars	Present Institute	Subject of Study
Arpan Ghosh	College of Medicine and Sagore Dutta Hospital, Kolkata	MBBS
Sayan Tapadar	Indian Institute of Technology, Kharagpur	Electrical Engineering
Sayan Maji	Jadavpur University, Kolkata	Information Technology
Anamitra Mukhopadhyay	Indian Institute of Technology, Kharagpur	Electrical Engineering (Dual Degree)
Anubhav Dhar	Indian Institute of Technology Kharagpur	Computer Science and Engineering (Dual Degree)
Aliviya Dey	Cooch Behar Medical College, Cooch Behar	MBBS
Aniket Pan	Indian Institute of Technology, Kharagpur	Mechanical Engineering
Anubhab Mandal	Indian Institute Of Technology, Kharagpur	Metallurgical and Materials Engineering
Samannay Das	College of Medicine and JNM Hospital, Kalyani	MBBS
Disha Mandal	All India Institute of Medical Sciences, Kalyani	MBBS
Akash Kundu	Medical College, Kolkata	MBBS
Deep Sekhar Ghosh	Indian Institute of Technology, Kharagpur	Electrical Engineering (Dual Degree)
Sayantika Roy	Indian Institute of Engineering Science and Technology, Shibpur	Electronics and Telecommunication Engineering
Utsav Basu	Indian Institute of Technology, Kharagpur	Computer Science and Engineering (Dual Degree)
Reetanjan Kali Roychowdhury	Indian Statistical Institute, Kolkata	B. Stat
Tuhin Subhra Mandal	Indian Institute of Technology, Kharagpur	Instrumentation Engineering
Sharannya Ghosh	Indian Institute of Technology, Kharagpur	Computer Science and Engineering
Arindam Ghosh	College of Medicine and Sagore Dutta Hospital, Kolkata	MBBS



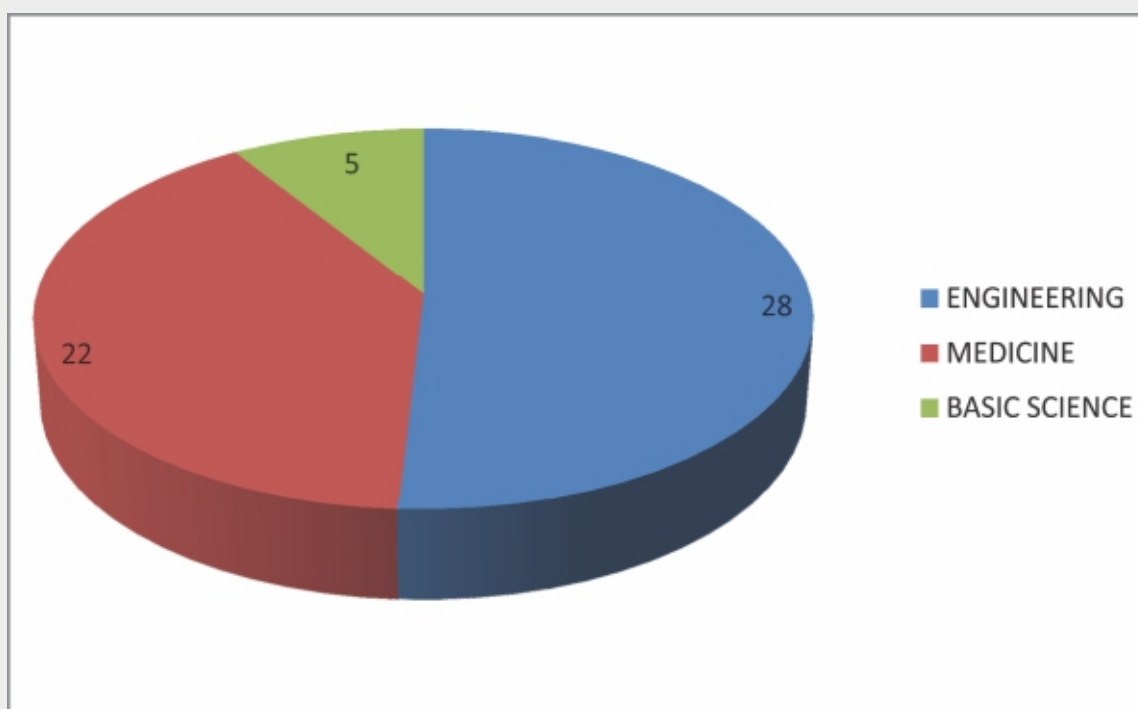
Name of the Scholars	Present Institute	Subject of Study
Ankush Bhunia	RG Kar Medical College and Hospital, Kolkata	MBBS
Devraj Das Adhikary	Indian Institute of Technology, Kharagpur	Ocean Engineering & Naval Architecture
Utsa Sarkar	R G Kar Medical College and Hospital, Kolkata	MBBS
Saminur Rahaman	Indian Institute of Science Education and Research, Kolkata	BS-MS
Indrajit Misra	Calcutta National Medical College, Kolkata	MBBS
Poojanjali Roy	Medical College, Kolkata	MBBS
Saptarshi De Chaudhury	Indian Institute of Technology, Kharagpur	Chemical Engineering
Anubhab Dasgupta	Indian Institute of Technology, Kharagpur	Mechanical Engineering (Dual Degree)
Jyotipriya Sarkar	St. Xavier's College, Kolkata	Microbiology (Hons.)
Soumik Subhra Biswas	Indian Institute of Technology, Kharagpur	Chemical Engineering
Someshwar Mukherjee	Calcutta National Medical College	MBBS
Mahfujul Haque	Jadavpur University, Kolkata	Computer Science and Engineering
Berochan Marik	Heritage Institute of Technology, Kolkata	Chemical Engineering
Padmanava Dirghang	Nil RatanSircar Medical College and Hospital, Kolkata	MBBS
Ushasi Das	Indian Institute of Technology, Kharagpur	Electronics and Electrical Communication Engineering
Sagnik Koley	Medical College, Kolkata	MBBS
Soumya Dasadhikary	Institute of PG Medical Education and Research, Kolkata	MBBS
Manami Mondal	Indian Institute of Technology, Kharagpur	Computer Science and Engineering
Siddharth Singh	Jadavpur University, Kolkata	Computer Science and Engineering

Name of the Scholars	Present Institute	Subject of Study
Kanko Ghosh	Jadavpur University, Kolkata	Computer Science and Engineering
Debangshu Sannigrahi	Nil Ratan Sircar Medical College and Hospital, Kolkata	MBBS
Debraj Bhowmik	Medical College, Kolkata	MBBS
Ritwik Ranjan Mallik	Indian Institute of Technology, Kharagpur	Computer Science and Engineering
Sourish Kundu	Jadavpur University, Kolkata	Electrical Engineering
Aishik Ghosh	Jadavpur University, Kolkata	Electrical Engineering
Adrija Gangopadhyay	Indian Institute of Engineering Science and Technology, Shibpur	Computer Science and Technology

Award for best school in Senior Scholarship category

This year Ramkrishna Mission Vidyalaya, Narendrapur was adjudged with the honour for best school award in the Senior Scholarship category.

Analysis of Senior Scholars 2020 vis-à-vis their present stream of study





BIGYANI KANYA MEDHA BRITTI

An exemplary scaffold for girls to attain excellence in Science

Rationale of the initiative

India has attained commendable heights in the discipline of science education research and development. India has gifted the world finest science practitioners, technologists and medical professionals who have shaped the destiny of the nation through their path-breaking interventions spanning across the wide periphery of STEM. Amidst exceptional glory in varied disciplines of the subject, our country has incurred a glaring lacunae in the form of meagre participation of girls in the platform of science. Judicious and fair gender participation in the societal context is a key indicator of a vibrant nation.

In view of such paucity in representation of women in respect to science, JBNSTS a prominent institute dedicated to the nation, formulated a special program titled Bigyani Kanya Medha Britti only for the girl students of our state under the sponsorship of Department of Higher Education, Government of West Bengal. Our state is perhaps the only region across India where a completely separate scheme of scholarship is dedicated towards the girl students pursuing higher education in the discipline of science.

Aims and objectives of the Program

- ❖ **Advocacy of equitable participation of women in science education** : Bigyani Kanya Medha Britti encourages substantial involvement of young girl students in the ambit of science and technology from all over West Bengal in undergraduate and post graduate framework of curriculum.
- ❖ **Financial support for academic needs** : Financial assistance in the form of scholarship supporting the academic needs of vibrant girl scholars of West Bengal.
- ❖ **Enrichment of latent aptitude** : A platform which ensures enhancement of skills, aptitude of the girl scholars through exposure to unique and inspiring sessions of basic science and applied science along with experiential learning for better understanding of advanced subjects and topics of science.
- ❖ **To nurturing of the innovative minds**: Several workshops and interactive session to develop their creativity and innovation skill for the benefit of the society.

The Bigyani Kanya Medha Britti is an exceptional pedestal of advancement of career which essentially trains the girl students to inculcate a unique attitude towards science and engage them to an array of research based activities and other allied pursuits at an early age under the guidance of eminent science professionals which is never possible in their regular scheme of curriculum.

Framework of JBNSTS Bigyani Kanya Medha Britti Program 2020

- ❖ **Eligibility Criteria:** Girl students having qualified final examination of higher secondary standard in the discipline of science in 2020 from any government recognized Board (WBCHSE/ ISC/ CBSE) were eligible to apply for the Senior Talent Search Test which is the mandatory requirement in this context. The selection of awardees is made through JBNSTS Senior Talent Search Test 2020. Furthermore, they would have to pursue undergraduate studies in Basic Science (Hons.) or Medicine or Engineering from any recognized institution within West Bengal.
- ❖ **Scholarship in details:** The JBNSTS Bigyani Kanya Medha Britti awardees are entitled to receive INR 2000/- per month spanning over their entire course of studies: Master's degree in case of Basic Science and Bachelors' degree in case of Engineering and Medicine. In addition to that, all the girl scholars are provided with one-time book grant worth INR 2000/- for each of the five years till completion of Master's degree (Basic Science Hons.) and four years till attainment of Bachelors' degree in Engineering or Medicine.

The advice that I give continually is to never give up on your ideas, never stop working, and never give in to the peer-review system

---**Professor Eric Anslyn**
(University of Texas at Austin)

**JBNSTS Bigyani Kanya Medha Britti Awardees: Batch of 2020**

Name of the Awardees	Present Institute	Subject of Study
Aaheli Mandal	Nil Ratan Sarkar Medical College, Kolkata	MBBS
Abhipsa Patra	Bankura Sammilani Medical College, Bankura	MBBS
Aditi Sarkar	St. Xavier's College, Kolkata	Biotechnology
Aishani Sengupta	St Xavier's College, Kolkata	Microbiology Honours
Aishika Das	Nil Ratan Sarkar Medical College, Kolkata	MBBS
Alivia Bhowmik	Medinipur College	Physics Hons
Ambika Maitra	Rabindra Mahavidyalaya	Chemistry
Amrapali Biraj Majumder	New Alipore College, Kolkata	Physics Honours
Ankita Dey	Scottish Church College, Kolkata	Microbiology
Ankita Ghosal	Durgapur Women's College	B.Sc Physics
Anushka Sarkar	Presidency University, Kolkata	Life Sciences
Anushka Sinha	IISER, Kolkata	BS-MS
Anwasha Roy Chowdhury	Maulana Abul Kalam Azad University of Technology	Food Science and Technology
Athena Paul	Raiganj University	Chemistry Hons.
Bidisha Pal	Presidency University Kolkata	Life Science
Chinmoyee Roy	Raiganj Government Medical College And Hospital	MBBS
Debasmita Mondal	Heritage Institute of Technology, Kolkata	Biotechnology
Deepta Roy	Jadavpur University, Kolkata	Mathematics
Diya Das	Nilratan Sircar Medical College, Kolkata.	MBBS
Esa Biswas	College of Medicine and JNM Hospital, WBHUS, Kalyani	MBBS
Gargi Bhattacharya	Presidency University, Kolkata	Physics
Hrididhi Maitra	St Xavier's College, Kolkata	Biotechnology

Name of the Awardees	Present Institute	Subject of Study
Manjima Biswas	College of Medicine and JNM Hospital, West Bengal University of Health Sciences, Kalyani, Nadia	MBBS
Medhalakshmi Acharya	Presidency University, Kolkata	Statistics
Neha Sen	Lady Brabourne College, Kolkata	Mathematics
Nidhi Choudhury	Calcutta National Medical College, Kolkata	MBBS
Oindrila Maji	IIT Kharagpur	Industrial and System Engineering
Pabanika Mallick	Krishnagar Govt College	Physics
Pramita Samanta	NIT Durgapur	Computer Science And Engineering
Prerana Mondal	R.G.Kar Medical College, Kolkata	MBBS
Raima Sen Sharma	Scottish Church College	Microbiology
Rayna Ghosh	North Bengal Medical College And Hospital	MBBS
Reeddi Banerjee	St. Xavier's College Kolkata	Biotechnology
Samriddhi Guha	Jalpaiguri Govt Eng. College	Electronics & Communication Engineering
Samriddhi Mukhopdhyay	IEST Shibpur	Aerospace Engineering
Satavisha Sahal	PGME&R	MBBS
Sharannya Banik	Nil Ratan Sircar Medical College	MBBS
Shruti Bhattacharyya	Medical College, Kolkata	MBBS
Shruti Singhamahapatra	IEST Shibpur	Electronics & Telecommunications Engineering
Soumili Sarkar	Medical College, Kolkata	MBBS
Sreeja Das	Presidency University, Kolkata	Life Science
Sreya Mandal	Nil Ratan Sircar Medical College, Kolkata	MBBS
Sruti Aich	Techno Main Salt Lake	Electronics And Instrumentation Engineering

Name of the Awardees	Present Institute	Subject of Study
Subhalagna Pal	KPC Medical College and Hospital	MBBS
Sucheta Pal	Burdwan Medical College	MBBS
Sukanya Panja	Indian Association for the Cultivation of Science Integrated	BS-MS
Sukriti Pal	Presidency University, Kolkata	Life Sciences
Sulagna Chanda	Ashutosh Mukherjee College	Biochemistry
Sulagna Das	Jadavpur University, Kolkata	Electrical Engineering
Tanisha Bagchi	KPC Medical College, Kolkata	MBBS
Uttara Mazumder	Nilratan Sircar Medical College, Kolkata	MBBS
Yenisi Das	St. Xavier's College, Kolkata	Statistics





JBNSTS JUNIOR TALENT SEARCH TEST

Forging into honing of high school talents and a building block for their holistic development in the realm of science

JUNIOR SCHOLARSHIP PROGRAM

A template for dynamic young talents to attain excellence in STEM

Inception of Junior Scholarship Program

JBNSTS by all its pragmatism and virtues is dedicated to the nation for creation of distinguished resources in the discipline of science and technology by unearthing special talents from all over the state since its existence in 1960. Science education particularly in the higher secondary curricula may be characterised by inertia which poses as stumbling block for the talented students to attain excellence in the discipline of science.

JBNSTS in the wake of such quandary designed a unique program in 2015 exclusively for talented students pursuing science across West Bengal under the higher secondary framework. Since then, the program has touched the lives of numerous students who are on the threshold of higher education in science under the sponsorship of Department of Science and Technology, Government of West Bengal.

Governing principles of the program

The key intended outcomes of junior scholarship program are broadly mentioned below:

- ❖ To render a global expertise of science for developing a firmer base of science amongst the talented youth in their formative years that will play a major role in developing acumen of solving real-life challenges of the society and mankind.
- ❖ To introduce the concept of invention and innovation in science among the brilliant minds of the young scholars.
- ❖ Empirical exposure towards science subjects by engaging into hands-on activities in world-class laboratories of eminent science research institutes under the mentorship of esteemed faculty and resource persons in the formative years which is perhaps not feasible in regular school scheme of syllabus.
- ❖ Financial grant in the form of scholarship per month along with book grants to support the academic activities of the students.



Scholarship benefits under Junior Scholarship Framework

Scholarship for JBNSTS Junior Scholars

- ❖ The Junior Scholars are awarded with scholarship amounting to Rs. 1,250/- per month for two years.
- ❖ Rs. 2,500/- Annual Book Grant for two years.

JBNSTS Encouragement Award

Fifty (50) candidates are being selected as encouragement awardees inter-alia who are rewarded with one-time book grant worth Rs. 5,000/- to support their academic pursuits.

Talent Search Tests in New Normal Life

Home-based online proctored examination

- ❖ Advertisement was published in all leading newspapers pertaining to the Junior Talent Search Test 2020 and its relevant details.
- ❖ An exhaustive awareness drive about the online application of the examination was initiated on the virtual medium in full throttle which accounted for large involvement of students, teachers and other concerned from all over West Bengal. They were duly explained about the modified scheme through a series of web-based seminars and awareness programs.
- ❖ Special mock tests were designed for the registered students of Junior Talent Search Test to make them adequately well-versed of the pertinent aspects of the online examination and test interface. The online mock test was made obligatory for the students to participate in which aimed to negate any degree of hindrances that any applicant might be faced with before appearing for the final online examination.





- ❖ Dedicated technical helpline contact numbers was designated for the appearing students of the examination which would troubleshoot any technical glitches during the entire course of the online written examination. All possible efforts were undertaken by JBNSTS to ensure safety of the candidates and upholding the sanctity and academic integrity of Junior Talent Search Test.
- ❖ Separate online seminars were initiated by JBNSTS for the first phase qualified candidates who were eligible to appear in the second and final phase of the two-tier examination. A thorough orientation was rendered with regard to the modalities of online interview process to the candidates. The distinctive outcome of this action was to neutralise any apprehensions, doubts about the online mode of interview on the virtual platform much to the convenience of the students.

The resounding participation of students from all over West Bengal in the Junior Talent Search Test is a remarkable testament of the phenomenal initiative taken by JBNSTS to organise talent search examinations in the new normal scheme of things, especially at a time when all the academic activities came to a prolonged standstill owing to the pandemic.

Scheme and structure of Junior Talent Search Test 2020

Basic Eligibility Criteria : Students who have passed 10th standard Board examination from WBSE/ ICSE/ CBSE in the year 2020 with minimum 75 percent marks, equivalent CGPA (in overall aggregate) and currently studying science in class XI with at least three (03) subjects from Physics, Chemistry, Mathematics, Biology, Statistics, Computer Science in any institution within West Bengal were eligible to apply for the examination.

Factsheet of Junior Talent Search Test 2020

Snapshot	Stages of the Examination	
	Written Test	Interview
Timeline	13th day of December, 2020 (Sunday)	12th day of January, 2020 to 16th day of January, 2020
No. of Candidates	7105	415
Total number of selected Awardees for the year 2020	JBNSTS Junior Scholars	Encouragement Awardees
	202	50

JBNSTS Junior Scholars : 2020 Batch (In alphabetical order)

Scholar's Name	Present Institution
Abhidipan Samanta	K.T.P.P. High School
Abhilash Pati	Purulia Zilla School
Abhiraj Mitra	DPS Ruby Park
Adil Islam	Pathfinder Higher Secondary Public School
Aditri Tarafdar	Vidyasagar Sishu Niketan
Aditya Mandal	Don Bosco School, Park Circus, Kolkata
Adrij Das	Aditya Birla Vani Bharati
Adrija Roy	Central Model School, Barrack pore
Adrish Chakrabarti	Ramakrishna Mission Vidyalaya, Narendrapur
Agnidhra De	South Point High School
Agnij Biswas	Don Bosco School Bandel
Agniswar Maity	B.D.M. International
Agniva Saha	Birbhum Zilla School
Aham Bera	Ramakrishna Mission Vidyalaya, Narendrapur
Aishik Bhattacharjee	South Point High School
Aishik Sarkar	Delhi Public School, Ruby Park, Kolkata
Akash Ghosh	Ramakrishna Mission Vidyalaya
Amaresh Kumar Dey	Uttarpara Amarendra Vidyapith
Ananyo Sen	Ramakrishna Mission Vidyalaya, Narendrapur
Anargha Mondal	South Point High School
Aniket Sarkar	B.D.M. International
Anirvan Chakravarty	St Augustines Day School
Anis Mandal	Sarada Vidyapith H.S.
Anjali Singh	Kolaghat Thermal Power Plant High School
Ankit Biswas	DPS Ruby Park
Ankur Roy	Hem Sheela Model School
Anubhav Maity	South Point High School
Anuradha Hazra	Krishna Bhabini Nari Siksha Mandir
Anurag Lahiri	Techno India Group Public School Balurghat
Anusha Roy	Delhi Public School Ruby Park, Kolkata
Anuska Mandal	Kendriya Vidyalaya, Ballygunge



Scholar's Name	Present Institution
AratrikaChakrabarti	St. Josephs Convent
ArghaGuha	South Point High School
ArghyaBiswas	Ramakrishna Mission Vidyalyaya
Arijit Adak	Panchberia R.C.S.S Mandir
ArinPramanick	Aditya Academy Secondary
ArinjoySen	Hooghly Branch Govt. School
AritraBiswas	Howrah Vivekananda Institution.
AritraMaiti	Rahara Ramakrishna Mission
ArkaHazra	La Martiniere For Boys
Arka Panda	Ramkrishna Mission Vidyabhavan
Arkadip Bandyopadhyay	Delhi Public School, North Kolkata
Arkaprabha Pal	Sinhi Ramkrishna Sangha Vidyamandir
Arnab Goswami	Hem Sheela Model School
Arunava Bhattacharya	Garden High School
Arya Choudhuri	South Point High School
Asmi Chowdhury	Ashokenagar Banipith Girls High School
Atmik Goswami	Pathfinder Higher Secondary Public School
Aviraj Chakraborty	Hemsheela Model School
Ayan Adhikari	Calcutta Boys School
Ayan Dandapat	Contai Public School
Ayanava Mukherjee	Calcutta Boys School
Baibhab Karmakar	Raiganj Coronation High School
Baidurjya Saha	St. Xaviers Collegiate School
Baidurjya Sinha	South Point High School
Bappaditya Banerjee	South Point High School
Barnita Dey	Matiari R P Sen Memorial High School
Chayan Majumdar	Katwa Bharati Bhaban H.S School
Chiradeep Jana	Calcutta Boys School
Debapriya Ganguly	Hem Sheela Model School
Debapriya Mukhopadhyay	Sagardighi S.N High School
Debatra Banerjee	Berhampore J.N. Academy
Debdut Roy	Burdwan Municipal High School



Scholar's Name	Present Institution
Debojit Das	Maharaja Nripendra Narayan High School
Debrup Giri	Labanhrad Vidyapith
Devjoti Datta	Bholananda National Vidyalaya
Dhritishree Saha	East Westmodel School
Ekam Bitt	DAV Public School, Asansol
Furquan Ahmed	Howrah High School
Himadri Kotal	Simlapal Madan Mohan High School
Ipsito Karmakar	Ramakrishna Mission Boys Home High School H.S.
Ishan Mandal	Kolaghat Thermal Power Plant High School
Ishita Misra	Hem Sheela Model School Durgapur
Jack Sirak	Hem Sheela Model School
Jyotishko Banerjee	DAV Model School, Durgapur
Kalyanbrata Chandra	Madarat Popular Academy
Kanishka Chakraborty	South Point High School
Kasita Panda	Contai Public School
Kinjol Kar	DPS Ruby Park
Koustav Chowdhury	Jenkins School
Koustav Ghosh	Ramakrishna Mission Vidhyalaya, Narendrapur
Koustav Ghosh	PathaBhavan
Manash Dey	Ramakrishna Mission Vidyalaya, Narendrapur
Manopriya Mondal	Delhi Public School Ruby Park
Mayukh Mukherjee	Salt Lake School
Meghna Raj	DAV Model School Durgapur
Mehedi Hassan Daptari	Kulpi Kalika Vidyapith
Meherunnesa Khatyn	Bardhaman Bidyarthi Bhaban Girls High School
Monalisa Roy	Royal Academy
Moupiyasi Kanrar	Amta Balika Vidyalaya
Nahid Akter Nayan	Dharsa Azad Sikshayatan
Nakshat Pandey	Birla High School
Nishat Anjum	Delhi Public School Ruby Park, Kolkata
Oishik Nandi	Agrasain Boys School
Olivia Pal	DAV Model School



Scholar's Name	Present Institution
Pallab Biswas	Narendrapur Ramkrishna Mission Vidyalaya
Pallab Chakraborty	Mahesh Sri Ramkrishna Ashram Vivekananda Vidyalaya
Pramit Some	South Point High School
Prantik Mahata	Egra J.L High School
Pratyush Biswas	DAV Model School, Durgapur
Pravat Dutta	Sonamukhi B J High School
Priyam Tarafder	Salt Lake School English Medium
Purnendu Mukherjee	South Point High School
Rajat Shuvra Saha	Delhi Public School, Ruby Park
Rajsuvro Adhikari	B.D. Memorial International
Ramyani Ghosh	Aditya Academy Senior Secondary
Rangan Pal	Apeejay School, Salt Lake
Raunak Sengupta	South Point High School
Riddhiman Biswas	Jenkins School, Cooch-Behar
Rijul Dutta	W. W. A. Cossipore English School
Riktom Chai	Hem Sheela Model School
Rinkiny Ghatak	Siliguri Girls High School
Rishab Ghosh	Egra Jhatulal High School
Rishi Pratihar	Vidyasagar Vidyapith
Rishi Raj Saha	Hemsheela Model School
Ritam Mukherjee	D.A.V. Model School
Rudranil Latua	Jodhpur Park Boys School
Rupkatha Maity	Delhi Public School
Sabarna Hati	Sonamukhi B J High School
Sabarna Kar	Raghunathbari Ramtarak High School
Sagnik Mandal	Bankura Zilla School
Sagnik Mandal	Ramakrishna Mission Vidyalaya, Narendrapur
Sagnik Seth	Salt Lake School, Kolkata
Samay Gupta	Don Bosco School, Liluah
Sambuddha Chakrabarti	Don Bosco Park Circus
Sammyabrata Nandy	DAV Model School, Durgapur
Sampriti Dey	Bardhaman Bidyarthi Bhaban Girls High School



Scholar's Name	Present Institution
Sampriti Saha	Sudhir Memorial Institute
Samriddha Ganguly	St. Xavier's Institution, Panihati
Sanchari Mukherjee	KTPP High School HS
Sanket Chakravarty	Delhi Public School, Ruby Park
Sankhodeep Dey	Howrah Vivekananda Institution
Saptarshi Bandyopadhyay	St.Xavier's Collegiate School, Kolkata
Saptashwa Baisya	Delhi Public School, Ruby Park, Kolkata
Sattwik Sarkar	Akrurmoni Coronation Institution
Saumili Roy	Bhavans Gangabux Kanoria Vidyamandir
Sayan Kundu	Delhi Public School Ruby Park, Kolkata
Sayandeep Bhowmick	Orient Day School
Sayandip Saha	Krishnagar Collegiate School
Shakya Majumdar	The Future Foundation School
Shalini Chongdar	Bodhichariya Senior Secondary School
Shamayita Banerjee	MDB DAV Public School, Bankura
Shantonil Bal	Salt Lake School English Medium
Shaon Malik	Garden High School
Shirsendu Pal	Uttarpara Govt. High School
Shreemoyee Misra	South Point High School
Shrestha Mukherjee	Ramakrishna Vivekananda Mission Vidyabhawan Higher Secondary
Shreya Shill	Hem Sheela Model School
Shubham Saha	Vivekanada Academy
Shubhayan Das	Delhi Public School
Shubhrajyoti Das	Kushadwip Makhanlal Vidyamandir
Shuvraneel Mitra	Delhi Public School, Ruby Park, Kolkata
Sk Shadaf	Burdwan Municipal High School
Sk Shanif	Burdwan Municipal High School
Soham Purkait	Pathfinder Higher Secondary Public School
Sohan Datta	Delhi Public School Ruby Park, Kolkata
Someswar Das	Memari V.M Institution
Somnath Garai	Ramakrishna Mission Vidyalaya, Narendrapur



Scholar's Name	Present Institution
Soumoyadip Samanta	Nava Nalanda
Soumya Pratim Kundu	Julien Day School
Soumyadeep Dutta	Hooghly Collegiate School
Soumyadeep Ghosh	Bankura Banga Vidyalay
Soumyadeep Pal	Arambagh High School
Soumyadip Sardar	Dakshin Barasat SibdasAcharya High School
Soumyadipto Pal	National Gems Higher Secondary School
Soumyajit Bandyopadhyay	Bankura Zilla School
Soumyajyoti Pal	Salt Lake School English Medium
Soumyaprabha Dey	Kolaghat Thermal Power Plant High School
Sounak Ghosh	Hooghly Collegiate School
Souptik Majumder	Springdale High School
Sourav De	Beachwood School
Sourin Maity	Sonakhali High School
Souvik Roy	South Point High School
Spandan Pal	Arambagh Vivekananda Academy
Sreyojyoti Ray	Burdwan Municipal High School
Srijan Saha	Burdwan Municipal High School
Srijani Basu	BNR Excellence Academy
Srijita Chatterjee	DAV Model School, Durgapur
Srijita Naskar	B.D.M. International
Srinjan Bhattacharjee	South Point High School
Srinjoy Som	Jadavpur Vidyapith
Subhajit Mandal	Nava Nalanda Santiniketan H. S. School
Subham Ghosh	DAV Model School
Subham Karmakar	Delhi Public School, Ruby Park, Kolkata
Subhradeep Bera	Pathfinder Higher Secondary Public School, Jodhpur Park
Subhradip Ghosh	Narendrapur Ramakrishna Mission Vidyalaya
Subhranil Mal	Don Bosco School Liluah
Subhranil Nandy	M.C. Kejriwal Vidyapeeth
Sukrit Dan	Ramakrishna Mission Vidyalaya, Narendrapur
Sulagna Ghosh	Delhi Public School, Ruby Parrk

Scholar's Name	Present Institution
Suman Bera	Midnapore Collegiate School
Sumit Roy	Thakurnagar High School
Suniket Saha	Salt Lake School English-Medium
Sunirban Sarkar	Ramakrishna Mission Boys Home High School HS
Supratik Kajli	Ramakrishna Mission Vidyabhavan HS
Swarnava Karan	DAV Model School
Swastika Dey	Sarada Vidyapith (H.S.)
Udit Paul	Dabcha Nabakala High School
Urjit Paul Chowdhury	South Point High School
Ved Sengupta	South City International School
Vedanta Hazra	St. Xavier's Collegiate School, Kolkata
Yash Bardhan Roy	St. Joseph And Mary's School

JBNSTS Encouragement Awardees 2020

Name of the Awardees	Present Institution
Abhirup Chakrabarti	Delhi Public School Joka South Kolkata
Akashdeep Yadav	Pathfinder Higher Secondary Public School
Ankit Mandal	St. Stephens School
Anohita Samanta	East West Model School
Anupam Mukherjee	Ramakrishna Mission Vidyalaya, Narendrapur





Name of the Awardees	Present Institution
Anupam Rana	Pathfinder Higher Secondary Public School
Aprameyo Chakrabarty	Ramakrishna Mission Vidyalaya, Narendrapur
Aric Bhattacharya	St. Augustine's Day School, Shyamnagar
Aritra Chakraborty	NaihatiNarendraVidyaniketan
Aritra Roy	South Point High School
Arshiya Paul	The Future Foundation School
Aryarup Majumdar	South Point High School
Bratanu Saha	DelhiPublic School Ruby Park, Kolkata
Debayudh Ghosh	Burdwan Municipal High School
Dipak Sahoo	Egra J.L High School
EshaMaitra	St. Stephens School Dum Dum
Joyjeet Roy	BhavansGangabuxKanoriaVidyamandir
KrishSaraf	The Heritage School
Manjara Raj	DAV Model School Durgapur
MitadruGhosh	B.D.M.International
PiyasaGhosh	Memari V.M.Institution Unit 2
Pratyusha Mahapatra	Delhi Public School, Ruby Park
Priyadarshini Bardhan	South Point High School
Protyusha Mahanta	Jasodanga High School
Rahul Narayan Singha	Hem Sheela Model School
Rajdeep Saha	Panuhat Rajmahishi Debi High School H.S.
Reejul Chattaraj	Barasat Indira Gandhi Memorial High School
Ritankar Das	Ramakrishna Mission Vidyalaya ,Narendrapur
Rohan Pal	Ramakrishna Mission Boys Home High School HS
Rounak Roy	Dum Dum Kishore Bharati High School
Rupanjan Sarkar	Midnapore Collegiate School
Saniya Nausin	Kshudrampur High School
Shounak Das	Jenkins School
Shreshtha Choudhury	Bhavans Gangabux Kanoria Vidyamandir
Shreya Ganguly	South Point High School
Siddhant Gupta	Baranagar Narendranath Vidyamandir
SkShanim	Burdwan Municipal High School

Name of the Awardees	Present Institution
Soham Chakraborty	Delhi Public School Ruby Park
Somsubhra Chakraborty	Pathfinder Higher Secondary Public School
Soujatya Pahari	Contai Public School
Soukarya Samanta	Burdwan Model School
Sourendra Nath Pradhan	Egra Jhatulal High School
Soutrick Bhandari	Ramakrishna Mission Vidyalaya, Narendrapur
Srijit Dey	South Point High School
Subhadeep Samanta	Bankura Banga Vidyalay
Subhankar Banerjee	Lake Point Convent School
Surjya Sankar Roy	Royal Academy
Surya Bikash Tripathy	Egra J.L High School
Tuhin Mondal	India International School
Yash Daga	St. Pauls Academy

I welcome the big asks, because the way to address these is through mentoring and encouraging talented young scientists – and contributing to the development of the scientific community.

– **Professor Rachel O'Reilly**
(University of Birmingham)

School Awards in Junior Scholarship Program 2020

Award for Best School

- Delhi Public School, Ruby Park, Kolkata
- South Point High School, Kolkata

Special Award for District Schools

- Ramakrishna Mission Vidyalaya, Narendrapur South 24-Parganas
- DAV Model School Durgapur, Paschim Bardhaman
- Hem Sheela Model School, Durgapur, Paschim Bardhaman

A bouquet of virtual journey for Junior Scholars in the realm of science

The global outbreak of Cov-19 had cast a shadow on the social delivery system in the context of knowledge sharing, learning and development. To address this imposing challenge with regard to the pandemic whereas physical mode of discourses meant seemingly unfeasible, JBNSTS contrived a series of exemplary sessions for our junior scholars on the virtual platform. They are talented boys and girls currently pursuing science in the higher secondary standard from all across the state.



Specifics of fascinating web-based seminars :

Topic/ Title of virtual sessions	Name of the speaker/ Faculty
Gravitational Wave: The song of Cosmos	Prof. (Dr.) Soumitra Sengupta IACS, Kolkata
Graphene based infra-red photo detectors and Biosensors	Dr.Saurav Islam IISc, Bangalore
Creativity in Chemistry	Prof. (Dr.) Subhajit Bandyopadhyay IISER, Kolkata
Periodic Table and the Elements of Human Character	Prof. (Dr.) Sayam Sengupta IISER, Kolkata
From Mathematics to Data based decision making: A directional change	Prof. (Dr.) Kiranmoy Das ISI, Kolkata
The Science of creating Human Tissues and Organs in Laboratory	Prof. (Dr.) Biman B Mandal IIT- Guwahati
Can we transform back Heat into Electricity?	Dr. Ananya Banik (Humboldt Fellow) Munster University, Germany
X-ray Crystallography: An Interdisciplinary Science	Dr. Surajit Banerjee Cornell University, USA





My advice is to feel inspired to be yourself – don't be constrained by social norms or apparent conventions, the world will adjust to allow you to succeed.

–Professor Emma Raven
(University of Bristol)



JBNSTS WEST BENGAL DISTRICT SCHEME PROGRAM

**Inclusive approach to integrate
district students to higher pedestal
of science and technology**

West Bengal District Scheme

An exemplary endeavor for young talents

Origin of the program

The West Bengal district scheme is a sustaining endeavor deeply rooted to its foundational dictum of identification, motivation and nurturing the talented students of this state in the realm of science and technology. With its origin in 2000, the initiative has traversed the nook and corner of West Bengal in integrating district school students and pupils from remote areas to the mainstream platform of science with a solemn effort to expose the students to the joy of science education at a nascent age which trains them to solve social problems and real-life issues and develop a probing mind.

The noble vision is appreciated and funded by the Department of Higher Education (DHE), Government of West Bengal. The unwavering support of science loving teachers and eminent resource persons from different walks of life has helped in manifestation of the program to a sizeable proportion since inception.

Objectives of West Bengal District Scheme

- A program which addresses the limitations of existing science curricula in the secondary standard and aims to impart activity-based learning to the pupils of districts of West Bengal who are bereft of application-based science education.



- An initiative that advocates for inclusive form of education by addressing glaring shortcomings in the form of digital divide and gender divide in the social perspective thereby creating comprehensive modules to integrate the district talents of our state to common platform of science learning and education.
- Developing of inquiring minds and curiosity about science and the natural world.
- The initiative acts as a catalyst of their further enquiry, interest in the sphere of science and technology through various workshops and enlightening lectures.
- Exposure to joy of performing hands-on scientific experiments using materials and techniques conforming to existing syllabus of secondary education.
- A program which creates a platform ensuring holistic development of the students by augmenting the underprivileged section of the society with others which is instrumental in building their scientific temper.

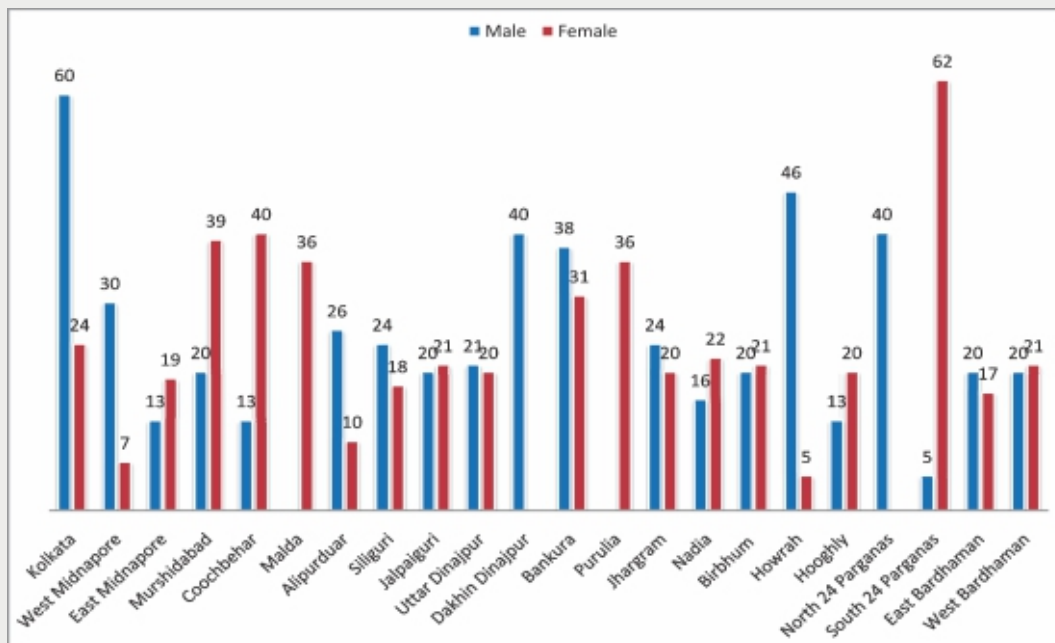
Program methodology

The schematic flow outlines the (bi-phased) process of nurturing young talents of districts

Phase I (5 day residential Workshop on School curriculum)			
Theoretical lectures on key topics of science complimented with motivational content and style	Hands-on experiments and laboratory activities	Co-curricular activities to increase social awareness and self-expression & communication skills	Visit to science and technology museums etc to expose them to creative ideas

Phase II (5 day Residential Advance Science Workshop)			
Outdoor science activities (Sky watching, Basic astronomy, Biodiversity & Ecosystem Nature study	Creative learning experiences to solve science and mathematical problems	Guided projects on alternate energy sources, Solar Cell and Energy; wise usage of water and natural resources	Interactions and discussion regarding contemporary challenging issues like climate change, water scarcity etc

Gender distribution of participants (2020-2021 batch)



Specifics of exciting Topics discussed and experiments performed

Physical Science	Life Science	Mathematics
<ul style="list-style-type: none"> • Nature of Elements • Concept of Mole • Idea of Energy • Chemistry against Global Warming • A Science Game With Special Emphasis on Physical Science • Importance of Periodic Table in Chemistry • Learning of new generation science- Artificial Intelligence • Interactive Learning of Physics • Energy Crisis: Innovation with Solar Power Experiments • Wonders of sky • Periodic table • History of Chemistry • Symphony of Space Time 	<ul style="list-style-type: none"> • Food and Immunity • Munch upon food - food and Digestive system • Journey of Respiration • Plant and Animal Tissue • Blood Circulation in Human Body • Food - Key of Health • Analysis & Experiments with biological samples from an ecosystem • Nutrition & Disease 	<ul style="list-style-type: none"> • Different exciting facets of Secondary Mathematics • A Right Angular Tour • Tales of two different Quadrilaterals • Ledger of Area • Solving Mathematical Problems



List of Mentors/ Facilitators

- Dr. Abhishek Mukherjee, Assistant Professor, Moulana Azad College
- Dr. Abhrajyoti Ghosh, Dept. of Biochemistry, Bose Institute, Kolkata
- Dr. Anamitra Anurag Danda, WWF- India
- Dr. Atasi Deb Roy, Dept. of Pure Mathematics, University of Calcutta
- Dr. Avijit Kar, JBNSTS
- Dr. Bodhisattwa Dutta, Dept. of Radiotherapy, Medical College, Kolkata
- Dr. Chaitali Mukherjee, Santoshpur Rishi Aurobinda Balika Vidyapith, Kolkata
- Dr. Kaushik Das Sharma, Dept. of Applied Physics, University of Calcutta
- Dr. Kaushik Dutta, IISER, Kolkata
- Dr. Pubali Dhar, Dept. of Home Science, Calcutta University, Kolkata
- Dr. Smarajit Manna, JBNSTS
- Dr. Sohini Bhattacharyya, Post- Doctoral Fellow, Rice University, USA
- Dr. Subhankar Ghosh, Dept. of Physics, St. Xavier's College, Kolkata



- Dr. Subir Dasgupta, Professor, Maulana Azad College, Kolkata
- Ms. Smita Nandi, Art Teacher, Ashok Hall, Kolkata
- Ms. Sanchari Chattopadhyay, JBNSTS
- Prof. Gautam Basu, Professor, Bose Institute, Kolkata
- Prof. Samita Basu, Dept. of Chemical Science, Saha Institute of Nuclear Physics, Kolkata
- Prof. Shyamal Chakrabarti, Dept. of Chemistry, University of Calcutta, Kolkata
- Prof. Swati Sircar, Azim Premji University, Bangalore
- Shri Dipankar Karmakar, Art Teacher, Heritage School, Kolkata
- Shri Kishalaya Saha, Assistant Teacher, South Point High School, Kolkata
- Shri Partha Pratim Roy, Assistant Teacher, South Point High School, Kolkata
- Shri Partha Sarathi Majumder, Former Professor, RKM Vivekananda University, Belur
- ShriSekhar Banerjee, Self-employed Electronics specialist
- Smt. Anupama Sengupta, Jadavpur, Sammilita Balika Vidyalaya, Kolkata
- Sri Arup Sengupta, Garfa DNM High School, Kolkata
- Sri Partha Pratim Roy, South Point High School, Kolkata
- Sri Pintu Kumar Saha, Katwa Kashiram Das Institution, Purba Bardhaman
- Sri Pushkar Naskar, JBNSTS
- Sri Saptarshi Mondal, Tangrakhali P. J. P High School (H. S), South 24-Parganas
- Sri Subir Bhattacharya, DumDum Kishore Bharati High School, Kolkata
- Sri Sudip Das, JBNSTS

Unique concepts for the programs held in the year 2020

In the unprecedented situation of pandemic arising from outbreak of SARS COV-II, when everything including academic discourses and knowledge sharing came to a standstill, leading to unfavorable premise of digital divide, JBNSTS formulated a distinctive series of web-based seminars for the students in secondary level of studies. In cognizance of gender divide in mainstream science education, JBNSTS played an active role in ensuring substantial participation of girl students of our districts who are normally devoid of quality science education. All possible efforts were undertaken by JBNSTS to ensure participation of the girl students by several interactions with the near family/ associates of the female students for obtaining mandatory electronic apparatus to equip them with web access for participating in web based seminars and discussions. The online programs and interactions were designed conforming to the secondary school syllabi incorporating different subjects and topics

of science. With the pandemic leaving the students devoid of regular school exercise, the online programs acted as a support system of study of science subjects which was never possible in case of normal schooling practice. Following is a comprehensive list of schools which were selected for this year's programs both in physical mode and hybrid style of discourse.

Timeline	Total number of participants	Participating Schools	Name of the Districts
January 6 to January 10, 2020	49	<ul style="list-style-type: none"> ● Kharagpur Silver Jubilee High School ● Kharagpur South Side Girls High School ● Kharagpur A P High School 	West Midnapore
January 12 to January 17, 2020	51	<ul style="list-style-type: none"> ● Chaknan Pallisree Sikhaniketan (H.S) ● Panjipukur Srimati Tulshi Devi Smriti Vidyapith (H.S) ● Lalgola M. N Academy 	East Midnapore, Hooghly and Murshidabad
February 2 to February 7 2020	47	<ul style="list-style-type: none"> ● Sekendarpur Rai K.P.Pal Bahadur High (H.S) School ● Laskarpur High School(H.S) ● Lalgola Sailaja Memorial Girls High School (H.S) ● Serampore Union Institution (H.S) 	Hooghly and Murshidabad
February 16 to February 21 2020	50	<ul style="list-style-type: none"> ● Hooghly Branch (Govt.) School ● Mahesh Sri Ramakrishna Ashram Vivekananda Vidyalaya ● Satmile High School 	Hooghly and East Midnapore
February 23 to February 28 2020	55	Ramakrishna Mission Vidyamandira (Ekalavya Model Residential School)	Jhargram



Web-based seminars held in 2020

Timeline	Total number of participants	Participating Schools	Name of the Districts
22.06.2020-30.06.2020	63	<ul style="list-style-type: none"> ● Garfa Dhirendranath Memorial High School ● Santoshpur Rishi Aurobindo Balika Vidyapith ● Dum Dum Kishore Bharati High School 	Kolkata
07.07.2020-15.07.2020	50	<ul style="list-style-type: none"> ● Satmile High School ● Kolaghat K.T.P.P High School ● Kharagpur Atulmani Polytechnic High School ● Nimpura Arya Vidyapith 	East and West Midnapore
21.07.2020-29.07.2020	60	<ul style="list-style-type: none"> ● Berhampore Maharani ● Kashiswari Girls High School 	Murshidabad

Timeline	Total number of participants	Participating Schools	Name of the Districts
21.07.2020-29.07.2020	55	<ul style="list-style-type: none"> Gorabazar Silpamandir Girls High School Gorabazar Iswarchandra Institution Dinhata Girls High School Sunity Academy Dinhata High School 	Coochbehar
04.08.2020-12.08.2020	54	<ul style="list-style-type: none"> Alipurduar High School Netaji Vidyapith Higher Secondary School Barlow Girls High School Malda Girls High School 	Alipurduar and Malda
17.08.2020-24.08.2020	80	<ul style="list-style-type: none"> Tarai Tarapada Adarsha Vidyalaya Siliguri Girls High School Fanindradeb Institution Jalpaiguri Govt. Girls High School 	Darjeeling and Jalpaiguri
28.08.2020-04.09.2020	80	<ul style="list-style-type: none"> Raiganj Coronation High School (H.S) Raniganj Girls' High School Balurghat High School Balurghat L.M.A.U Vidyalaya 	Uttar & Dakshin Dinajpur
08.09.2020-15.09.2020	75	<ul style="list-style-type: none"> Santamayee Girls High School Govt. Girls High School Rani Binod Manjari Govt. Girls School Jhargram Kumud Kumari Institution 	Purulia and Jhargram
08.09.2020-15.09.2020	70	<ul style="list-style-type: none"> Mission Girls High School Bankura Girls High School Bankurabanga Vidyalaya Bankura Christian Collegiate School 	Bankura
18.09.2020-24.09.2020	75	<ul style="list-style-type: none"> Ranaghat Debnath Institution For Girls (H.S) Ranaghat Bharati High School 	Birbhum



Timeline	Total number of participants	Participating Schools	Name of the Districts
		<ul style="list-style-type: none"> Suri R.T. Girls High School Birbhum Zilla School 	and Nadia
23.09.2020-29.09.2020	62	<ul style="list-style-type: none"> Howrah Vivekananda Institution Khalatpur High Madrasah Dwarbasini Kumar Rajendra High School Dwarbasini Girls High School 	Howrah, Hooghly and Kolkata
05.10.2020-10.10.2020	78	<ul style="list-style-type: none"> Basirhat Town High School Prafulla Nagar Vidyamandir Mathurapur Sri Ramkrishna Vivekananda Tangrakhali P. J. P High School (H. S) Ramakanta Nagar Vidyamandir (H.S.) Kachua High School (H.S) 	North and South 24 Parganas
06.10.2020-13.10.2020	75	<ul style="list-style-type: none"> Durgadasi Chowdhurani Girls H.S School Katwa Kashiram Das Institution Manimala Girls' High School (H S) Asansol Ramkrishna Mission High School 	Purba and Paschim Burdwan
14.10.2020-17.10.2020	75	<ul style="list-style-type: none"> Ramakanta Nagar Vidyamandir (H.S.) Kachua High School (H.S) Taldi Surabala Sikshayatan For Girls (H.S) Belur High School 	North and South 24 Parganas

Special Nurturing Program for underprivileged students

In pursuant to the social commitment of nurturing the underprivileged students of our state, JBNSTS formulated a five-day residential science orientation workshop for the tribal students of Ramakrishna



Mission Ashrama (Eklavya Model Residential School), Jhargram under the support of Department of Higher Education, Government of West Bengal from (24-28) February, 2020. The participants of the orientation workshop were tribal students currently pursuing secondary education. They were exposed to intriguing lectures incorporating Artificial Intelligence & Robotics and its judicious applications in society. The students were equipped with the concept of Einstein's Theory of Relativity in the context of space and time in a lucid manner along with knowledge of functional aspects of school geometry with regard to Pythagoras and Oilers' theorem. The students were induced to hands-on experimental sessions in state-of-art laboratory facilities of JBNSTS namely, Rosalind Franklin Biotechnology Laboratory, Creativity Corner, CV Raman Physics Laboratory and explored interesting activities relating to endothermic- exothermic reactions, conductivity in various electrolytes, oscillation of pendulum, to name a few which is never possible in the existing school syllabus structure. The young talented participants enjoyed creating origami representation of DNA model and learnt about the ramifications of malnutrition and its pertinence in the formative years of a student. Furthermore, they were introduced to exciting facets of astrophysics and training on functionality of a telescope along with exposure to biodiversity through visit to Chintamani Kar Bird Sanctuary located at South 24-Parganas, under the mentorship of esteemed experts.

The pre-dinner periods consisted of regular sessions on communication skills, personality development and to foster their creative faculties, sessions on pop-art (as an innovative medium of painting) and music were also conducted. Overall, the entire program germinated to be a beguiling experience for the young students of Junglemahal in terms of assimilation of both academic and life skills in the discipline of science who have been inculcated with the spirit of science being a liberating factor which alleviates manifold crisis of the society thereby rendering them with the required competence to excel in life.



I have never published a paper as a sole author. I would not wish it any other way. For me science, like life, is best if you struggle to get there as a team.

— **Professor Christiane Timmel**
(University of Oxford)



JBNSTS TALENT ENRICHMENT PROGRAM

**Stepping stone to
excellence through nurturing
of India's best scientific minds**



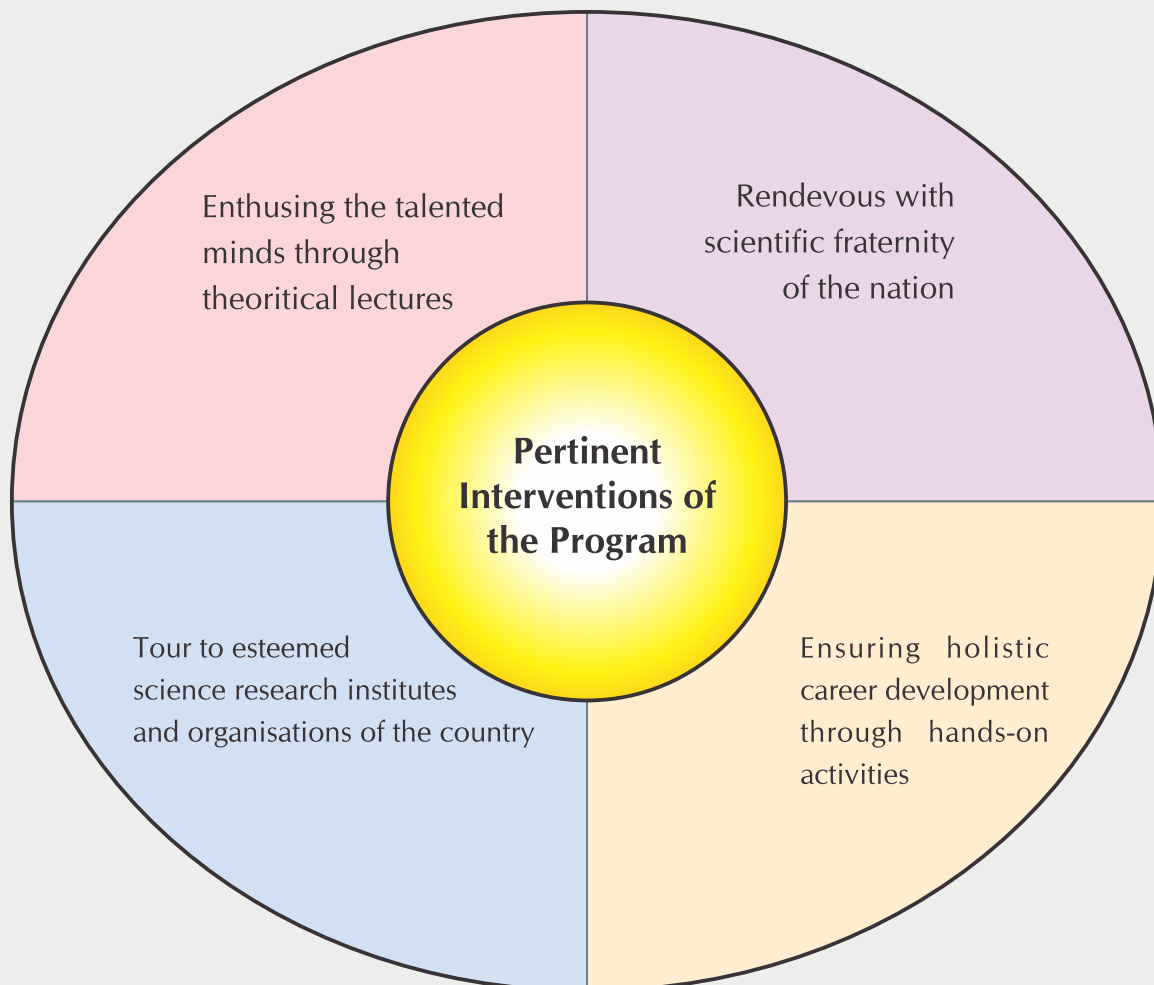
Talent Enrichment Program

Transition of talented youths to India's best student scientists

Rationale of the initiative

Over the last sixty years of existence, JBNSTS has portrayed significant part in the role of nation-building by nurturing talented students in the discipline of science and technology. The Talent Enrichment Program is a promising initiative of the institute for the vibrant student scientists of West Bengal who would form an excellent pool of talent dedicated to the nation for advancement in the avenues of Science, Technology, Engineering and Medicine.

The Talent Enrichment Program nurtures senior scholars of JBNSTS from all across our state who are talented science students pursuing undergraduate studies in several educational institutes of our state by providing them with invaluable knowledge of complex science subjects leading to problem-based learning, experiential learning, and inquiry-based education coupled with information about extremely intricate experiments and incorporating them in their individual research and education.



Overview of activities

In a series of online seminars conducted by JBNSTS, acclaimed professionals presented informative discourses and lucidly explained about the general structure of the virus, genetic factor variations in respect of spread of corona virus and other characteristic components of the virus. The participants of web-based seminars are current and preceding year's senior scholars and Bigyani Kanya Medha Britti awardees from all across West Bengal currently pursuing undergraduate studies in medicine, basic sciences and engineering in various institutes of repute in West Bengal. The discussion also delved over the evolution and epidemiology of subtypes of SARS Cov2 along with manifestation of several symptoms followed with analysis of causes of infection and its implications. The scientists explored over the tools and techniques of testing through the means of PCR etc. and portrayed mandatory protocols relating to successive clinical trials in the quest of invention of an antidote of the virus. The students engaged in interactive session over various methods to decipher the rate of infection of the virus in a given time-scale across a set of population through tools like mathematical modeling along with the pertinence of adopting an interdisciplinary approach of science education and research while dealing with any medical emergency. The sessions served as an inspiring anecdote for the senior scholars who by virtue of having interacted with esteemed medical professional over concepts like herd immunity, plasma treatment, successive trials of vaccines, pathological interventions by application of drugs like *Dexamethasone*, *Hydroxychloroquine*, *Remdesivir*, *Azithromycin* to name a few. The interactive seminars expanded knowledge base of the talented minds in the broad sphere of therapeutics, doctrines of global public health and systems.





In a separate fabric of exhilarating lectures, the discussion delved over various avenues for carbon-dioxide mitigation from material design to the innovation of process engineering. Broad discussion was initiated on the transnational research outcome for a comprehensive technological process development relating to radar signal principles and

development of the Synthetic Aperture Radar (SAR) and its manifold applications in remote sensing, geospatial exercise and earth sciences. The online discussions on astrophysics and astronomy focused on the scope of research by collaborating with cardinal institutions like NASA with special mention of Mission of Polarimeter to Unify the Corona and Heliosphere in tracking of solar wind and coronal mass ejections. Furthermore, complex procedures of surface tension with hydrophobic and hydrophilic phenomena were lucidly explained to the talented students. The postulates of black hole, its mass and properties etc. were explained in details which in turn will generate extensive data and information about space weather which may be utilized for research in different periphery of science.

Special hand holding counseling session for the scholars

In addition to the academic discourses, regular hand-holding and counseling sessions were conducted by JBNSTS for the senior scholars, Junior Scholars and Bigyani Kanya Medha Brittia wardees, both of current and preceding batches. The experts explored over varied coping strategies including coping mechanisms of individual students to encounter the



existing predicament which may have posed overwhelming concerns to their further career aspirations. The inspiring sessions transpired into rejuvenated spirits who can face the multifarious challenges of life.

Snap shot of the seminars conducted on the virtual platform

Topics of interesting lecture	Speaker
The Pandemic – A challenge to existing Research and Development	Prof. Dhrubajyoti Chattopahyay Vice Chancellor, Sister Nivedita University, Kolkata
The story of a frontline warrior in the battlefield of Covid-19	Dr. Nandini Chattopadhyay Resident Phycian at Mercyhealth Family Medicine, Rockford, Illinois, USA
Life Cycle of our nearest star : The Sun	Prof. (Dr.) Dipankar Banerjee Director, ARIES, Nainital
Evolution and Spread of SARS Cov2	Prof. Partha Pratim Majumder Distinguished Scientist, NIBMG
Covid myth vs fact	Dr. Milan Barik Pinderfields Hospital, National Health Service, UK
Observing Black Hole	Prof. (Dr.) Somak Raychaudhury Director, IUCAA, Pune
Dealing the Energy- Water Nexus with a Skin deep Approach	Prof. (Dr.) Ranjan Ganguly Dept. of Power Engineering, Jadavpur University, Kolkata
Boon of Carbon Dioxide	Dr. Soumyabrata Roy Post-Doctoral Fellow Rice University, Texas, USA
Synthetic Aperture Radar	Prof. (Dr.) Tapan Misra Distinguished Scientist and Former director of Space Applications Centre, Indian Space Research Organization, Bengaluru



“Science and everyday life cannot and should not be separated.”

– **Rosalind Franklin**

SALTERS' CHEMISTRY CAMP

In collaboration with Indian Institute of Science Education and Research, Kolkata

In the realm of science, JBNSTS always contribute its best endeavor to motivate and nurture the young talents through diverse novel gestures to build up the future resource base of the nation. In order to provide a potential exposure beyond regular academic curriculum for the promising as well as enthusiastic talent pool a three days “Salters' Residential Chemistry Camp” was organized for the 9th standard students at IISER Kolkata campus, Mohanpur by The Salters' Institute and Royal Society of Chemistry, UK in association with JBNSTS and IISER, Kolkata.

Basic Objectives of the Camp

- To stimulate the growing bright minds to inculcate and explore the fun of chemistry under esteemed expertise.
- To foster a long term interest in chemistry amongst the young talents through several motivational lectures as well as experimental activities in sophisticated interdisciplinary research laboratory in a wider spectrum.
- To provide an orientation approach to the participating students to make them well conversant regarding the practical aspects of the subject and also further academic pursuit in this ambit.

Salters' Chemistry Camp fact sheet : At a glance

The Salters' Camp was held during 29-31 December, 2019 with participation of 70 students from 32 schools across the state of West Bengal. Some interesting topics of activities include:

- Forensic Challenge
- Clock Reactions
- Hydrogel Investigations
- Periodic Table
- Color and Chemistry
- Slime
- Crystallization
- Sky-Watching



“Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world.”

– **Louis Pasteur**



BIOTECHNOLOGY ON JBNSTS PLATFORM

**Unveiling new frontiers of
biological sciences through
hands-on exposure to
cutting-edge technology**

Biotechnology for young budding scientists

Path-breaking endeavor for middle and high school talents

JBNSTS Biotechnology Program: An overview

Over the last few years there has been a significant upsurge in pursuing Biotechnology by the students due to the significant application of biotechnology in agriculture, industry and therapeutics. JBNSTS is accredited for designing innovative programs at the behest of the talented students with a mission to form a sizeable base of talented resource of India in the parlance of science and technology. The institute has formed state-of-the art biotechnology laboratory to facilitate the students in their further academic pursuits in the discipline of Biological Sciences under the auspices of Department of Science and Technology and Biotechnology, Government of West Bengal. The Biotechnology laboratory has been rechristened as Rosalind Franklin Biotechnology Laboratory.

A brief account of JBNSTS Biotechnology Laboratory

- ❖ The Rosalind Franklin Biotechnology edifice acts as an incubator for students who are pursuing higher secondary curriculum primarily in the discipline of Biological sciences for better comprehension of the subject which is otherwise not feasible in the current structure of high school syllabus.
- ❖ This laboratory also hosts programs for middle school students depending on the social and economic needs.



- ❖ The laboratory houses advanced instruments, devices and objects to encourage science enthusiasts be it students, scholars, teachers to participate in intricate experiments as an integral part of cutting-edge research.
- ❖ In this context, it is pertinent to mention that JBNSTS has performed isolation of bacterial strains from soil samples of North Bengal which were analysed in our laboratory, sequenced for their DNA, submitted to NCBI, Gene Bank, USA, and the strains were being preserved for further activities.

Biotechnology workshop: Methodology of nurturing students

The schematic diagram drawn hereunder explicates the process of nurturing young talented students with interest over biological sciences.

Detonation of young talents by exposure to phenomenal theoretical lectures about recent trends of Biotechnology and its myriad applications.

Hands-on training in cutting-edge techniques to enlighten the participants about practical aspect of the subject for solving real-life problems of the dynamic environment.

Orientation with the participants over scope of Biotechnology aimed for further academic pursuits and to relate them with the world of research.



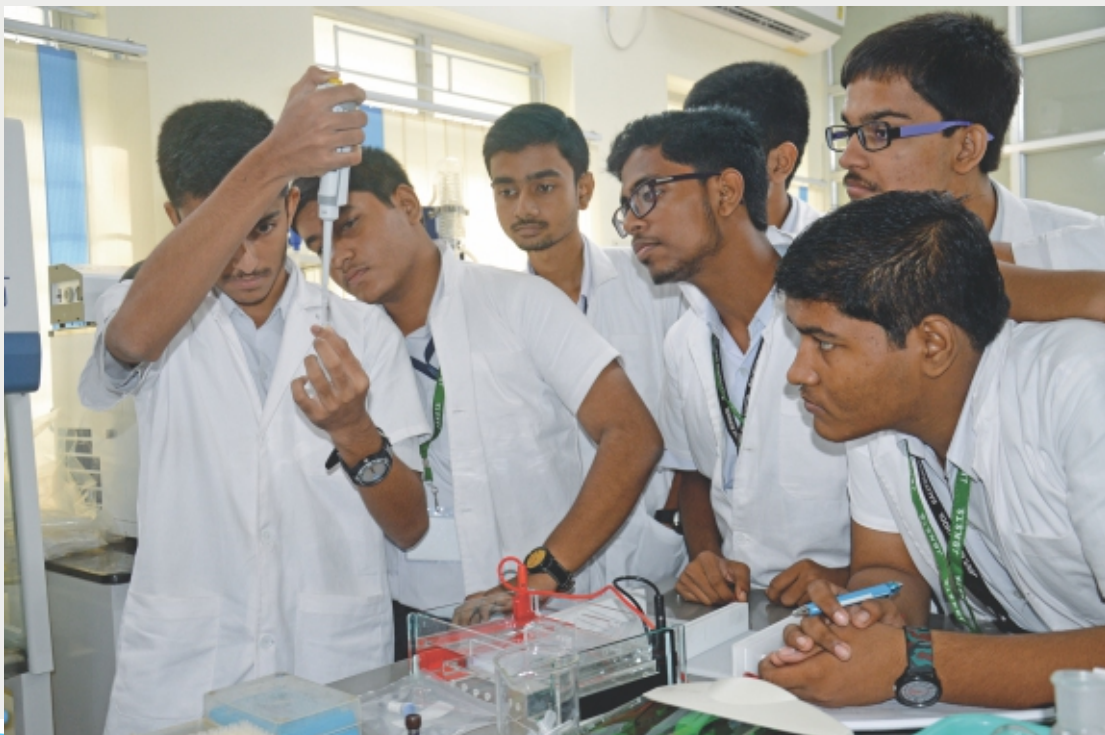
Biotechnology workshops in 2020: An unique experience

The Biotechnology program mainly aims to impart the latest developments of the subject to the middle and high school students through innovative hands-on practical sessions. In the primary stage of the year the programs were conducted by JBNSTS in the institute's laboratory on the physical mode, the advent of Pandemic resulting from the infection of SARS-COV-2 had posed insurmountable jolt to regular workshops of physical knowledge sharing and activities in our institute.

Thus regular workshops were juxtaposed with online web-based programs, on the digital platform involving large number of participants and teachers of our state. The intricate experiments performed by mentors in JBNSTS Rosalind Franklin Biotechnology Laboratory along with exciting theoretical lectures by eminent scientists were streamed in real-time on virtual platform across the participants based at various remote locations. The students positioned in remote terminals enjoyed all the theoretical sessions and experimental activities which were telecasted to them through multitude of web cameras (in various angles) that produced excellent broadcast of the practical sessions. It was a huge learning curve for the talented students who were encouraged to satiate their knowledge in support of theory and experiment sessions which were never possible in existing curriculum of high school standards.

Glimpse of experiments demonstrated in real-time mode on virtual platform

- ❖ Isolation of Bacterial Genomic DNA.
- ❖ Amplification of 16s rRNA gene using Polymerase chain reaction (PCR) with the help of gene specific forward primer and reverse primer.
- ❖ Identification and visualization of PCR product by agarose gel electrophoresis technique.
- ❖ Monitoring PCR product by using gel documentation system.



Participating schools in Biotechnology workshops vis-à-vis districts

Malda	<ul style="list-style-type: none"> ● Malda Girls High School ● Barlow Girls' High School ● Pakuahat A.N.M. High School ● Mathurapur B.S.S High School ● Nagharia High School ● Dariapur Baishi High Madrasah (H.S)
Uttar Dinajpur	<ul style="list-style-type: none"> ● Raiganj Girls Higher Secondary School ● Raiganj Coronation High School ● Sudarshanpur Dwarika Prasad Uchcha Vidyachakra
Dakshin Dinajpur	<ul style="list-style-type: none"> ● Balurghat High School ● Balurghat L.M.A.U Vidyalaya ● Jahangipur High School
Nadia	<ul style="list-style-type: none"> ● Bishnupur High School
Darjeeling	<ul style="list-style-type: none"> ● Tarai Tarapada Adarsha Vidyalaya ● Siliguri Girl's High School ● Siliguri Boys High School
Alipurduar	<ul style="list-style-type: none"> ● Railway Higher Secondary School ● Alipurduar High School
Coochbehar	<ul style="list-style-type: none"> ● Dinhata High School ● Suniti Academy
Murshidabad	<ul style="list-style-type: none"> ● Gorabazar Silpa Mandir Girls High School ● Jotekamal High School ● Kandi Raj High School ● Lalgola M.N. Academy ● Model School ● Ramnagar Sahora Union High School ● Raninagar High School ● Manikchak Siksha Niketan ● Gajol Haji Nakoo Md. High School (H.S) ● Jiaganj R.B.S Vidyamandir ● Jalangi High School ● Gorabazar Iswar Chandra Institution ● Dafarpur Rajat Kanchan High School ● Hareknagar Abdul Women institution ● Bahara Adarsha Vidyapith ● Sagardighi S. N. High School

Biotechnology is no child's play - sky is the limit for understanding and exploring possibilities of Biotechnology



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

Jalpaiguri	<ul style="list-style-type: none">● Jalpaiguri Zilla School● Jalpaiguri Govt. Girls High School● Fanindra Deb Institution● Sunitibala Sadar Girls High School● Debnagar Satish Lahiri High School.● Kadamtala Girls High School,● Ashalata Basu Vidyalaya
Howrah	<ul style="list-style-type: none">● Joynagar Pallisree Vidyaniketan● Sibpur S. S. P. S Vidyalaya● Mugkalyan High School● Howrah High School
Hooghly	<ul style="list-style-type: none">● Hooghly Jyotish Chandra Vidyapith
Kolkata	<ul style="list-style-type: none">● Kamala Vidyamandir High School for Girls
Purulia	<ul style="list-style-type: none">● Chittaranjan High School● Santamayee Girl's High School
Bankura	<ul style="list-style-type: none">● Bankura Mission Girls' High School
Bardhaman	<ul style="list-style-type: none">● Searsole Raj High School● Raiganj High School● Kanchannagar D. N. Das High School● Torkona Jagabandhu High School





JBNSTS TEACHERS' TRAINING PROGRAM

**An enterprising approach
dedicated to amplify the existing
competencies of the science
teachers of our state:
Our teachers are our assets**

TEACHERS' TRAINING PROGRAM

Introduction to innovation-driven teaching methodology

Rationale of the program

Amidst significant advancement of the nation in the spectrum of science and technology, what India needs quality science resource persons, outstanding teachers for delivering the concept of science subjects to the young learners who would assume the role of active drivers and not merely the passive recipients in developmental curve of India. India may have gifted exceptional science professionals but the startling absence of competent science teachers for school students' results into a stark discord which further poses hindrance in formation of future talent pool of our country, wherein India's young students would be the biggest contributors.

JBNSTS addressed this imposing predicament and therefore, designed a training program exclusively for the science teachers of West Bengal under the auspices of Department of Science and Technology, Government of West Bengal. JBNSTS has productively created an intellectual sphere which ensures effective participation of science teachers of our state through exploring innovative procedures of teaching science along with developing educational kit, employing audio-visual techniques and connecting curriculum with real-life problems.





Scheme and structure of the program

The five-fold procedure of conducting the Teachers' Training Program is enumerated below:

- Theoretical discourse about various teaching methodologies related to science subjects by eminent faculties from the discipline of Science.
- Activity-based hands-on experiment sessions in consonance to present high school curriculum. Developing novel teaching kits.
- Delving into unique pedagogical concepts and effective teaching modules for proper dissemination of science subjects amongst young school students.
- Presentation by participating teachers exploring novel concepts through the prism of inter-disciplinary approach of science.
- Presentation and teaching using latest techniques like video, movie clipping, audiovisual, multimedia etc.

A brief account of digital programs undertaken by JBNSTS

During the abysmal period related to the pandemic which has forced a paradigm shift in learning and development in our society, JBNSTS conceived special programs/ contents on the virtual platform



and digitised those in partnership with institutes of national repute to create faculty development programs and disseminate the resource modules amongst a large spectrum of teaching fraternity from all across West Bengal. Several lectures and Teachers Training programs were organised on the digital platform, a few representative topic is given below:

Title/ Topic of lecture	Name of the Faculty/ Experts
Survival of Civilisation : Our task for Environment	Prof. (Dr.) Shyamal Chakraborty Department of Chemistry, University of Calcutta, Kolkata
Mathematics Teaching in Secondary Education	Dr. Partha Karmakar Deputy Secretary Academic,WBBSE
Annular Solar Eclipse	Dr. Nakul Parashar Director, Vigyan Prasar, New Delhi
	Prof. (Dr.) Maitree Bhattacharyya Director, JBNSTS
	Dr. Rintu Nath Scientist-F, Vigyan Prasar,New Delhi
Covid 19: An eye-opener for One Health Concept	Dr. Siddhartha Narayan Joardar Professor of Veterinary Microbiology, West Bengal University of Animal and Fishery Sciences, Kolkata

"I am among those who think that science has great beauty."

– Marie Curie



JBNSTS CELEBRATION OF SPECIAL EVENTS

Science, an elixir to our life
appreciates human rights and
harmonises different human
values in its own sphere

Science Day Celebration at JBNSTS

Science day is a significant epoch in the history of science and technology innovation in our nation which is marked by the discovery of Raman Effect and its myriad applications in various streams of science. JBNSTS being a prominent institute of science education and research, obliges such events of national importance and this year observed the momentous occasion on 28th day of February, 2020 with school students, teachers and faculties from various institutions. The students are boys and girls studying in secondary level in schools from Kolkata and rural belt of the state.

Professor Shyamal Chakraborty was the first speaker who assumed the role of an excellent storyteller and presented an inspiring account of the life and achievements of various stalwarts in the discipline of science, technology and medicine who have brought exemplary laurels to our country by their exceptional talent through the path of research, discovery and innovation. In the penultimate session of the program, Dr. Sohini Bhattacharyya initiated an informative dialogue with the students on general science drawing subtle inferences from the disciplines of environmental science, material science and chemistry in elementary form.



Quiz program for young school students by JBNSTS

In the last session, a quiz program was organised for the participants. The zest amongst the talented students was palpable as their excitement rose to a crescendo while answering brain-storming questions (comprising of elementary standard science subjects) posed to them. This enabled the students to gain invaluable exposure to knowledge and appreciation of the interdisciplinary dictum of science along with development of scientific temper in the nascent stage of their lives. A pen sketch of the program is drawn below.

Name of the Speaker	Title/ Topic of discussion
Prof. Shyamal Chakraborty Department of Chemistry, University of Calcutta	Biography of Indian Scientists
Dr. Sohini Bhattacharyya Rice Academy Fellow, US	পৃথিবী কেমন আছে?



Unveiling exciting facets of science to young students of West Bengal

JBNSTS Outreach Program

A noble endeavor for underprivileged section of the society

JBNSTS has carved a niche in the domain of science and technology through its several outreach programs and initiatives dedicated to the weaker section of the society. The Institute took an active initiative in science orientation program at Eklavya Model Residential School, Jhargram Ramakrishna Mission Ashrama. The tribal girls and boys of Jangal Mahal were exposed to topics spanning all the conventional disciplines of science with special emphasis on hands-on activities over experiments like *simple harmonic motion*, *buoyancy* and other interesting topics which draw consonance with their existing school syllabus. The students were guided by JBNSTS to produce multilayered masks/ face covers from indigenous items and light of transmissibility of SARS-Cov2. Overall, the initiative effectively transpired to be a memorable experience for the students for solving problems of the society and mankind.



ANNUAL AWARD CEREMONY

Crowning Glory of Student Scientists

The manifold activities, endeavors of JBNSTS spanning across the entire preceding year culminated into a remarkable program on 21st day of December, 2019 at Derozio Hall in Presidency University, Kolkata which comprised of young scholars, parents, teachers, acclaimed scientists, technologists, bureaucrats and staff and alumni of JBNSTS. The bi-phased program commenced with inaugural address by Prof. (Dr.) Maitree Bhattacharyya, Director, JBNSTS, Kolkata who welcomed the scholarship awardees, dignitaries and others on the momentous occasion. The program was presided by Prof. (Dr.) Amitava Raychaudhuri, a Bhatnagar awardee and renowned physicist of international repute in the august presence of Shri Manish Jain, IAS, Principal Secretary, Department of Higher Education, Government of West Bengal and luminaries of science and technology, namely, Prof. Papiya Nandi, Dr. Pallab Dasgupta, Dr. Neena Gupta and Prof. (Dr.) Maitree Bhattacharyya.

In the academic session, Dr. Pallab Dasgupta, a senior JBNSTS fellow and A K Singh Distinguished Chair Professor in Artificial Intelligence, I.I.T. Kharagpur narrated about his association with the JBNSTS as a senior scholar Dr. Dasgupta initiated an exceptional discourse on '*Artificial Intelligence*' and its unique intervention in the walks of life and interface of music; study of rhythm, beats and notes of Indian classical music and their representation in the framework of semi-lexical language. Later, JBNSTS welcomed Sri Manish Jain, Principal Secretary, Department of Higher Education, Govt. of



West Bengal who poignantly spoke about the role of JBNSTS in the salubrious duty of nation-building through the medium of science and technology since inception and applauded alumni/ past scholars (presently located in several parts of the world) who have carved a niche for themselves through invention, innovation in STEM research. In the later part of the ceremony, JBNSTS felicitated Dr. Neena Gupta, a mathematical prodigy and youngest ever Bhatnagar awardee of 2019. Dr. Gupta emphasized on the larger participation of women of our country in the diverse periphery of science and technology. This interaction translated to be an enthralling experience for the nascent talents who satiated their knowledge by posing several questions to the distinguished women scientist pertaining to applied mathematics and algebra.



In the concluding part of the program, the scholarship awardees were conferred with prestigious scholarship by the esteemed guests. Top ten boys and top ten girls in the senior scholarship category were presented with licensed software laptop to encourage their further academic pursuits and create a gateway to the ambit of science through web access. All the scholars are talented boys and girls studying in different institutions in West Bengal. The award for the best school in Junior Scholarship category was presented to Ramakrishna Mission Vidyalaya, Narendrapur, while the award for special district school was bestowed upon Burdwan Municipal High School (Burdwan), DPS Ruby Park (Kolkata) and Midnapore Collegiate School (West Midnapore). South Point High School, Kolkata was adjudged with 'Best School Award' in the Senior Scholarship Program. Prof. (Dr.) Amitava Raychaudhuri rendered the presidential lecture and urged all the scholars to sustain their zeal for excellence in academic pursuits. In fine, Dr. Paromita Roy, Deputy Director of JBNSTS offered the vote of thanks followed by National Anthem which drew curtains to the august program.





JBNSTS- Vigyan Prasar Program

Ushering of a new era of science communication



VIGYAN PRASAR

Collaborative ideals of JBNSTS and Vigyan Prasar for popularizing science in Bengali

For a society to consume the fruits of scientific research, scientific marvels dedicated to bridging the gap between science fraternity and the society, it is imperative to create a common vibrant social interface which will build an effective platform that would help the society to comprehend the significance of science and its importance in our daily life.

The collaborative endeavor of communicating and popularizing science in Bengali forged by Vigyan Prasar under the ambit of Department of Science and Technology, Government of India, and JBNSTS, a distinguished organization of science learning in India aims to capture the imagination of the common people of the society, their awareness, their original thinking, igniting meaningful interaction with them that potentially would make science consistently accessible to the society, by and large. This will emerge as a template for setting of scientific temper in the state of West Bengal and play a major role in making the common people aware about science and rationalism.

Pertinent interventions of the initiative

Digitization of science resource materials, by translation of science articles, research based books in regional vernacular language emphasizing the aspect of science learning for a large section of audience from all across the state, thereby creating science awareness in social perspective.

Creation of a stellar repository of vivid e-learning and e-teaching programs governing topics on basic science and applied science for students, teachers and science loving enthusiasts involving an array of prominent professionals from various walks of life thus ensuring knowledge sharing during the prolonged dismal phase of the pandemic or in new normal.



ACTIVITY CALENDAR 2020

December 2019

21.12.2019 : 60th JBNSTS Annual Award Ceremony was held at Derozio Hall, Presidency University, Kolkata. The program comprised of two parts namely, lecture session and award session respectively. Eminent scientists, technologists, teachers, academicians graced the ceremonial occasion. All the scholars, awardees, students were conferred with scholarship certificates along with book grants by esteemed guests present at the occasion. Top ten boys and girls from senior scholarship category were presented with licensed software laptops. Schools which produced large number of scholars in both junior and senior scholarship categories were presented with best school award.

29.12.2019 – 31.12.2019 : Salters' Residential Chemistry Camp organized at IISER, Kolkata campus, Mohanpur by The Salters' Institute and Royal Society of Chemistry, UK in collaboration with IISER, Kolkata and JBNSTS, Kolkata with participation of 70 students of 9th standard students from 32 schools from different districts of West Bengal.

January 2020

06.01.2020 - 10.01.2020 : WBDS Advanced Science Orientation Workshop for District Students under the financial support of Department of Higher Education, Government of West Bengal for 49 students of 3 schools (Kharagpur Silver Jubilee High School, Kharagpur South Side Girls High School and Kharagpur A P High School) of West Midnapore.

12.01.2020 – 17.01.2020 : WBDS Advanced Science Orientation Workshop for District Students under the financial support of Department of Higher Education, Government of West Bengal for 51 students of Chaknan Pallisree Sikhaniketan (H.S), (Purba Medinipur), Panjipukur Srimati Tulshi Devi Smriti Vidyapith (H.S) (Hooghly) & Lalgola M. N Academy (Murshidabad).

17.01.2020 : Biotechnology Workshop for High School students (Hands on Experience for a day) for 22 students of class XI of Joynagar Pallisree Vidyaniketan (Howrah).

February 2020

02.02.2020 – 07.02.2020 : WBDS Advanced Science Orientation Workshop for District Students under the financial support of Department of Higher Education, Government of West Bengal for 47 students of Sekendarpur Rai K. P. Pal Bahadur High (H.S) School (Hooghly), Laskarpur High School (H.S) (Murshidabad), Lalgola Sailaja Memorial Girls High School (H.S) (Murshidabad), & Serampore Union Institution (H.S) (Hooghly)



07.02.2020 : Biotechnology Workshop for High School Students (Hands on Experience for a day) For 13 students of class XI from Sibpur S. S. P. S Vidyalaya (Howrah).

16.02.2020 -21.02.2020 : WBDS Advanced Science Orientation Workshop for District Students under the financial support of Department of Higher Education, Government of West Bengal for 50 students of Hooghly Branch (Govt.) School (Hooghly) , Mahesh Sri Ramakrishna Ashram Vivekananda Vidyalaya (Hooghly) & Satmile High School (Purba Medinipur).

23.02.2020 -28.02.2020 : WBDS Advanced Science Orientation Workshop for District Students under the financial support of Department of Higher Education, Government of West Bengal for 55 students from Ramakrishna Mission Vidyamandira (Ekalavya Model Residential School) of Jhargram, West Bengal.

28.02.2020 : Celebration of **National Science Day** through seminar and quiz program with school students studying in secondary level and faculties from different institutions.

May 2020

16.05.2020: WEBINAR on The Pandemic – A challenge to existing Research and Development. The speaker in this interactive web session was Prof. Dhruvajyoti Chattopahyay, Vice Chancellor, Sister Nivedita University, Kolkata

26.05.2020 : WEBINAR - the interactive web lecture on **The story of a frontline warrior in the battlefield of Covid-19** by Dr. Nandini Chattopadhyay, Resident Physician at Mercyhealth Family Medicine, Rockford, Illinois, USA

June 2020

05.06.2020 : WEBINAR to celebrate **The World Environment Day** organized by JBNSTS in collaboration with Vigyan Prasar (DST-Gol). The lecture titled **Survival of Civilization : Our Task for Environment** was delivered by Prof. (Dr.) Shyamal Chakraborty, esteemed faculty of Chemistry, University of Calcutta.

08.06.2020-12.06.2020 : Online Counseling and Hand holding Session series for JBNSTS Senior Scholars 2015 to 2019 Batch as mentored by Dr. Paromita Roy , Deputy Director , JBNSTS.

16.06.2020 : WEBINAR organised as a part of Junior Scholar Nurture Program (Batch : 2019) through an interactive lecture session on Physics titled **Gravitational Wave: The Song of Cosmos** by Prof. (Dr.) Soumitra Sengupta from IACS, Kolkata.



18.06.2020 : WEBINAR organised as a part of Junior Scholar Nurture Program (Batch : 2019) through an interactive lecture session on Physics titled **Graphene based Infra red photo detectors and Biosensors** by Dr. Saurav Islam from IISc., Bangalore.

19.06.2020 : The online counselling session for BKMB B awardees of 2017 batch was organised.

20.06.2020 : WEBINAR was organized in collaboration with Vigyan Prasar (DST-Gol) as entitled **Annular Solar Eclipse** with renowned speakers Dr. Nakul Parasar, Director, Vigyan Prasar, Delhi, Dr. Rintu Nath, Scientist-F, Vigyan Prasar, Prof. (Dr.) Maitree Bhattacharyya, Director, JBNSTS and Dr. Avijit Kar, Scientific Officer, JBNSTS.

WEBINAR was organized as a part of Teachers Training Program through web session on **COVID myth vs fact** by eminent Dr. Milan Barik, MBBS MRCP(UK) (RCGP), Pinderfields Hospital.

22.06.2020-30.06.2020 : WBDS web session supported by Dept. of Higher Education, Govt. of West Bengal for the scientific orientation of district students from 3 schools of Kolkata.

22.06.2020 : The online counselling session for BKMB awardees of 2018 batch was organised.

24.06.2020 : The online counselling session for BKMB awardees of 2019 batch was organised

24.06.2020 : The Nurture Program for JBNSTS Junior Scholars through interactive session on **Creativity in Chemistry** by renowned speaker Dr. Subhajit Bandyopadhyay from IISER, Kolkata.

July 2020

07.07.2020-15.07.2020: WBDS web session supported by Dept. of Higher Education, Govt. of West Bengal for the scientific orientation of district students from 4 schools of districts East and West Midnapore.

08.07.2020: Counselling and handholding session for JBNSTS Junior Scholars of batch 2018

16.07.2020-17.07.2020 : Online Counselling and Hand holding Session for JBNSTS Junior Scholars of Batch 2019 as mentored by Dr. Paromita Roy, Deputy Director, JBNSTS.

21.07.2020-29.07.2020: WBDS web session supported by Dept. of Higher Education, Govt. of West Bengal for the scientific orientation of district students from 3 schools of Coochbehar and 3 schools of Murshidabad

22.07.2020: WEBINAR 15- The web seminar arranged to enrich the JBNSTS Senior Scholars through interactive session on **Dealing the Energy- Water Nexus with a Skindeep Approach**. The speaker was Prof. (Dr.) Ranjan Ganguly, the esteemed faculty of Dept. of Power Engineering, Jadavpur University.

24.07.2020: WEBINAR 16-TheNurture Program for JBNSTS Junior Scholars of batch 2018 & 2019. The web session emphasized on **X-ray Crystallography-An interdisciplinary Science**.The young scholars were enriched by one of the eminent physicist Dr. Surajit Banerjee, Staff Scientist, Cornell University, USA.

27.07.2020: WEBINAR 17- The interactive web lecture session for JBNSTS Senior Scholars and BKMB Awardees where the young researcher Dr. Soumyabrata Roy, Post Doctoral Fellow, Rice University, Texas, USA delivered his precious talks on his sphere of research as titled **Boon of Carbon Dioxide**.

August 2020

01.08.2020: WEBINAR 18- The Nurture Program for JBNSTS Junior Scholars of batch of 2019.The web session emphasized on tissue engineering as titled **The science of creating human tissues and organs in laboratory** by the distinguished researcher Prof.(Dr.) Biman B Mondal from Dept. of Biosciences and Bioengineering, IIT-Guwahati.

04.08.2020-12.08.2020: WBDS web session supported by Dept. of Higher Education, Govt. of West Bengal for the scientific orientation of district students from 4 schools of districts Alipurduar and Malda.

04.08.2020: WEBINAR 19- The interactive web lecture session for JBNSTS Senior Scholars and BKMB Awardees on **Synthetic Aperture Radar** by Prof.(Dr.) Tapan Misra, Distinguished Scientist and Former director of Space Applications Centre, Indian Space Research Organisation.

17.08.2020-24.08.2020: JBNSTS- **WBDS** Program 2020, supported by Dept. of Higher Education, Govt. of West Bengal for the scientific orientation of district students from 4 schools of districts Darjeeling and Jalpaiguri.

28.08.2020-04.09.2020: JBNSTS - **WBDS** Program 2020, Supported by Dept. of Higher Education, Govt. of West Bengal for class IX students of Uttar & Dakshin Dinajpur, West Bengal.

September 2020

08.09.2020-15.09.2020: JBNSTS - **WBDS** Program 2020, Supported by Dept. of Higher Education, Govt. of West Bengal for class IX students of Purulia and Jhargram, West Bengal,

08.09.2020-15.09.2020: JBNSTS - **WBDS** Program 2020, Supported by Dept. of Higher Education, Govt. of West Bengal for class IX students of Bankura, West Bengal.



18.09.2020-24.09.2020: JBNSTS - **WBDS** Program 2020, Supported by Dept. of Higher Education, Govt. of West Bengal for class IX students of Birbhum and Nadia, West Bengal

23.09.2020-29.09.2020: JBNSTS - **WBDS** Program 2020, Supported by Dept. of Higher Education, Govt. of West Bengal for class IX students of Howrah, Hooghly and Kolkata, West Bengal.

29.09.2020: Online web seminar on **Biotechnology-1 [Hands on experience for a day] : Improving the Quality of Life** for (124) high school students from Malda, Uttar Dinajpur and Dakshin Dinajpur, West Bengal .

October 2020

06.10.2020: Online web seminar on **Biotechnology-2[Hands on experience for a day]: Sustainability in Agriculture** for (143) high school students from Siliguri, Jalpaiguri and Malda, West Bengal.

05.10.2020-10.10.2020: JBNSTS - **WBDS** Program 2020, (Supported by Dept. of Higher Education, Govt. of West Bengal) for class IX students of North and South 24 Parganas, West Bengal.

06.10.2020-13.10.2020: JBNSTS - **WBDS** Program 2020, (Supported by Dept. of Higher Education, Govt. of West Bengal) for class IX students of Purba and Paschim Burdwan, West Bengal

13.10.2020: Online web seminar on **Biotechnology-3 [Hands on experience for a day]: Clean Up Our Environment** for (135) high school students from Siliguri, Murshidabad, and Coochbehar West Bengal.

14.10.2020-17.10.2020: JBNSTS - **WBDS** Program 2020, (Supported by Dept. of Higher Education, Govt. of West Bengal) for class IX students of North and South 24 Parganas, West Bengal.

November 2020

10.11.2020: Online web seminar on **Biotechnology-4 [Hands on experience for a day] : Biotechnology and its applications** for (185) high school students from Siliguri, Jalpaiguri and South Dinajpur, West Bengal.

26.11.2020: Online web seminar on **Biotechnology-5 [Hands on experience for a day] : Biotechnology and its applications** for (48) high school students from Jalpaiguri and Alipurduar, West Bengal.

December 2020

03.12.2020: Online web seminar on **Biotechnology-6 [Hands on experience for a day]** : for (80) high school students from Malda and Murshidabad, West Bengal.

13.12.2020: Online Junior Talent Search Test (JTST) and Senior Talent Search Test (STST) were organized. **7105** candidates applied for JTST while **2028** applied for STST.

22.12.2020: Online web seminar on **Biotechnology-7 [Hands on experience for a day]** : **Biotechnology and its applications** for (50) high school students from Murshidabad, West Bengal.

“Do something because you really want to do it. If you're doing it just for the goal and don't enjoy the path, then I think you're cheating yourself.”

- **Kalpana Chawla**



JBNSTS SCHOLARS' ACHIEVEMENTS

- **Rupshali Roy** a Senior Scholar of 2017 batch and student of Indian Institution of Engineering Science and Technology, Shibpur Secured admission to Oxford University for DPhil in Engineering Science, and also a PhD and teaching assistantship at Pennsylvania State University. She is also a former student member of the American Physical Society. Her research paper was accepted for presentation at the APS March Meeting 2020, at Denver, Colorado, USA.
- **Ayshi Mukherjee** a Senior Scholar of 2017 batch and alumni of St. Xavier's College (autonomous) Kolkata had obtained All India Rank 11 in Joint Admission Test (JAM) Physics paper and was allotted a MSc. Physics course at IIT Bombay through the counselling process. Ayshi was one of the top 25 students in the NGPE exam organised by IAPT was declared as a NGPE Gold Medallist and eligible for a cash prize of Rs. 20,000/-.
- **Manosi Debnath** a Senior Scholar of 2017 batch, currently pursuing M.Sc. in Chemistry from University of Calcutta (Raja bazar Science College Campus) secured 631 rank in Chemistry in Joint Admission Test for Masters (JAM) held in 2020.
- **Debdyuti Bhadra** a Senior Scholar of 2017 batch currently pursuing integrated PhD, Biological Sciences, IISc, Bangalore was selected for Summer Research Fellowship Program by India Academy of Science 2019. Debdyuti also holds the distinction of attaining second position 1st class B.Sc. from Ramakrishna Mission Vidyamandira.
- **Anjoom Nikhat** a Senior Scholar of 2017 and alumni of St. Xavier's College (autonomous) Kolkata, Department of Microbiology (2020 batch) has secured admission in integrated PhD course at prestigious The National Centre for Biological Sciences (NCBS), under TIFR in Bangalore.
- **Rohan Mitra** a 2017 Senior Scholar and student of Jadavpur University, performed an internship titled Data Science Internship at Xelpmoc Design and Tech, Kolkata in 2019.
- **Sourav Kumar** a 2017 Senior Scholar currently pursuing B.E. in Jadavpur University, Kolkata in the department of Computer Science & Engineering was selected for Software Development Engineer Internship at Amazon India.

... and many more

RESEARCH AND DEVELOPMENT ACTIVITIES

Dr. Paromita Roy

Dr. Paromita Roy is involved in program development for high ability science students and teacher training development. Her research interests include talent identification and nurture, developing concepts of giftedness, women and girls in STEM. She is currently working on a longitudinal study of JBNSTS scholars and psychology of talented students with College of William and Mary, Virginia, USA and Center for Talented Youth Dublin City University, Ireland. She has contributed two chapters; in "Gifted Education in Asia: Problems and Prospects", published by IAP, USA in 2015, and "International Perspectives on Science Education for the Gifted: Key issues and challenges" published by Routledge in 2016. She has spoken at conferences in New Delhi, Maharashtra, Bangalore, Germany, Austria, Hungary, Taiwan, China and Croatia. She is a recognized mentor of the Department of Science and Technology, Government of India, for gifted science students in India.

Publications

- **Roy, P.,** and Dai D Y. (2019). Understanding Giftedness in the Indian Context. In M. Yuen & S Leung (Eds.), Special Issue on STREAM Education for Gifted Students in Asia –Pacific. Nurturing Talents, Issue 6 (1), pp. 5-7. **Nurturing Talents Recognition Award 2019**
- **Roy, P.,** and Mishra, A. (2020). Incalculable reverberations of Covid-19 pandemic in India: Vignettes of women experiences. Special Issue on 'Women during Covid-19 pandemic' to the International Perspectives in Psychology: Research, Practice, Consultation. (in communication).
- **Roy, P.,** and Mishra, A. (2020). Mapping eminence and scholarship of gifted and talented students of STEM in India - 60 years of talent development and nurture. Special Issue of Gifted and Talented International on Transformational Contributions as an Outcome of Talent Development (in communication).

Prof. (Dr.) Maitree Bhattacharyya and Biotechnology Research group

1. Adiponectin Genetic Variant and Expression Coupled with Lipid Peroxidation Reveal New Signatures in Diabetic Dyslipidemia. Kakali Ghoshal, Tanima Chatterjee, Subhankar Chowdhury, Sanghamitra Sengupta, Maitree Bhattacharyya. *Biochemical Genetics*, 2021, 1-18, doi.org/10.1007/s10528-021-10030-5.
2. Eugenol emerges as an elixir by targeting β -catenin, the central cancer stem cell regulator in lung carcinogenesis: an in vivo and in vitro rationale. Pritha Choudhury, Atish Barua, Anup Roy, Rudradip Pattanayak, Maitree Bhattacharyya, Prosenjit Saha. *Food & function*, 2021, 12, 1063-1078, doi.org/10.1039/D0FO02105A.



3. FRET based ratiometric switch for selective sensing of Al³⁺ with bio-imaging in human peripheral blood mononuclear cells. Sangita Das, Partha Pratim Das, James W Walton, Kakali Ghoshal, Lakshman Patra, Maitree Bhattacharyya. *New Journal of Chemistry*, 2021, 45(4),1853-1862.
4. Protein assembled nano-vehicle entrapping photosensitizer molecules for efficient lung carcinoma therapy. Sudip Nag, Damayanti Bagchi, Dhrubajyoti Chattopadhyay, Samir Kumar Pal, Maitree Bhattacharyya. *International journal of pharmaceutics*, 2020, 580, 1191921.
5. A rare hetero-bimetallic Zn (II)/Ca (II) Schiff base complex: Synthesis, crystal structure, DFT, molecular docking and unveiling antimicrobial activity. Dhrubajyoti Majumdar, Dhiraj Das, Sudip Nag, Maitree Bhattacharyya, Dheeraj K Singh, Debaprasad Parai, Kalipada Bankura, Dipankar Mishra. *Journal of Molecular Structure*, 2020,1222,128951.
6. Ribosylation induced structural changes in Bovine Serum Albumin: understanding high dietary sugar induced protein aggregation and amyloid formation. Ahana Das, PijushBasak, ArnabPramanik, RajibMajumder, AvishekGhosh, SaugataHazra, ManasGuria, Maitree Bhattacharyya, SamudraProsadBanik. *Heliyon*, 2020,6(9), e05053.
7. The drug resistance mechanisms in Leishmaniadonovani are independent of immunosuppression. Baibaswata Saha, Kalpana Pai, Shyam Sundar, Maitree Bhattacharyya, Neelam Prakash Bodhale. *Cytokine*, 2020,155300.
8. Spectroscopic studies on the biomolecular recognition of toluidine blue: key information towards development of a non-contact, non-invasive device for oral cancer detection. Soumendra Singh, Animesh Halder, Oindrila Sinha, Nilasha Chakrabarty, Tanima Chatterjee, Aniruddha Adhikari, Priya Singh, Deep Shikha, Ria Ghosh, Amrita Banerjee, Partha Pratim Das Mahapatra, Amit Mandhar, Maitree Bhattacharyya, Surajit Bose, Saleh A Ahmed, Ahmed Alharbi, Ahmed M Hameed, Samir Kumar Pal. *Frontiers in Oncology*, 2020,10,2293.
9. Nuclear factor NF- κ B1 functional promoter polymorphism and its expression conferring the risk of Type 2 diabetes-associated dyslipidemia. Tanima Chatterjee, Debasmita De, Subhankar Chowdhury, Maitree Bhattacharyya. *Mammalian Genome*, 2020,31(7), 252-262.
10. Metabolic regulation of cytokine production in leishmania resistance and susceptibility. Neelam Prakash Bodhale, Arup Sarkar, Debprasad Chattopadhyay, Bhaskar Saha, Maitree Bhattacharyya. *The Journal of Immunology*, 2020, 240(1), 73.6-73.6.
11. The protective role of metformin in autophagic status in peripheral blood mononuclear cells of type 2 diabetic patients. Debalina Bhattacharya, Moumita Dutta, Mainak Mukhopadhyay, Maitree Bhattacharyya, Subhankar Chowdhury, Parimal Karmakar. *Cell biology international*, 2020, 44(8), 1628-1639.
12. Nanotube mediated cell-to-cell communication and cannibalism in Halobacillus sp. GSS1 isolated from Sundarbans, India: A cryptic story of survival under nutrient-limiting condition.

- Manas Kumar Guria, Sohan Sengupta, Maitree Bhattacharyya, Parimal Karmakar. *BioRxiv*, 2020, 10.1101/2020.10.20.340307.
13. Supramolecular β -Sheet Forming Peptide Conjugated with Near-Infrared Chromophore for Selective Targeting, Imaging, and Dysfunction of Mitochondria. Pranab Chandra Saha, Rabi Sankar Das, Tanima Chatterjee, Maitree Bhattacharyya, Samit Guha. *Bioconjugate chemistry*, 2020, 31(5), 1301-1306.
 14. Eugenol restricts Cancer Stem Cell population by degradation of β -catenin via N-terminal Ser37 phosphorylation-an in vivo and in vitro experimental evaluation. Pritha Choudhury, Atish Barua, Anup Roy, Rudradip Pattanayak, Maitree Bhattacharyya, Prosenjit Saha. *Chemico-biological interactions*, 2020, 316, 108938
 15. Microbial diversity and related secondary metabolite gene assortment at an estuarine mangrove ecosystem. Sohan Sengupta, Arnab Pramanik, Sudip Nag, Debojyoti Roy, Anish Bhattacharyya, Pijush Basak, Maitree Bhattacharyya. *Regional Studies in Marine Science*, Volume 34, February 2020, 101051

Book Chapter

- Pijush Basak, Arpita Biswas, Maitree Bhattacharyya. Exploration of extremophiles genomes through Metagenomics for hidden Biotechnological and future potential. *Physiological and Biotechnological aspects of extremophiles, Extremophiles genomes for future potential*, chapter 24, 315-325 Elsevier, Cambridge, MA 02139, USA, 2020. DOI: <https://doi.org/10.1016/B978-0-12-818322-9.00024-1>

Capacity Building Initiative For JBNSTS Employees



The staff capacity building program is a regular exercise of JBNSTS with an aim to facilitate effective development and implementation of a wide range of activities along with enhancement of the performance of the vibrant workforce. Despite its limited manpower, diverse programs are being successfully organized by JBNSTS throughout the year. In such a workshop, assessment of feasibility of organizing the ensuing annual award ceremony of the institute on the virtual medium by utilizing online tools and applications, strengthening science communication in vernacular language traversing the remote areas of our state thereby penetrating into the lives of rural young students were being categorically discussed through open communication mode amongst the well-qualified and diligent workforce of JBNSTS. They contribute best of their efforts and dedication in effective coordination of wide spectrum academic gestures like Senior and Junior Talent Search Test, West Bengal District Scheme for rural students and other initiatives. All these encouraging endeavors undertaken by the institute enrich the workflow and pave the way to crown the institutional success.



JBNSTS FUNDS AND ACCOUNTS

**Investment in Science
Education & Research :
A developmental
metrics of the Nation**



Financial Report

JBNSTS is happy to report its financial progress during the Financial Year 2019-20. Significant receipts were from the Department of Higher Education, Government of West Bengal and Department of Science & Technology and Biotechnology, Government of West Bengal. The regular inflow of funds to the institution from multiple Government Departments reflects its image of high physical accountability of the expenditure.

The receipt from Department of Higher Education, Government of West Bengal for regular maintenance has been utilized to meet staff salaries and Office & Programme expenses. The funding in West Bengal Districts Scheme by Department of Higher Education Government of West Bengal helps us to conduct programs in remote village schools including Jungal Mahal.

The Department of Science & Technology and Biotechnology, Government of West Bengal also sanctioned funds for Junior Talent Search Programme, Senior Talent Search Programme, Bigyani Kanya Medha Britti and Talent Enrichment Programme which have a great impact. 200 Junior Scholars have been awarded scholarship of Rs.1,250/- per month with an annual book grant of Rs.2,500/- each, 50 Senior Scholars have been awarded scholarship of Rs.4,000/- per month with an annual book grant of Rs.5,000/- each and 50 Bigyani Kanya Medha Britti scholarship of Rs.2,000/- per month with an annual book grant of Rs.2,000/- have been awarded. Also top 10 boys and top 10 girls were awarded with laptops according to their ranks in Senior Talent Search Test during the financial year.

The Department of Science and Technology, Government of India and DST-SEAT, Government of India also sanctioned their recurring grants for Science camp in which 100 students from different schools attended and Rs.6,50,000/- was spent during the year 2019-20.

At a glance the amounts received from different government departments are as follows:

Financial years	2019-20
Department Higher Education, Government of West Bengal	
For Maintenance	Rs. 2,01,02,000/-
West Bengal District Scheme	Rs. 40,00,000/-
Department Science & Technology and Biotechnology, Government of West Bengal	
Senior Scholarship	Rs. 1,30,90,000/-
Junior Scholarship	Rs. 1,49,44,500/-
Bigyani Kanya Medha Britti	Rs. 45,30,000/-
Talent Enrichment Programme	Rs. 35,80,000/-
Biotechnology Laboratory	Rs. 24,80,000/-
Department of Science & Technology, Government of India	
Science Camp	Rs. 5,50,000/-

The audited accounts of the institution are reported in the following pages.

Current Donors and Donations (2019-20)

Donations (General)		
1	Armenian Holy Church of Nazareth (14 scholarships)	Rs. 6,52,000/-
2	MP Birla Smarak Kosh (South Point) (3 scholarships)	Rs. 40,500/-
Total		Rs. 6,92,500/-

M. Saha & co.

Chartered Accountants

INDEPENDENT AUDITOR'S REPORT

To the Management of Jagadis Bose National Science Talent Search**Opinion**

We have audited the financial statements of Jagadis Bose National Science Talent Search (the society) which comprise the Balance Sheet as at 31st March, 2020, and the Income and Expenditure Statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion and to the best of our information and according to the explanations given to us, the accompanying financial statements give a true and fair view of the financial position of the society as at 31st March, 2020, and of its financial performance for the year then ended in accordance with the accounting principles generally accepted in India.

Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the society in accordance with the ethical requirements that are relevant to our audit of the financial statements in India, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter

We draw attention to Point Number 12.2.ii in the Significant Accounting Policies regarding Leave Encashment whereby the Society states that "Leave encashment on termination of service - Albeit, the provisions towards liabilities for terminal salary for Leave Encashment, payable to the eligible staff members used to be made against the Maintenance Grants (Salary) being received from the Department of Higher Education, Govt. of West Bengal till Financial Year 2013-14, yet the requisite funds are not being made available in advance by the said Authority, thereafter. Further, expenditure towards Leave Encashment Salary is allowable only on actual payment basis under the Income Tax Act, 1961. Accordingly, the Society considers that, acknowledging the liability for terminal salary for Leave Encashment and creating a suitable resultant provision for the same, would be redundant. Thus, no liability towards the same is being provided for in the accounts." In this regard we would like to state that according to Accounting Standard 15, as pronounced by the Institute of Chartered Accountants of India, on "Employee Benefits", it is mandatory to provide for accrued liability. Hence, we recommend that an Actuarial Valuation be made by the management of the Society and thereafter make a corresponding investment with a Group Leave Encashment Scheme for securing its employees' retirement benefits and also to comply with statutory requirements of AS-15, as mentioned above.

Our opinion is not modified in respect of this matter.



Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with the aforesaid generally accepted accounting principles in India, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error. In preparing the financial statements, management is responsible for assessing the society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the society or to cease operations, or has no realistic alternative but to do so. Those charged with governance are responsible for overseeing the society's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted accounting principles in India will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of the auditor's responsibilities for the audit of the financial statements is located at ICAI website at: <https://www.icai.org>. This description forms part of our auditor's report.

Report on Other Legal and Regulatory Requirements

We report that:

- a. we have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit;
- b. the financial statements dealt with by this Report include the transactions related to foreign contribution received and utilised under the Foreign Contribution (Regulation) Act, 2010;
- c. in our opinion, proper books of account as required by law have been kept by the society so far as appears from our examination of those books;
- d. the Balance Sheet, the Statement of Income and Expenditure, dealt with by this Report are in agreement with the books of account.

Date : 3rd September, 2020
Place: Kolkata

For and on behalf of,

M. Saha & Co.
Chartered Accountants
Firm Registration No.: 305135E

(CA. Debarshi Saha)
Partner, Membership No.: 061398
UDIN: 19061398AAAABX4550

**JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH**

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

BALANCE SHEET AS ON 31ST MARCH, 2020

PREVIOUS YEAR		SCHEDULES		CURRENT YEAR
₹				₹
SOURCES OF FUNDS				
47,293,234.42	Land & Building Fund	A		46,254,504.42
22,547,326.20	Movable Properties Fund	B		19,206,691.20
47,750,053.57	Other Funds	C		54,073,809.59
17,688,812.37	Unutilised Grants	D		27,858,427.52
9,418,392.00	Current Liabilities	E		9,762,831.00
418,652.00	Other Deposits	F		518,400.00
145,116,470.56	TOTAL			157,674,663.73
APPLICATION OF FUNDS				
47,293,234.42	Land & Building	G		46,254,504.42
22,547,326.20	Movable Properties	G		19,206,691.20
-	- Land & Building Fund Investments	H		-
-	- Movable Properties Fund Investments	I		-
61,040,129.94	Other Investments	J		71,255,415.60
1,514,870.41	Loans & Advances	K		3,818,582.58
12,720,909.59	Cash & Bank Balances	L		17,139,469.93
145,116,470.56	TOTAL			157,674,663.73

On behalf of the
Governing BodyIn terms of our report of even date
attached herewith
For **M. Saha & Co.**
Chartered Accountants
FRN: 305135E**Prof (Dr.) Maitree Bhattacharyya**
Director**CA. Debarshi Saha**
Partner
Membership No.: 061398Kolkata
Date: 3rd September, 2020



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

INCOME AND EXPENDITURE ACCOUNT FUNDS ACCOUNT FOR THE YEAR ENDED 31ST MARCH, 2020

Previous Year	Particulars	Sch	Project / Program Activities	Scholars' Reserve Fund	Development Fund	Laboratory Fund	JBNSTS - Own Generation Fund	Staff Welfare & Medical Fund	Infrastructure Development Fund	Total
₹		₹	₹	₹	₹	₹	₹	₹	₹	₹
	INCOME									
	General :									
54,077,393.26	Grant-in-aid		54,367,786.85	-	-	-	-	-	-	54,367,786.85
303,000.00	Donations		-	692,500.00	3,000.00	-	-	-	-	695,500.00
2,245,718.86	Interest on Investments		-	959,472.28	1,183,068.03	107,554.68	1,892,039.06	67,917.30	70,854.30	4,280,905.66
2,684,639.03	Interest earned on Savings / Short-term Dep		35,627.00	62,486.00	457,642.00	-	35,430.00	-	-	591,185.00
1,698,485.00	Registration Fees (For Senior/Junior Talent		-	-	-	-	1,228,615.16	-	-	1,228,615.16
-	Search Tests)		-	-	-	-	-	-	-	-
1,091.00	Miscellaneous Other Receipts		-	-	-	-	1,000.00	-	-	1,000.00
-	Rent Earned		-	-	-	-	18,000.00	-	-	18,000.00
114,831.00	Accommodation		-	-	-	-	88,773.20	-	-	88,773.20
787,631.50	Liabilities Written Back		-	612,844.00	-	-	-	-	-	612,844.00
-	Overhead		-	-	-	-	-	-	-	-
61,912,789.65	Total Income	(A)	54,403,413.85	2,327,302.28	1,643,710.03	107,554.68	3,263,857.42	67,917.30	70,854.30	61,884,609.87
	EXPENDITURES									
	General :									
55,483,698.26	Expenses		54,403,413.85	1,148,000.00	-	-	-	-	-	55,551,413.85
-	Programme Expenses		-	-	-	-	-	-	-	-
55,483,698.26	Total Expenditure	(B)	54,403,413.85	1,148,000.00	-	-	-	-	-	55,551,413.85
6,429,091.39	Surplus for the Year		-	1,179,302.28	1,643,710.03	107,554.68	3,263,857.42	67,917.30	70,854.30	6,333,196.02
	Less: Capital Expenses met out of Revenue Income									
-	Land & Building Fund		-	-	-	-	-	-	-	-
-	Movable Properties Fund		-	-	-	-	-	-	-	-
6,429,091.39	Net Surplus for the Year		-	1,179,302.28	1,643,710.03	107,554.68	3,263,857.42	67,917.30	70,854.30	6,333,196.02

In terms of our report of even date attached herewith

For **M. Saha & Co.**
Chartered Accountants
FRN: 305135E

Sd/-
CA. Debarshi Saha
Proprietor
Membership No.: 061398

On behalf of the Governing Body

Sd/-
Prof. (Dr.) Maitree Bhattacharyya
Director



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

RECEIPTS & PAYMENTS ACCOUNT FOR THE YEAR ENDED 31.03.2020

RECEIPTS	RS	PAYMENTS	RS
JBNSTS Own Fund :	-	Establishment Expenses :	
Registration fee's received	1,228,615.16	Salaries & Wages	10,039,578.00
Income from Investments	1,892,039.06	Office and Administrative Expenses	8,047,094.85
Miscellaneous and other receipts	143,203.20	Project Programme Activities	-
Development Fund :	-	Expenses funded by Govt.	36,281,114.00
Income from Investments	1,643,710.03	Scholars Reserve Fund	-
Scholars Reserve Fund	-	Expenses	1,148,000.00
Donation	692,500.00	Laboratory Fund	-
Income from Investments	1,021,958.28	Expenses	-
Liabilities written Back	612,844.00	Loss on Sale of/ Written Off :	-
Laboratory Fund :	-	Investment	-
Income from Investments	107,554.68	Fixed Assets	-
Staff Welfare Fund :	-	Movable Properties	-
Income from Investments	67,917.30	Fixed Assets Additions	-
Investments withdrawn	-	Land & Building (Purchase/Gift)	-
Infrastructure Development Fund	-	Building (Construction Work in progress)	-
Income from Investments	70,854.30	Boundary Wall	-
Project Programme Activities	-	Electrical Installation & Equipment	-
Grant-in Aid from Govt.	54,367,786.85	Tubewell/Water System	-
Land & Building Fund :	-	Furniture, Equipment	-
Donations/Gifts	-	Computers	-
Government/Public Bodies Grants	-	Electrical Equipment & Generator	-
Income from Investments	-	Medical Equipment, Instruments	-
Investments withdrawn	-	Laboratory Equipments	9,440.00
Movable Properties Fund :	-	Bicycles/Cycle-rikshaws	-
Donations/Gifts	-	Motor Cars, Jeeps, etc.	-
Government/Public Bodies Grants	-	Buses, Lorries, Tractors, etc.	-
Income from Investments	-	Library Books	-
Investments withdrawn	-	Endow / Permanent Fund Investments	-
Other Investments withdrawn	61,040,129.94	Land & Building Fund Investments	-
Closing Unspent Grant	27,858,427.52	Movable Prop. Fund Investments	-
Opening Grant Receivable	368,492.36	Development Fund Investments	18,098,062.13
Closing Sundry Deposits :	-	Scholar Reserve Fund Investments	15,390,996.24
Caution Money	-	Other Investments	37,766,357.23
Students' Deposits	-	Opening Unspent Grant	17,688,812.37
Security Deposits	518,400.00	Closing Grant Receivable	2,770,818.36
Loans & Advances :	-	Opening Sundry Deposits :	-
Others	116,033.95	Caution Money	-
Closing Current liabilities	9,762,831.00	Private Deposits	-
		Security Deposit	418,652.00
		Grant and Transfer (Contra)	-
		Loans & Advances :	-
		Electricity Deposit	(102,804.83)
		Others	120,224.95
		Sundry Amount Receivable	-
		Opening Current Liabilities	9,418,392.00
TOTAL	161,513,297.64	TOTAL	154,614,737.30
Opening Balance	12,720,909.59	Closing Balance	17,139,469.93
GRAND TOTAL	174,234,207.23	GRAND TOTAL	174,234,207.23
Cash in Hand	13,020.00		
Cheques in Hand			
In P.O. SavingsA/c			
At Banks in SB & CD A/c	17,126,449.93		
With Headquarters			
Total (Rs.)	17,139,469.93		

**JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH**

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - B : Movable Properties Fund as at 31.03.2020

PARTICULARS	Movable Properties Fund Rs.		
Credit Balance as at 01.04.2019	22,547,326.20		
ADD			
Capital Grants			
Capital Donations			
(i.e. Corpus Donations) - Cash			
" - Kind			
" - Foreign Contribution			
Transfer From I/E A/c (II) for acquiring Capital Assets			
Income from Investments			
Excess Depreciation in last year now reversed	-		
<u>Transfer from different funds</u>			
<u>Out of Opening Balance</u>			
Development Fund	-		
Laboratory Fund	-		
JBNSTS Own Generation Fund	-		
Transfer from Unspent Grant	549,678.00		
Special Reserve Fund	-		
<u>Out of Current year</u>			
Development Fund	9,440.00		
Net Surplus as per I/E A/c (II)			
A	TOTAL	Rs.	23,106,444.20
Less			
Depreciation on Assets (Contra)			3,899,753.00
Transfer to different funds			
Net Deficit as per I/E A/c (II)			
B	Total Deduction	Rs.	3,899,753.00
Balance as at 31.03.2020 as per Balance Sheet (A-B) Rs.			19,206,691.20



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - C : OTHER FUNDS AS AT 31.03.2020

PARTICULARS	Scholars Reserve Fund	Development Fund	Laboratory Funds	Special Reserve Fund	Contingency Fund	JBNSTS Own Generation Funds	Staff Welfare & Medical Funds	Infrastructure Development Funds	Retirement Benefit Fund
Credit Balance as at 01.04.2019	₹ 16,452,598.09	₹ 17,923,554.93	₹ 1,790,241.21	₹ -	₹ 1,000,000.00	₹ 8,464,583.14	₹ 1,030,479.39	₹ 1,079,365.59	₹ 9,231.22
ADD									
Capital Grants									
Capital Donations (i.e. Corpus Donations) - Cash									
" - Kind									
" - Foreign Contribution									
Transfer From I/E A/c (II) for acquiring Capital Assets									
Transfer from different funds									
JBNSTS Own Generation Fund							100,000.00	100,000.00	
Net Surplus as per I/E A/c (II)	1,179,302.28	1,643,710.03	107,554.68			3,263,857.42	67,917.30	70,854.30	
A TOTAL Rs.	17,631,900.37	19,567,264.96	1,897,795.89	-	1,000,000.00	11,728,440.56	1,198,396.69	1,250,219.89	9,231.22
Less									
Transfer to different funds									
Out of Opening Balance									
Land & Building Fund									
Movable Properties Fund									
Out of Current Year									
Land & Building Fund									
Movable Properties Fund		9,440.00							
Staff Welfare & Medical Fund									
Infrastructure Development Fund									
Net Deficit as per I/E A/c (II)									
B Total Deduction Rs.	-	9,440.00	-	-	-	200,000.00	-	-	-
Balance as at 31.03.2020 as per Balance Sheet (A-B) Rs.	17,631,900.37	19,557,824.96	1,897,795.89	-	1,000,000.00	11,528,440.56	1,198,396.69	1,250,219.89	9,231.22

JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107



SCHEDULE - D : UNUTILISED GRANT FOR THE YEAR ENDED 31ST MARCH, 2020

Particulars	Opening Unutilised Grant as on 01.04.19	Opening Grant Receivable	Grant-in-aid	Liabilities no longer required written back	Interest earned from Saving Bank Deposits	Total Income	Establishment as per Schedule M	Programme Expenses as per schedule N	Office Expenses as per schedule O	Transfer to different funds	Total Expenses	Over Expenditure/ Deficit	Closing Unutilised Grants as on 31.03.2020
Government of West Bengal													
Dept of Higher Edn. (DHE)- Maint. Grant	4,190,812.34		20,102,000.00		24,292,812.34	10,039,578.00	200,475.00	8,047,094.85			18,287,147.85		6,005,664.49
West Bengal Distr. Scheme (WBDS)	757,803.08		4,000,000.00		4,757,803.08		3,242,625.00				3,242,625.00		1,515,178.08
Junior Talent Search Test (DHE - JTST)	2,471,458.00				2,471,458.00								2,471,458.00
Minor Talent Search Test (DST - JTST)	5,818,826.50		14,944,500.00		20,763,326.50		12,167,742.00				12,167,742.00		8,595,584.50
Senior Talent Search Test (DST - STST)	286,985.00		13,090,000.00		13,376,985.00		11,777,147.00				11,777,147.00		1,599,838.00
Talent Enrichment Programme (DST - TEP)	1,536,294.00		3,580,000.00		5,116,294.00		1,314,113.00				1,314,113.00		3,802,181.00
Teachers' Training Programme (DST - TTP)	475,616.10				475,616.10								475,616.10
Bigyani Kanya Medha Britti (DST)	275,388.00		4,530,000.00		4,805,388.00		4,317,079.00				4,317,079.00		488,309.00
WB Academy of Science & Technology (WAST)	30,000.00				30,000.00								30,000.00
State Science Fair 2019	27,433.00		10,000.00		37,433.00		43,934.00				43,934.00	6,501.00	
Biotechnology Laboratory (Deptt. of Biotechnology)	608,794.00		2,480,000.00		3,088,794.00		1,600,296.00				1,600,296.00		1,488,498.00
DST - (WAST)	2,831.75				2,831.75								2,831.75
Bengal Science Lecture			38,610.00		38,610.00		38,610.00				38,610.00		
Maulana Abul Kalam Azad Instt. Of Asian Studies (MAKAIAS) Dr. Paromita Roy RSSDI-Diabetis (Prof. Maitree Bhattacharyya)	1,658.00				1,658.00								1,658.00
Indian Council of Medical Research (ICMR) Fellowship Grant Mr R. Paitanayak			522,700.00		533,751.00		451,989.00				451,989.00		81,762.00
Ministry of North East Region (MDoNER)	108,311.75				108,311.75								108,311.75
Other Organisations													
Department of Science & Technology (DST-SEATS)		168,127.00	550,000.00		381,873.00		650,000.00				650,000.00	268,127.00	
Department of Science & Technology (DST)	47,293.05				47,293.05								47,293.05
Department of Science & Technology (DST-TTP)	983,825.80				33,091.00								1,026,916.80
Talent Enrichment Programme (CSIR)		9,850.89			(9,850.89)							9,850.89	
Vigyan Prasara (VP)		5,322.00			(5,322.00)							5,322.00	
Science & Engineering Research Bureau (SERB) u/ DST Dr. Abhijit Kar KVPY interview 2019		177,691.72		177,691.72									
Science & Engineering Research Bureau (SERB) u/ DST Dr. Pijush Basak			550,000.00		550,000.00		477,104.00				477,104.00		72,896.00
Science & Engineering Research Bureau (SERB) u/ DST Dr. Pijush Basak		7,500.75		3947.28	2,536.00	(1,017.47)						1,017.47	
Total	17,688,812.37	368,492.36	64,397,810.00	181,639.00	81,935,396.01	10,039,578.00	36,281,114.00	8,047,094.85	54,367,786.85	290,818.36	27,858,427.52		

**JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH**
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107**SCHEDULE - "E" : CURRENT LIABILITIES**

PREVIOUS YEAR		CURRENT YEAR
₹		₹
	Liabilities for :	
2,895,582.00	Scholarship	1,697,000.00
365,003.00	Book Grant	331,955.00
598,000.00	Bigyani Kannya Medha Brtti	1,563,614.00
197,558.00	Talent Enrichment Programme	-
24,000.00	Junior Talent Search Test (DST, GOWB)	207,903.00
15,000.00	Best School Award	15,000.00
404,632.00	Development Fund Expenses (Biotech Lab)	23,010.00
44,151.00	Repair & Maintenance (General)	77,276.00
33,403.00	Contingency	820.00
19,241.00	Postage & Telephone	2,360.00
240,201.00	WBDS Programme Expenses	33,874.00
59,947.00	City Conveyance	39,538.00
255,586.00	Repair & Maintenance (Building)	757,087.00
204,105.00	Security Expenses	253,893.00
43,786.00	Cleaning Expnses	25,830.00
-	Electricity	33,640.00
173,716.00	Books & Journals	16,439.00
64,900.00	Audit Fee	-
2,900,000.00	Advance Grant from DST,GOWB for Scholarship & Sc. W/s under JTST for next year	3,500,000.00
39,475.00	Lab Equipment (Lab. Fund)	-
353,750.00	Interior Decorator & Renovation(Development fund)	353,750.00
1,000.00	TDS(Consultancy)	-
37,854.00	TDS (Contractors)	34,796.00
66,400.00	TDS(Staff)	-
10,225.00	TDS (GST)	23,904.00
3,750.00	Profession Tax	-
9,600.00	DST (SEATS) Expenses	9,600.00
-	CPF Payable	5,138.00
-	Senior Talent Search Test	398,877.00
357,527.00	Refundable to DST (SEATS), Govt. of India	357,527.00
9,418,392.00	Total	9,762,831.00



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - "F" : OTHER DEPOSITS

PREVIOUS YEAR		CURRENT YEAR
₹		₹
	Deposits for :	
54,781.00	Security Deposit by Electrical Contractor	-
363,871.00	Security Deposit by Civil Contractor	518,400.00
418,652.00		518,400.00

JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - "G" : FIXED ASSETS AS AT 31.03.2020

Description of Assets	Written down values at 01.04.2019 Rs.	Addition During the Year Out of Revenue Income (Rs.)	From Capital Receipts* Rs.	Discarded, Transferred, Sold during the year (Rs.)#	Amount on which depreciation is charged (Rs.)	Rate of Depreciation	Depreciation for the year Rs.	Written down values at 31.03.2020 Rs.
I. Land & Buildings								
1. Leasehold Land	2,075,669.00	-	-	-	2,075,669.00	-	-	2,075,669.00
2. Buildings	21,154,740.11	-	-	-	21,154,740.11	5%	1,057,737.00	20,097,003.11
3. Rain Water Harvesting System	48,405.65	-	-	-	48,405.65	5%	2,420.00	45,985.65
4. Mural	30,502.26	-	-	-	30,502.26	5%	1,525.00	28,977.26
5. Biotechnology Laboratory	191,766.40	-	-	-	191,766.40	15%	28,765.00	163,001.40
TOTAL Rs.	23,501,083.42	-	-	-	23,501,083.42		1,090,447.00	22,410,636.42
II. Construction Work-in-Progress Rs.								
1. Building (Innovation Centre)	23,792,151.00	51,717.00	-	-	23,843,868.00	-	-	23,843,868.00
TOTAL Rs.	23,792,151.00	51,717.00	-	-	23,843,868.00		-	23,843,868.00
III. Movable Properties								
Furniture, Equipment, Plant etc.								
1. Electrical Equipment	5,791,031.74	-	-	-	5,791,031.74	15%	868,655.00	4,922,376.74
2. Electrical Fittings	136,372.51	-	-	-	136,372.51	10%	13,637.00	122,735.51
3. Electrical Fittings funded by GoWB	126,499.25	-	-	-	126,499.25	10%	12,650.00	113,849.25
4. Furniture	2,997,736.78	-	-	-	2,997,736.78	10%	299,774.00	2,697,962.78
5. Office Equipment	224,176.24	-	-	-	224,176.24	15%	33,626.00	190,550.24
6. Science Indoor Exhibits	60,531.26	-	-	-	60,531.26	15%	9,080.00	51,451.26
7. Computer	1,846,710.42	-	-	-	1,846,710.42	40%	738,684.00	1,108,026.42
8. Laboratory Equipment	10,744,773.03	9,440.00	-	-	10,754,213.03	15%	1,613,132.00	9,141,081.03
9. Computer & Accessories funded by GOWB	85,658.24	549,678.00	-	-	635,336.24	40%	254,134.00	381,202.24
10. Printer/Scanner/Photocopier funded by GOWB	31,009.10	-	-	-	31,009.10	40%	12,404.00	18,605.10
11. Air Condition (Dormitory)	439,770.28	-	-	-	439,770.28	10%	43,977.00	395,793.28
Assets out of SRF								
1. Furniture	31,130.37	-	-	-	31,130.37	0%	-	31,130.37
2. Computer	4,992.46	-	-	-	4,992.46	0%	-	4,992.46
3. Electrical Equipment	17,213.84	-	-	-	17,213.84	0%	-	17,213.84
4. Electrical Fittings	6,320.68	-	-	-	6,320.68	0%	-	6,320.68
5. Office Equipment	3,400.00	-	-	-	3,400.00	0%	-	3,400.00
1. Air Condition (Dormitory)	-	-	-	-	-	0%	-	-
SUB TOTAL Rs.	22,547,326.20	559,118.00	-	-	23,106,444.20		3,899,753.00	19,206,691.20
TOTAL (a+b+c) Rs.	69,840,560.62	610,835.00	-	-	70,451,395.62		4,990,200.00	65,461,195.62

JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE H: LAND & BUILDING INVESTMENTS AS AT 31.03.2020

PREVIOUS YEAR Rs.	PARTICULARS	Land and Bldg Fund Investment Rs.
	A. FIXED / TERM DEPOSITS	
	A TOTAL Rs.	-
	B. OTHER DEPOSITS	
-	B TOTAL Rs.	-
	C. BALANCE IN SAVINGS BANK	
-	C TOTAL Rs.	-
-	Balance as at 31.03.2020 as per Balance Sheet (A to C) Rs.	-

SCHEDULE I: MOVABLE PROPERTIES FUND INVESTMENTS AS AT 31.03.2020

PREVIOUS YEAR Rs.	PARTICULARS	Movable Properties Fund Investment Rs.
	A. FIXED / TERM DEPOSITS	
-	A TOTAL Rs.	-
	B. OTHER DEPOSITS	
-	B TOTAL Rs.	-
	C. BALANCE IN SAVINGS BANK	
-	C TOTAL Rs.	-
-	Balance as at 31.03.2020 as per Balance Sheet (A to C) Rs.	-



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH
1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - J: OTHER FUND INVESTMENTS AS AT 31.03.2020

PREVIOUS YEAR	PARTICULARS	Total Other Fund Investments Rs.	A	B	C	D	E	F	G	H=A+B+C+D+E+F+G
Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
-	A. FIXED / TERM DEPOSITS									
27,849,165.00	With State Bank of India, Kasba	30,477,344.00	13,453,190.24	10,167,017.00	1,500,000.00	3,000,000.00			2,357,136.76	30,477,344.00
1,100,000.00	With State Bank of India, Jeevan Deep	1,100,000.00	1,100,000.00							1,100,000.00
807,838.00	With State Bank of India, Salt Lake	807,806.00	807,806.00							807,806.00
29,209,126.94	With United Bank of India	36,796,265.60		5,887,045.13	397,795.89	8,528,440.56	1,198,396.69	1,250,219.89	19,534,367.43	36,796,265.60
30,000.00	With UCO Bank	30,000.00	30,000.00							30,000.00
2,044,000.00	With HDFC Bank	2,044,000.00		2,044,000.00						2,044,000.00
61,040,129.94	A TOTAL Rs.	71,255,415.60	15,390,996.24	18,098,062.13	1,897,795.89	11,528,440.56	1,198,396.69	1,250,219.89	21,891,504.19	71,255,415.60
	B. OTHER DEPOSITS									
-	B TOTAL Rs.	-	-	-	-	-	-	-	-	-
	C. BALANCE IN SAVINGS BANK									
			2,240,904.13	1,459,762.83						3,700,666.96
-	C TOTAL Rs.	-	2,240,904.13	1,459,762.83	-	-	-	-	-	3,700,666.96
61,040,129.94	Balance as at 31.03.2020 as per Balance Sheet (A to B) Rs.	71,255,415.60	17,631,900.37	19,557,824.96	1,897,795.89	11,528,440.56	1,198,396.69	1,250,219.89	21,891,504.19	74,956,082.56

JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE K: LOANS & ADVANCES AS AT 31.03.2020

PREVIOUS YEAR		CURRENT YEAR	
₹		₹	₹
	Security Deposits:		
11,000.00	For Telephone	11,000.00	
1,019,344.10	For Electricity	<u>916,539.27</u>	927,539.27
	Loans & Advances:		
2,600.00	For Advance against Tour/Program (Staff)	11,000.00	
3,169.95	For Advance for Postage	2,079.95	
59,199.00	For Advance to Suppliers	71,585.00	
48,454.00	GST Refund receivable	18,000.00	
2,611.00	Tax Deducted at Sources (Refundable)	17,560.00	120,224.95
	Receivables (Grants):		
-	From Deptt of Science & Technology and Biotechnology, Govt of West Bengal (Biotechnology Laboratory)	—	2,480,000.00
	Over Expenditure Receivables (Grants):		
-	From Deptt of Higher Education, Govt of West Bengal	6,501.00	
5,322.00	From Govt. of India, Vigyan Prasar	5,322.00	
177,691.72	From Govt. of India, Science & Engineering Research Bureau (SERB)	-	
7,500.75	From Govt. of India, Science & Engineering Research Bureau (SERB)	1,017.47	
168,127.00	From Deptt. of Science & Technology (SEATS), Govt. of India	268,127.00	
9,850.89	From Council of Scientific & Industrial Research, Govt. of India	<u>9,850.89</u>	290,818.36
1,514,870.41			3,818,582.58

**JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH**

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE L: CASH AND BANK BALANCES as at 31.03.2020

PREVIOUS YEAR		CURRENT YEAR	
₹		₹	₹
89,464.00	a) Cash in hand (As physically verified)		13,020.00
	b) Cash at Bank : (Held in Savings Bank Accounts with)		
1,048,580.80	State Bank of India,Kasba(GAP02-PR)	1,081,742.80	
61,144.28	State Bank of India,Kasba(GAP03-AK)	63,249.28	
12,649.25	State Bank of India,Kasba(GAP01-PB)	13,085.25	
1,886,316.70	State Bank of India,Kasba (A/c No 10415825348)	2,240,904.13	
1,661,918.20	State Bank of India,Kasba (A/c No 10415825360)	1,459,762.83	
837,878.20	State Bank of India,Kasba (A/c No 10415825359)	1,328,272.56	
5,767,205.24	United Bank of India,Bosepukur Rajdanga (A/c No 5486)	9,460,612.06	
440,921.52	State Bank of India,Saltlake (A/c No 10836429242)	454,929.52	16,102,558.43
-			
	c) Cash at Bank : (Held in Current Accounts with)		
901,289.40	State Bank of India,Kasba (CA-35061192770)	1,020,875.50	
10,112.00	State Bank of India, Kasba Branch (Current Account No. 33224282758)	-	1,020,875.50
	d) Interest Accrued on Savings Bank Deposits		
603.00	State Bank of India,Kasba(GAP02-PR)	532.00	
35.00	State Bank of India,Kasba(GAP03-AK)	31.00	
7.00	State Bank of India,Kasba(GAP01-PB)	6.00	
1,058.00	State Bank of India,Kasba (A/c No 10415825348)	1,085.00	
948.00	State Bank of India,Kasba (A/c No 10415825360)	709.00	
525.00	State Bank of India,Kasba (A/c No 10415825359)	653.00	
254.00	State Bank of India,Salt Lake (A/c No 10836429242)	-	3,016.00
12,720,909.59			17,139,469.93

JAGADISH BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - "M"

ESTABLISHMENT

PREVIOUS YEAR		CURRENT YEAR
₹		₹
9,112,994.00	Salary & Allowances	9,988,198.00
433,430.00	Leave Salary	-
61,656.00	Contribution to Provident Fund (Office)	51,380.00
9,608,080.00	TOTAL	10,039,578.00

SCHEDULE - "N"

PROGRAMME EXPENSES

PREVIOUS YEAR		CURRENT YEAR
₹		₹
I. Expenses funded by Deptt of Higher Education, Govt. of West Bengal		
493,914.00	Annual Award Ceremony	175,521.00
150,000.00	Books & Journals	24,954.00
643,914.00	Sub Total	200,475.00
II. Expenses funded by Deptt of Higher Education, Govt. of West Bengal (WBDS)		
21,387.00	Academic Meeting	-
2,969,754.41	Science /Advanced Science Workshop	3,242,625.00
2,991,141.41	Sub Total	3,242,625.00
III. Expenses under Govt. of West Bengal [DHE - Junior Talent Search Test (JTST)]		
-	Awareness Programmes	-
-	Contingencies	-
-	Science Workshop	-
-	Talent Search Tests	-
-	Sub Total	-
IV. Expenses under Govt. of West Bengal [DST - Junior Talent Search Test (JTST)]		
23,250.00	Annual award Ceremony	-
35,000.00	Best School Award	30,000.00
104,000.00	Encouragement award	260,000.00
1,030,500.00	Book Grant	1,110,000.00
4,764,000.00	Scholarship	5,358,000.00
1,193,849.00	Science Workshop	1,361,722.00
2,782,851.00	Talent Search Test	2,437,143.00
478,506.00	Awareness Programm	362,284.00
139,697.00	Teaching Aid	-
868,573.00	Remunerations	921,794.00
257,348.00	Contingencies	326,799.00
11,677,574.00	Sub Total	12,167,742.00



V. Expenses under Govt. of West Bengal [DST - Senior Talent Search Test (STST)]		
605,000.00	Book Grant	790,000.00
1,279,639.00	Laptop Distribution to Scholars	1,245,282.00
4,704,000.00	Scholarship	7,200,000.00
2,167,631.00	Talent Search Test	2,541,865.00
8,756,270.00		11,777,147.00
VI. Expenses under Govt. of West Bengal [DST - Teachers' Training Programme (TTP)]		
149,786.00	Fooding, Lodging & Refreshment Expenses	-
85,913.00	Consumables	-
30,500.00	Honararium to Resource Personnel	-
30,000.00	Meeting Expenses for Workshop Planning	-
99,580.00	Travel for Mentors & Peticipants	-
395,779.00		-
VII. Expenses under Govt. of West Bengal [DST - Talent Enrichment Programme (TEP)]		
1,466,981.00	Seminar & Workshops	59,015.00
55,645.00	Manpower costs	180,000.00
-	Visit to research & Sc. Establishment	1,075,098.00
21,659.00	Contingencies	-
1,544,285.00		1,314,113.00
VIII. Expenses under Govt. of West Bengal [DST - Bigyani Kanya Medha Britti]		
206,000.00	Book Grant	302,000.00
2,472,000.00	Scholarship	3,552,000.00
300,000.00	Manpower Costs	330,000.00
416,599.00	Teaching Aids & Accessories	133,079.00
3,394,599.00		4,317,079.00
XI. Expenses under Govt. of India [DST - SEATS]		
910,000.00	Science Camps (INSPIRE)	650,000.00
910,000.00		650,000.00
XVI. Expenses funded by Indian Council of Medical Research (ICMR)		
390,000.00	Fellowship Stipend (Senior Research Fellow - Mr. Rudradip Pattanayak)	421,600.00
17,274.00	Contingencies	30,389.00
407,274.00		451,989.00

**JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH**

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - "O"

PREVIOUS YEAR		CURRENT YEAR
₹		₹
OFFICE & ADMINISTRATIVE EXPENSES		
258,798.00	Postage,Telegram & Telephone	213,704.34
76,700.00	Audit Fee	71,600.00
303,681.10	Contingency	179,118.51
505,230.00	Electricity	766,320.00
126,598.00	Printing & Stationery	241,731.00
663,182.00	City Conveyance	660,542.00
357,120.00	Property Tax	408,571.00
274,699.00	Pronouncement & Publicity	288,279.00
428,522.50	Repairs and Maintenance (Computer & other equipment)	433,490.00
451,185.00	Repairs and Maintenance (General)	328,858.00
2,038,953.00	Repairs and Maintenance (Building)	2,020,652.00
32,000.00	Legal and Filing Fees & Expenses	10,800.00
1,113,066.00	Security Expenses	1,501,744.00
472,606.00	Cleaning Expenses	570,839.00
417,784.00	Staff Welfare Expenses	8,846.00
323,670.00	Salary(Contractual)	342,000.00
7,843,794.60		8,047,094.85
EXPENSES UNDER SCHOLARS' RESERVE FUND		
Rs.		Rs.
1,246,000.00	Scholarship	1,098,000.00
117,000.00	Book Grant	50,000.00
1,000.00	Encouragement Award	-
1,364,000.00		1,148,000.00
EXPENSES UNDER BIOTECHNOLOY LABORATORY		
Rs.		Rs.
1,036,172.00	Remuneration to Contractual Employees at Biotechnology Laboratory	1,064,968.00
-	Repair & Maintenance	167,235.00
80,124.00	Science Workshop Biotechlaboratory	136,004.00
654,910.00	Consumables Biotech Laboratory	232,089.00
1,771,206.00		1,600,296.00
EXPENSES UNDER LABORATORY FUND		
Rs.		Rs.
41,885.00	Laboratory Fund Expenses	-
420.00	Repair & Maintanance	-
42,305.00		-



JAGADIS BOSE NATIONAL SCIENCE TALENT SEARCH

1300, RAJ DANGA MAIN ROAD, KASBA, KOLKATA - 700 107

SCHEDULE - "P"

SIGNIFICANT ACCOUNTING POLICIES AND NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31ST MARCH, 2020

A. General Information

Jagadis Bose National Science Talent Search (JBNSTS) is an Autonomous Institution registered under the Societies Registration Act, 1860 with financial assistances of the Deptt. of Higher Education, Science & Technology and Biotechnology, Govt. of West Bengal. The Institute was promulgated in the year 1958 to mark the Birth Centenary Celebration of India's foremost modern Scientist, Acharya Jagadish Chandra Bose. JBNSTS is the nation's first science talent search organization and over the last few decades, has catapulted itself to turn out to be a premier Institute of Non-formal Science Education in the country. The Institute has been tirelessly engaged in selecting students with special aptitude for Science, guiding and helping them to comprehend its importance and in the process, building up the nation by developing its most precious resource – the human element.

B. Significant Accounting Policies

1. Basis of Preparation of Financial Statements :

1.1. The financial statements are prepared on accrual basis under historical cost convention as per generally accepted accounting principles excepting employee benefits which are generally considered on cash basis.

2. Revenue Recognition :

2.1. The Institute derives its revenues primarily from Grant-in-Aids, Donations, Registration and other Miscellaneous Fees from the participants to different Talent Search events and various Internal Resource Generation activities. Treatments as regards Grant-in-Aids are stated separately. Revenue / Income and Cost / Expenditure items are recognised on accrual basis. Revenue is recognised on completion of rendering of services and / or use of Society's resources by third parties.

2.2. Interest income from bank deposits is accrued using the effective interest method and as certified by the concerned bankers at the year-end in the relevant cases. Interest on Scholar Reserve Investment with LIC of Rs 11 Lacs has not been accounted for as the interest has neither been received nor has been confirmed by the company.

2.3. Interests earned on long / short term Investments and Savings Bank Deposits have been allocated proportionately to the respective Funds on the basis of their corresponding available investible surplus at the year-end, calculated after deducting the cash outflow towards the costs of the concerned Fixed Assets from the relevant Funds, except the following cases :

- a) As regards the Contingency Fund, due to the attainment of the stipulated limit specified thereunder.
- b) Interests on Long Term Investments and Savings Bank Deposits aggregating to Rs. 67,722/= generated from investments made out of Foreign Contributions being specific earnings of the Scholars' Reserve Fund and Development Fund, have been apportioned on the basis of respective balances of these Funds, worked out after charging off the related expenditures for the year from the corresponding Opening Balances standing at the commencement of the period under review.

3. Grants-in-Aid –

- 3.1. Capital Grants are being recognized and credited to the Land & Building Fund or the Movable Properties Fund respectively on receipt of the Sanction Memo.
- 3.2. Grants for meeting revenue expenditures are treated as income of the year in which corresponding expense are made. However Revenue Grants are recognized in books on actual Sanction.
- 3.3. Grants received in advance for activities to be performed / services to be rendered beyond the relevant financial period are reported as liabilities until all the conditions for revenue recognition are met.

4. Use of Estimates :

The preparation of the Financial Statements in conformity with the Generally Accepted Accounting Principles in India requires the Management to make estimates and assumptions considered in the reported amounts of assets and liabilities (including contingent liabilities) on the date of the Financial Statements and the reported amounts of revenue and expenses during the reporting period. The Management believes that the estimates used in preparation of the Financial Statements are prudent and reasonable. Future results could differ due to these estimates and the differences between actual results and the estimates are recognized in the period in which the results are known / materialise.

5. Fixed Assets :

- 5.1. All fixed assets other than land are stated at written down value without showing original cost and accumulated depreciation. Additions to Fixed Assets are stated at their original cost of acquisition (which includes direct expenditures incurred for acquisition or construction and/or installation of the assets and the share of indirect expenses comprised of attributable other costs including financial cost) and subsequent improvements thereto, as reduced by accumulated depreciation thereon and write down for impairment, if any. Direct costs are capitalised until fixed assets are put to use. Costs of assets not ready for use at the Balance Sheet date are disclosed under Capital Work-In-Progress. Capital gifts in kind are stated at gift deed value in the case of Land & Building and at market value in case of other Assets. Where-ever market values are not available, the capital gift-in-kind items are stated at nominal values, as per standard accounting principles. The Society creates the related Fund Account by transfer of sums from Income & Expenditure Account in respect of Fixed Assets acquired out of Society's own funds and not covered by Capital Donations and / or Government Grants so as to exhibit the same balance under the Fixed Asset Account and the corresponding Fund Account.



5.2. However, Assets under Special Reserve Fund are stated at their respective costs of acquisitions less depreciation up to the date of considering the same as assets of the Institute. No depreciation is charged on assets received under programs or other old and used assets taken into account under Special Reserve Fund.

5.3. Gains or losses arising from disposal / discard of fixed assets are measured as the difference between the net disposal proceeds and the carrying amount of the corresponding assets and are recognized in the Income & Expenditure Account, when the relevant asset is derecognized.

6. Investments :

Investments that are readily realisable and intended to be held for not more than a year are classified as Current Investments. All other investments are classified as Long-term Investments. Current Investments are carried at lower of cost and fair value determined on an individual investment basis. Long-term investments are carried at cost. Provision for diminution in the value of investments is made, if the impairment is not temporary in nature.

7. Foreign Currency Transactions :

Transactions executed in foreign currencies are normally recorded at the exchange rate prevailing on the date of related transactions as computed and credited to the earmarked account by the concerned bankers handling the same.

Assets purchased in foreign currency are to be recorded at cost, based on the exchange rate on the date of purchase.

8. Land & Building Fund and Movable Properties Fund:

Specific receipts and earnings from investments ear-marked for that purpose are credited to Land & Building and Movable Properties Funds and depreciation is set off against these funds.

9. Other Funds

Other funds includes Scholar Reserve Fund, Development Fund, Laboratory Fund, Special Reserve Fund, Contingency Funds, JBNSTS Own Generation Fund, Staff Welfare & Medical Fund, Infrastructure Fund and Retirement Benefit Fund. Surplus or deficit as generated from the activities are taken into the respective funds.

10. Inter – Fund Transfers :

Subject to the availability of adequate Surplus in the 'JBNSTS - Own Generation Fund', an amount of Rs. 1 Lac each is to be transferred at the end of each financial period in favour of the "Staff Welfare & Medical Fund" and "Infrastructure Development Fund" in order to strengthen the health of these Funds.

11. Method of Charging Depreciation:

Depreciation on Fixed Assets is provided on 'Written Down Value Method' at the rates and in the manner prescribed under Income Tax Act, 1961 as would be amended from time to time.

Full year's depreciation is charged on additions to fixed assets irrespective of the date of acquisition / installation. No Depreciation is charged on the fixed assets sold / discarded

during the year. Depreciation on fixed assets is set off against corresponding funds and not charged to Income & Expenditure Account.

12. Employee Benefits :

- 12.1 Short Term Employee Benefit is recognized as expense in the Income & Expenditure Account of the year in which related service is rendered.
- 12.2 Post employment and other Long Term Employee Benefits are provided in the Accounts in the following manner:
- i. Gratuity - In view of the fact that, Gratuities and Pensions are being paid to the eligible retiring employees directly by the Government of West Bengal, provisions towards liabilities for the same are not being made in the accounts.
 - ii. Leave encashment on termination of service - Albeit, the provisions towards liabilities for terminal salary for Leave Encashment, payable to the eligible staff members used to be made against the Maintenance Grants (Salary) being received from the Department of Higher Education, Govt. of West Bengal till Financial Year 2013-14, yet the requisite funds are not being made available in advance by the said Authority, thereafter. Further, expenditure towards Leave Encashment Salary is allowable only on actual payment basis under the Income Tax Act, 1961. Accordingly, the Society considers that, acknowledging the liability for terminal salary for Leave Encashment and creating a suitable resultant provision for the same, would be redundant. Thus, no liability towards the same is being provided for in the accounts.
 - iii. As recited in last year, all permanent employees (both academic and non-academic) of the Institute have been privileged with the General Provident Fund facilities with effect from 1st September, 2016 through the kind approval of the Accountant General (A & E), West Bengal to that effect. Since the Institution is being funded by the Department of Higher Education, Govt. of West Bengal since its inception in the year 1958, no provision towards Provident Fund dues has been made in the current year.

13. Provisions, Contingent Liabilities and Contingent Assets :

- 13.1. Provisions are recognized when there is a present legal or statutory obligation as a result of past events and where it is probable that there will be outflow of resources to settle a reliably estimable.
- 13.2. Contingent Liabilities are recognized only when there is a possible obligation arising from past events due to occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Society or where any present obligation cannot be measured in terms of future outflow of resources or where a reliable estimate of the obligation cannot be made. Obligations are assessed on as going basis and only those having a largely probable outflow of resources are provided for.
- 13.3. Contingent Assets are neither recognized nor disclosed in the Financial Statements. Provisions, Contingent Liabilities and Contingent Assets are reviewed at each Balance Sheet date.



C. Notes on Accounts

1. There are certain items of Fixed Assets, which have been purchased out of Grant-in-Aid in earlier years but which are no longer in use. These items of Fixed Assets are not included in Fixed Asset Register and are not readily marketable.
2. Fees paid to the Kolkata Municipal Corporation during FY 2017-18 for sanctioning New Building Plan for the construction of the Innovation Centre, of Rs. 21,26,417/= (along-with the corresponding Bank Charges of Rs. 9,572/=) was capitalized to Fixed Asset (under the head Capital work- in-progress) in the same year. The above expenditure was appropriated out of Maintenance Grants received from the Deptt. of Higher Education, Govt. of West Bengal. However, the corresponding entry for the afore said utilization was not passed in FY 2017-18 and hence the Unspent Maintenance Grant Balance as on 01.04.2017 (Schedule D) of Rs 60,03,960.94 has been overstated to the extent of Rs 21,35,989/-. Hence Rs 21,35,989/- has been transferred from Unspent Grant to Land & Building Fund to rectify the afore said mistake.
3. In consonance with resolution passed in the AGM held on 10th December, 2019 for FY 2018-19, Liabilities towards Scholarship of Rs 5,55,102/- and Book Grants of Rs 57,742/- being unclaimed amounts till 2013 have been written back to our Revenue Accounts during the year 2019-20 and the same has been transferred to Scholar Reserve Fund which will be utilized in future for any purpose related to the academics of the scholars.
4. The Society does not have share capital. Hence disclosure of Earnings per Share as per Accounting Standard 20 – Earnings per Share is not applicable to the Society.
5. All the figures have been denominated in Indian Rupee.
6. Schedules “A” to “P” form an integral part of the Financial Statements.
7. The previous year's figures have been regrouped / recast / rearranged, wherever considered necessary.

Dated: the 3rd day of September, 2020

Place: Kolkata

On behalf of the Governing Body

For, M. Saha & Co
Chartered Accountant Firm
Regn. No. : 305135E

Sd/-

Prof. (Dr.) Maitree Bhattacharyya
(Director)

Sd/-

CA Debarshi Saha
Partner
(Memb. No: 061398)



Salters' Camp for Young Talents

A collaborative effort of JBNSTS and IISER - Kolkata



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