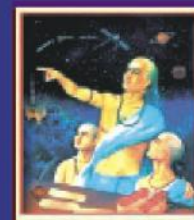




A half yearly Newsletter

Aryabhata Science Centre

Assam Science Technology and Environment Council



Vol. 16 & 17
July 2019 - Jun, 2020



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Aryabhata Science Centre :
Printed as per centres write-up
and format*

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Editorial

COVID-19 has turned the world upside down. All sectors, including the education sector, have been drastically affected. The world is searching for new strategies to cope up with this pandemic and its aftermath. It has impacted over 240 million school children and 9.5 million teachers. The indefinite closure of schools created a learning vacuum for students. In a bid to ensure continuity in learning, many states began online classes. In May 2020, the Centre launched “e-Vidya”, a campaign to unify digital/online/on-air education efforts. Private players also joined the effort. While online education is providing a critical service in these times, it is not a silver bullet. A blend of offline-online learning should be the path for the future. This is because the transition from brick-and-mortar schools to technology-based learning has its challenges: Unequal access to devices and Internet connection; inadequate space at home to do online schooling; teachers lacking the training in delivering online classes; customised online content in short supply, and the impact of continuous online exposure on health are some critical issues to be addressed to. These realities must be acknowledged.

In a country as diverse as India, the delivery of tech-driven education cannot follow a one-size-fits-all approach, as the government mentions in its guidelines on online education. It is also important to remember that education is not only about technology; it is also about learning, interaction, and developing soft skills and social capital, which only brick-and-mortar schools can provide.

In this regard, ASTE Council has also initiated and conducted online classes, webinars, video conferences on the topics like IOT (Internet of Things) and its applications; Electromagnetism and Electrical machines; Procedure for development of vaccine; AI (Artificial Intelligence) and its applications; Introduction to Robotics and solar eclipse etc which will benefit the coordinators of Aryabhata Science Centre, Science & Mathematics facilitators, teachers, students and other stakeholders.

We are expecting fruitful results from this type of online module and hopefully everyone will be benefited in this testing time of Covid 19. Our aim is to help each and everyone and we are continuously working on it to provide knowledge and guidance.

We whole heartedly appreciate your constructive suggestions and view

(Dr. Arup Kr. Misra)
Director, ASTEC

GOLAGHAT DISTRICT

The Science based annual event was celebrated at Aryabhata Science Centre, Golaghat District on 5th January, 2020 at the premises of Govt. Bezbaruah H.S. School.

The programme was inaugurated by Sri Rajendra Nath Bora, Principal Govt. Bezbaruah H S School and enlightened about the news facts of "Nano Science in Nature" by Dr. Mathura Nath Bora, Assistant Professor of D R College, Golaghat.

A total nos. of 72 selected students from different blocks within the district have participated in the programme in various categories viz. Model Making, Extempore Speech and Poster Drawing Competition. Later, models displayed by the competitors were highly appreciated by the visitors.



The prizes of competitions were distributed to prize winners at the concluding session. Hon'ble President of concluding function delivered his valuable speech on 'Science and Superstition' in presence of students and guardians of the locality. In his speech, he highly appreciated the endeavour of organisers of the programme.

LAKHIMPUR DISTRICT

Aryabhata Science Centre, Lakhimpur District has celebrated many other celebrations beyond District Level Competition.

On 5th June, 2019 the centre observed World Environment Day in Brilliant Academy, North Lakhimpur. Seedlings are planted in the campus of the Academy. The awareness meeting is presided by Principal, North Lakhimpur Govt. H.S. School.

On 11th Oct., another Programme 'Sanskar, Manuhe Manuho Babe' is organised at North Lakhimpur Govt. H.S. School. The programme is Catalyzed by Assam Science Technology and Environment Council, Guwahati.

On 26th & 27th December, State Level National Mathematics Day, 2019 is celebrated at North Lakhimpur Govt. H.S. School. The celebration included Mathematics Model Competition, Interaction with mathematician, Mathematics Quiz, Mathematics Puzzles Competition etc.

In the central function Hon'ble Director of ASTEC, Dr. Arup Kr. Misra; Head of Science and Technology Dept. Dr. R. Barman; Development Deputy Commissioner of Lakhimpur District; Inspector of Schools, Lakhimpur District, Dr. Nayandeep Deka; Professor, Department of Mathematical Science, Tezpur University, Mrs. Dipali Hazarika; Principal, North Lakhimpur Govt. H.S. School, Miss R. Boruah, Mr. S. Choudhary, Project Scientist of ASTEC was present.



District Level Meet :

On 7th January, 2020 at North Lakhimpur Govt. H.S. School the District Level Activities is organized.

Lakhimpur District have 9(nine) numbers of Aryabhata Science Centre. All Block have completed Block Level Activities before 5th January, 2020, the block participated in the District Level Activities on 7th January, 2020 at North Lakhimpur Govt. Higher Secondary School.

Sri Pradip Gogoi, District Co-ordinator of ASC, Lakhimpur co-ordinated the function. He laid out how ASC of different block has doing their activities. He also described the aim and objectives of Aryabhata Science Centre. Sri Mithun Mukherjee, District Nodal Officer give brief note of ASC. The Principal welcome the gathering and participant, Sri Jibon Ch. Dutta, DEEO, Lakhimpur opined on the Activities.

KARIMGANJ DISTRICT

The Aryabhata Science Centre, Karimganj District organized its District Level Science Activities on 22nd December 2019 at Vivekananda College of Education (BEEd College) Karimganj after successful completion of 7nos. Block Level Competition.

Sj. N. S. Gautam (IAS), Addl. Deputy Commissioner & Nodal Officer, Aryabhata Science Centre, Karimganj District inaugurated the prog. with and in presence of Mr. Romendra Bhattacharjee, Principal, VCE, Karimganj, Mr. Biprajit Dey, District Coordinator, ASC Karimganj and 7 Block Coordinators of different block ASCs.

Selected 5 nos. Judges from different institute completed the judgments for the day.



Results of the competitions —

Science Based Extempore Speech Competition

- 1st : Gulzar Hussain, South Karimganj Block
- 2nd : Dilshad Ahmed Talukdar, Ramkrishna Nagar Block
- 3rd : Pakiza Parbin, Patherkandi Block

Science Based Poster Drawing Competition

- 1st : Harshita Nath, Ramkrishna Nagar Block
- 2nd : Jamil Hussain, Patherkandi Block
- 3rd : Riya Baroi, Ramkrishna Nagar Block

Science Based Poster Drawing Competition

- 1st : Pakiza Parbin and Rajdeep Subedi, Patherkandi Block
- 2nd : Manash Dutta and Tajul Islam, Lowairpoa Block
- 3rd : Shuvik Purkayastha and Ayush Roy, Ramkrishna Nagar Block

TINSUKIA DISTRICT

The 11th annual district level Science based activities and conference of Aryabhata Science Centre, Tinsukia District was held on 10th January, 2020 at the premises of Saikhowa Higher Secondary School, Saikhowaghat.

After registration of the selected participants of seven ASC-Blocks like Sadiya, Saikhowa, Kakapather, Hapjan, Margherita, Guijan and Itakhuli, the Nodal Officer of ASC-Tinsukia district Sri Shyamal Kshetra Gogoi, ACS, hosted the flag marking beginning of Conference.

The inaugural function started with the lighting of the lamp in front of the picture of "Aryabhata" by District Elementary Education Officer Mrs. Binti Sarma, AES, Tinsukia. The Additional Deputy Commissioner of Tinsukia, Sri Shyamal Kshetra Gogoi, ACS presiding the function, remarked about Aryabhata Science Centre initiative to garner some of the brightest young minds of the state and had been providing the scientific platform to showcase their talents. The District Agricultural Officer of Tinsukia, Sri Rajit Dutta, President of Bharat Jana Vigyan Yatra, Tinsukia, Sri Jiten Sharma and educationist Sri Tikaram Chetri also attended as guest of honour of the inaugural session.

After tea break, the Science based competitions like Extempore Speech, Poster Drawing and Model Making competition were conducted parallelly.



The programme ended with distribution of certificate with mementos and prizes among the winners' students in different events and also conferred a certificate to each of the ASC Block Coordinators, Block level guide teachers, all participants and the evaluators. The whole programme was conducted by Sri Diganta kumar Bhajani, District Coordinator of ASC-Tinsukia in association with the ASC block coordinators & teacher's staff and Student Union of Saikhowa Higher Secondary School.

MORIGAON DISTRICT

Aryabhata Science Centre, Morigaon District has organized the district level annual programme on 10-01-2020 at Morigaon District Press Club Auditorium. We have organized the following three science based competition programmes among the Block Level Winners. Total numbers of competitors present were 59 from various blocks.

The inauguration session was presided by Mr. Birinchi Kumar Sarma, Publisher, Barassam, Newspaper, inaugurated by Md. Belait Hussain, H.M. Bowalguri Secondary School. The name of winner students are mentioned below :



MODEL MAKING COMPETITION :

- 1st : Bhagyajyoti Bora (IX), Kapili Block.
- 2nd : Rabindra Prasad Devnath (viii), Kapili Block
- 3rd : Marupha Sulatana (IX), Laharighat Block

DRAWING COMPETITION :

- 1st : Subarnaraj Deka (X), Bhurbandha Block.
- 2nd : Mrityunjoy Bora (viii), Bhurbandha Block
- 3rd : Hirakjyoti Nath (IX), Kapili Block

EXTEMPORE SPEECH COMPETITION :

- 1st : Nikita Mahanta (X), Bhurbandha Block.
- 2nd : Bidisha Nath (viii), Kapili Block
- 3rd : Nipamoni Bora (X), Bhurbandha Block

A total of 9 nos. experts have presented as resource person. At the end, we have celebrated the prize distribution meeting, presided by Dr. Buddheswar Kalita, Professor, Morigaon.

NAGAON DISTRICT

A one day programme on District Level Activities (Competitions) viz. Model Making, Poster Drawing and Extempore Speech competition of Aryabhata Science Centre, Nagaon district was held on 20th November 2019 in the premises of Govt. Boys' H. S. School, Nagaon. The programme was organized by the District Organizing Committee, Aryabhata Science Centre (SSEAEP), Nagaon in association with Govt. Boys' H.S. School, Nagaon and supported by Assam Science Technology and Environment Council (ASTEC), Guwahati and Department of Science and Technology, Govt. of Assam.



The inauguration programme was started at 11 am in the auditorium hall of Govt. Boys' H.S. School. Mr. Kishor Kr. Dev, District Coordinator of A S C welcomed the chief guest Shri Jadav Saikia, DC of Nagaon; the guest of honour Dr. Ranjit Kr. Barman, Head, S&T Division, ASTEC. Shri Bipul Bora, Rtd. Professor of ADP College; Mr. Jayanta Kr. Sarma, Programme coordinator of SSEAEP; Dr. Dinesh Hazarika, Principal scientist, RARS, Shillongani; Smt. Dipika Laskar, Principal of Govt. Boys' H.S. School was also present as guest.

Shri Mukul Bora, Nowgong Polytechnic; Dr. Mousmi Saikia, ADP College; Dr. Lakshmi Kumari Singh, ADP College was present as judge for Model Making Competition. Dr. Dinesh Hazarika, Principal Scientist, RARS, Sillangani and Mr. Bijumoni Borah, ADP College was present as judge for Extempore Speech Competition and Mr. Tikendrajit Saikia and Mr. Bikash Sarkar were present as judge for Poster Drawing Competition.

Total 101 selected students from block level competitions (1st and 2nd of each competition) of Nagaon and Hojai district participated in the competition and 22 Guide Teachers attended the programme. All the Block Coordinators were also present. One session on 'Interaction with Scientists' was organized in the auditorium hall of Govt. Boys' H.S. School. The session was conducted by Mr. Jayanta Kr. Sarma and Dr. Bhim Prasad Sarma, where some science related topics were discussed along with hands on activity and other science tricks.

A study on the performance of students in the subjects Science and Mathematics for the year 2018-2019 where the Science and Mathematics Facilitators are engaged

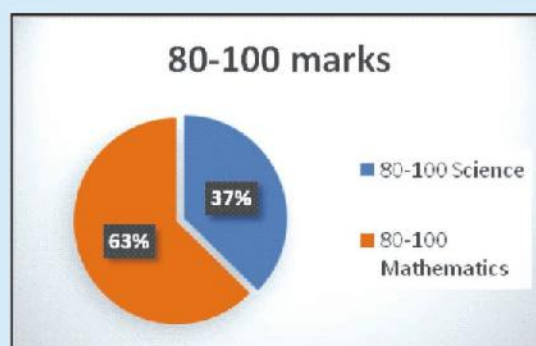
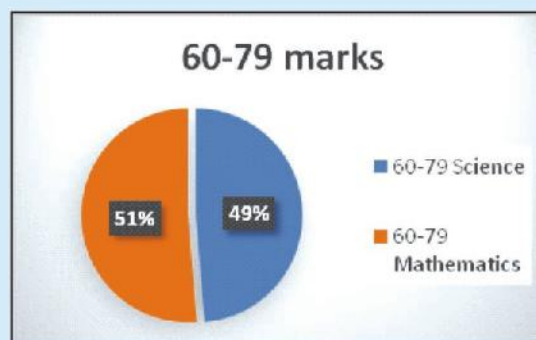
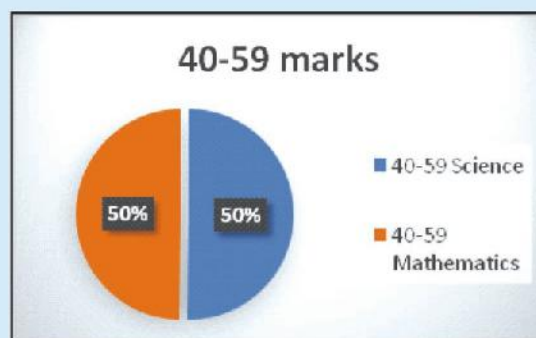
Reported by
Subhankar Narayan Choudhury
Project Scientist(SMF), S&T Division ASTEC

A study done to analyse the performance of students in the Matriculation Exam of 2019. Questionnaires were prepared and distributed among all the Science and Mathematics facilitators appointed in the respective schools of Assam. As a part of the present study, Headmasters/Principals of the schools across Assam were requested to provide all the required information to the facilitators. The data that is presented in the pie-charts has been obtained from the information that were obtained from the Science and Mathematics Facilitators. The pie-charts below give us a representation of the comparison between Science and Mathematics and to analyze in which subject students are performing better. With the help of this analysis we can gather valuable information on the performance of students and how we can improve the teaching in these subjects.

Comparison of students' performance based on the range of marks obtained

- Data from 62 schools were taken into account for the analysis.
- Total of 5344 number of students who have appeared for the matriculation exam of 2019 was taken as sample.
- The data has been segregated according to the range of marks obtained by the students.

The above pie chart shows that the overall performance is same for students obtaining 40-59 marks in both Science and Mathematics in the matriculation exam. But above 60 marks the performance is seen to be better in Mathematics than in Science. The analysis was done with the data obtained for a single year which can be later used to compare with upcoming sessions. It can also be seen that of all the students who appeared in the Matriculation Exam of 2019, 71.63% of the students passed the exam. From this study we can gather a good insight of the performance of Students in Science and Mathematics of Schools of Assam. The pie charts give us a comparison on the subjects, i.e., Science and Mathematics and where more effort needs to be given to improve the performance in that particular subject.



A Report on Participation of Students, Teachers and Common People in the Block Level Activities of Aryabhata Science Centres

Reported by

Subhankar Narayan Choudhury

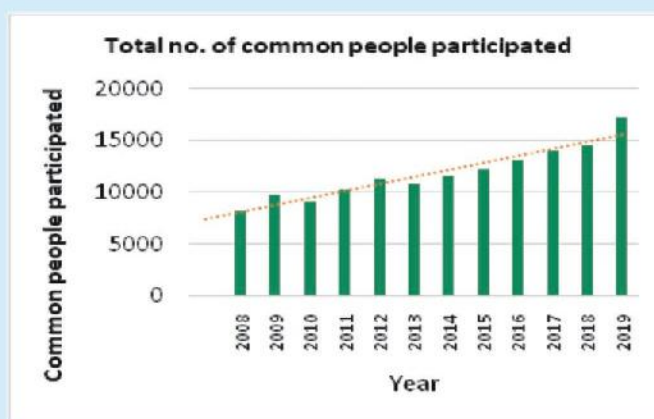
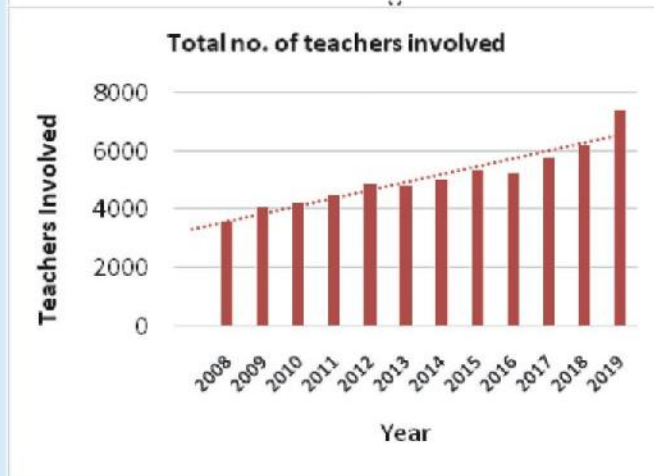
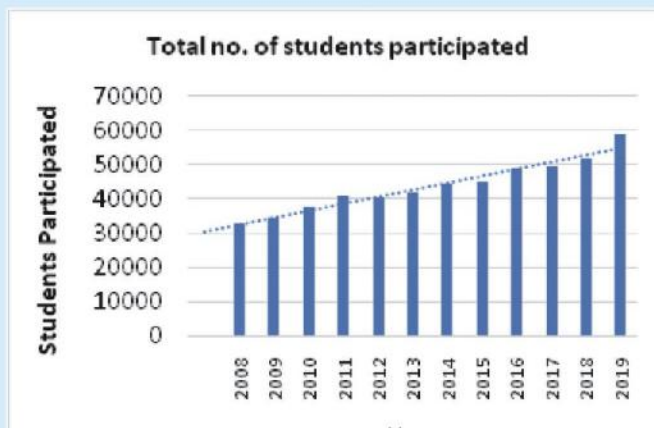
Project Scientist(SMF), S&T Division, ASTEC

The purpose of this study to analyse the teaching and learning of Science and Technology at school level in Assam, based on an assessment of its present status from the time of inception of this project. Primary data was collected from 27 districts and 170 Blocks of Aryabhata Science Centres. The study was conducted from the year 2008 to 2019 by the Science and Technology Division of ASTE Council.

The charts show the participation of students, teachers and common people in different blocks of Assam. The data collected from all the Aryabhata Science Centres was added up with respect to the year and accordingly the result was plotted against the year. This analysis was done on the basis of the information sheets provided to the Block Coordinator and District Coordinators. The respective block coordinators and district coordinators furnished all the details in the information sheets and provided us the data which was later used to make this analysis.

From the Bar Charts the following points can be concluded:

- There is a continuous rise in the participation of students, teachers and common people involved in the block level competitions held by the Aryabhata Science Centres.
- It is seen that the participation of students from the year 2008 to 2019 almost doubled from 32,707 to that of 58,850.
- Similarly, involvement of teachers and common people from the year 2008 to 2019 increased from 3,591 to 7,345 and 8,135 to 17,222 respectively.
- It can be seen that though there is some deviation of the variables from the trend line in some particular years, it is evident that every year there is a rise in the participation of students, teachers and common people.



A report on State Level Activities of Aryabhata Science Centre

Date: 2nd & 3rd February 2020 Venue: Regional Science Centre, Khanapara Guwahati

Himangshu Talukdar

Project Scientist, S&T Div. ASTEC

The State Level Activities of Aryabhata Science Centre was organized during 2nd and 3rd February, 2020 at the premises of Regional Science Centre, Khanapara, Guwahati. Participants from 27 nos of districts of Assam participated in the State Level Activities. 165 numbers of Block Coordinators of Aryabhata Science Centre, 27 numbers District Coordinator of Aryabhata Science Centre, 50 numbers of Guide Teacher and 189 numbers of students were participated in the said function.

The inaugural session was started on 2nd February, 2020 at 10 am and the welcome address was given by Dr. A. K. Misra, Director, ASTEC. The programme was inaugurated by the Hon'ble Minister of Science and Technology, Sjt. Keshab Mahanta. The programme was attended by Dr. J. N. Goswami, Former Director, Physical Research laboratory, Ahmedabad as Guest of Honour and Shri Hemen Das, Secretary, Department of Science and Technology, Govt. of Assam. Dr. A.K. Misra, Director, ASTEC and Dr. R. K. Barman, Head, S&T Division, ASTEC also attended the said programme. After that annual events were started viz. Science based Extempore Speech, Poster Drawing and Model Making competitions. The Hon'ble Minister of Science and Technology also interacted with the district coordinators of Aryabhata Science Centres in a brief discussion for strengthening the activities of the Centres.

In addition, for strengthening the activities of Aryabhata Science Centre and to make the science education for more exciting and joyful, the following activities were taken:

1. *Scientist- Student Interaction Programm: Dr. J. N. Goswami, Former Director, PRL, Ahmedabad, the man behind Chandrayaan-I mission.*

2. *3D printing & doodling: a platform for students to turn their ideas into reality.*
3. *Robotics Activities: a platform for students to experience the world of robotic innovations.*
4. *Demonstration of Mobile Science Laboratory: To expose the facilities of mobile science laboratory designed and developed by ASTEC for RMSA-Assam.*

On 3rd February 2020 the Programme started with the lengthy discussion regarding the activities of Aryabhata Science Centres where the members of ASTEC, Dr R. K Barman(Head, S&T Division); Shri Biman Ch. Baruah (Scientific Officer); Himangshu Talukdar(Project Scientist), Rahul Tamuli(Project Scientist), Subhankar N. Choudhury(Project Scientist) and Rumpee Bora(Project Scientist) reviewed the annual activities of the coordinators and the coordinators also shared the achievements and performance of the centres.

On 3rd February 2020 the Programme was concluded by the Valedictory Function which was addressed by S. Abbasi, IAS, Addl. Chief Secretary, Deptt. Of Science and Technology, Govt. of Assam as Chief Guest; Dr. A.K. Misra, Director, ASTEC; Dr. R. K. Barman, Head, S&T Division, ASTEC and Basudev Mandal, Project Coordinator, RSC, Khanapara. The students, guide teachers and coordinators also addressed the occasion sharing their experience throughout the programme. The programme finally ended with vote of thanks by Rahul Tamuli (Project Scientist, ASTEC) and the distribution of prizes to the participants in the different categories.

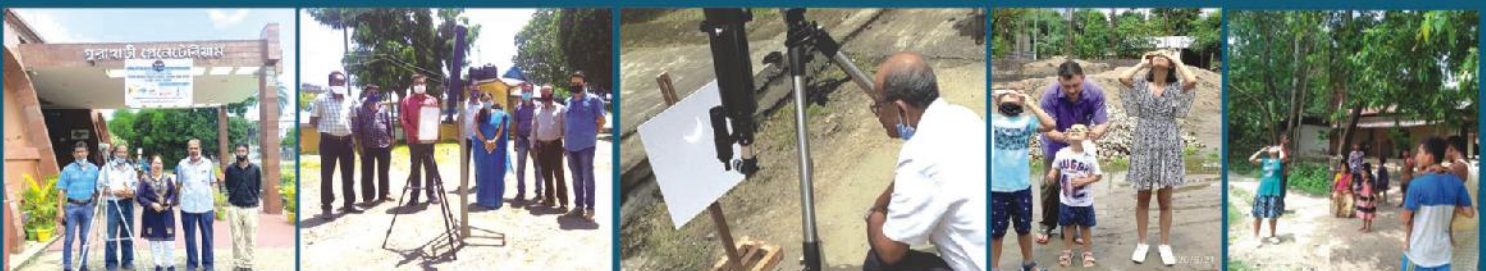
The winners in the three categories were as follows:

(A) S&T Model Making Competition with Exhibition:					
Sl.No.	Name	Topic	District	Position	Prize
1	Mridu Deka	Spinning Machine	Darrang	1 st	Rs. 15,000/-
2	Rahul Ali	Extraction of Fibre From Banana Tree	Sivasagar	2 nd	Rs. 10,000/-
3	Kuhi Sarma Neeha Imrose	Multi Purpose Threatening Machine	Goalpara	3 rd	Rs. 5,000/-
(B) Poster Drawing Competition:					
1	Mriganka Bordoloi	East Golaghat	Golaghat	1 st	Rs. 5,000/-
2	Deepshikha Gogoi	Tengakhat	Dibrugarh	2 nd	Rs. 3,000/-
3	Monalisha Mohan	Tengakhat	Dibrugarh	3 rd	Rs. 2,000/-
4	Mrityunjoy Bora	Bhurbandha	Morigaon	Consolation	Rs. 1000/-
(C) Extempore speech Competition:					
1	Rishika Kumari	Sound	Dhemaji	1 st	Rs. 5,000/-
2	Tanmayee Barua	Climate Change	Lakhimpur	2 nd	Rs. 3,000/-
3	Upasana Sarma	APJ Abdul Kalam	Sonitpur	3 rd	Rs. 2,000/-
4	Trotostky Kakati	Water Cycle	Nagaon	Consolation	Rs. 1000/-
5	Asharani Baruah	Microscope	Udalguri	Consolation	Rs. 1000/-

STATE LEVEL MEET OF ARYABHATTA SCIENCE CENTRE



OBSERVATION OF ANNULAR SOLAR ECLIPSES ON 21ST JUNE, 2020 BY BLOCK , DISTRICT COORDINATORS OF ASC THROUGHOUT THE STATE AND OFFICIALS OF ASTE COUNCIL



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