TINKER SATURDAY

## Exploring Avenues for Young Innovators
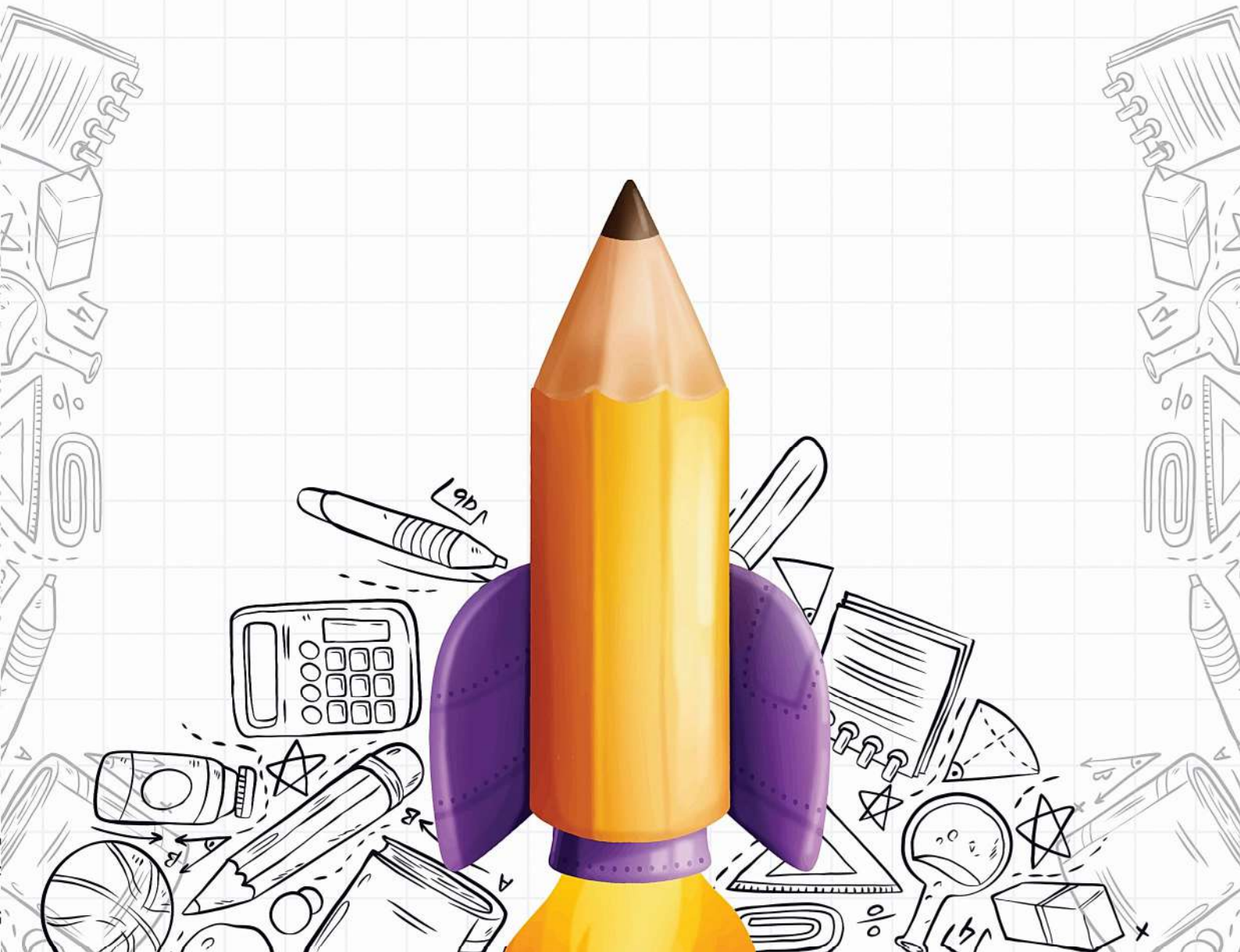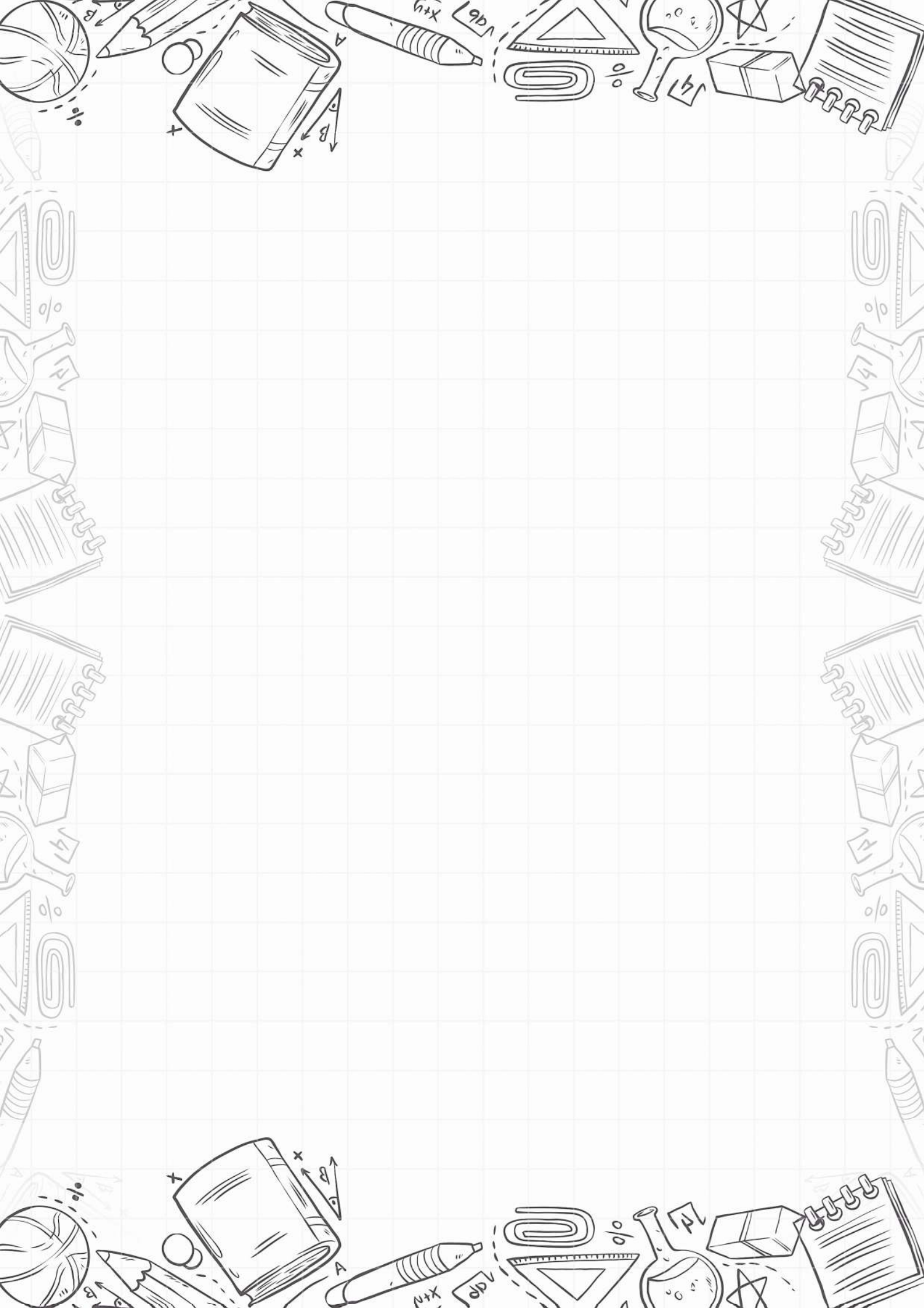
Introduction

Overview

Innovation in education encourages students and teachers to research, explore, and use all the tools to uncover something new. Innovation involves a different way of looking at problems and solving them. It also improves education because it compels students to use a higher level of thinking to solve complex problems. Innovation does not just mean the use of technology or new inventions, though these can contribute to innovation.

Innovation involves a new way of thinking, thereby helping students develop their creativity and problem-solving skills. Innovation cannot be tested or graded, but it can be inculcated and built up in students. In this environment of high-stakes testing, it can be incredibly difficult to introduce innovation and creativity in the classroom.

In continuation with several efforts to make science learning more hands-on and experiential, the **Atal Innovation Mission** (AIM) launched by NITI Aayog under the leadership of Prime Minister Narendra Modi has emerged as a powerful nationwide initiative primarily promoting a culture of innovation and entrepreneurship. AIM tries to accelerate these traits among school children through its tinkering labs – the Atal Tinkering Lab s (ATLs) .
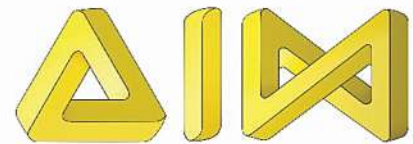
So, what is Tinkering? Remember your childhood, when you used to disrupt your toy car, pull out its key, motor, and gears and check how it worked. You might have put it in water to check if it still works. That was when you 'tinkered' for the first time in your life and undoubtedly you would have got scolded by your parents for breaking toys. Unfortunately, such 'tinkering' also faded from our school science labs. What students need is time and freedom to explore and experiment with manipulative, and at least create something out of it. It not only sparks their creativity but boosts them to innovate.

Tinker Saturday

Atal Incubation Centre – Nalanda Institute of Technology Foundation (AIC-Nalanda), being supported by Atal Innovation Mission as an AIC is also a part of the AIM family and has designed a bridging program of **"Tinker Saturday"** with the ATLs in Bhubaneswar, Odisha to have a deep engagement within the AIC-ATL network where students from ATLs get an opportunity to enhance their innovative capabilities beyond the ATLs by exploring the resources, facilities and services available at AIC-Nalanda. Atal Incubation Centre- Nalanda aims to weave this large innovation network into the fabric of the entrepreneurial ecosystem and thus, taking a step forward to engage deeply with some of the ATLs in Bhubaneswar as a pilot program towards a greater vision for the entire state in near future.

This ambitious program of "Tinker Saturday" is an engaging day-long visit of 20-25 students from an ATL School to AIC-Nalanda and explore the in-house resources along a few program tracks. The students will get an opportunity to spend a day in the Fab Lab & other labs at AIC, interact with startups, engage in play activities on IP, participate in a mini Idea Pitch competition and much more.

The prime objective of this program is to create and nurture an innovation ecosystem at school level and connecting the same with entrepreneurial activities in near future. This shall also enable AIC to build its second in-line generation of innovators and startups. Such engagements shall also ensure a wider participation of young minds in various initiatives of AIC-Nalanda.

Program Tracks at Tinker Saturday

Tinker Saturday is organized and hosted by the Fab Lab wing of AIC-Nalanda. The Fab Lab at AIC-Nalanda is a state-of-the art Makerspace for young tinkerers and innovators to develop their prototype and testing facilities in the sectors of additive manufacturing, Internet of things, UAVs, Cutting and machining, etc. (https://fablab.aicnitf.in/)

AIC-Nalanda invites one of the ATL Schools in Bhubaneswar to the incubation centre every Saturday with 25-30 students selected by the school itself from the class of 8-10 for spending a complete day at AIC-Nalanda (10.00 am to 4.00 pm). The visit is not mere a showcase or interaction event but a structured engaging activity with various tracks and objectives. This includes:

I-Yantra
Session
- Concept and Definition of the Internet of Things (IOT)
- IOT Architecture & major components

Tech Talks
Listen to Expert
- Activity on IP and Innovation
- Starting a Startup

Tech-ride
Demonstration
- UAV
- AR-VR
- Additive Manufacturing

Idea Blazon
Innovator Pitch
- Idea Pitching
- Product Showcase
- Exciting Prizes to be won

Launching of the Program

AIC-Nalanda had the privileged opportunity to launch and inaugurate the first chapter of Tinker Saturday on 25th June, 2022 in the presence of a delegation from the AIM Team that comprised of Mr Rohit Gupta, Program Director; Mr Pitambar Sahoo, Administration Head; Mr Shubham Gupta, Innovation Lead; Mr Ranjan Das, Innovation Lead and Mr Rajeev Kumar, Young Professional, AIM, NITI Aayog.

The Program that started with Welcome Address from Mr Devjyoti Mohanty, CEO, AIC-Nalanda also had brief addresses fromm Mr Rohit Gupta and Mr Shubham Gupta who explained the objectives of Atal Innovation Mission and applauded the efforts of AIC-Nalanda for strengthening the innovation & entrepreneurship network in its region. Twelve ATL-In Charge from various schools in the city also attended the inaugural program and had extensive discussions with the AIM Team as well.
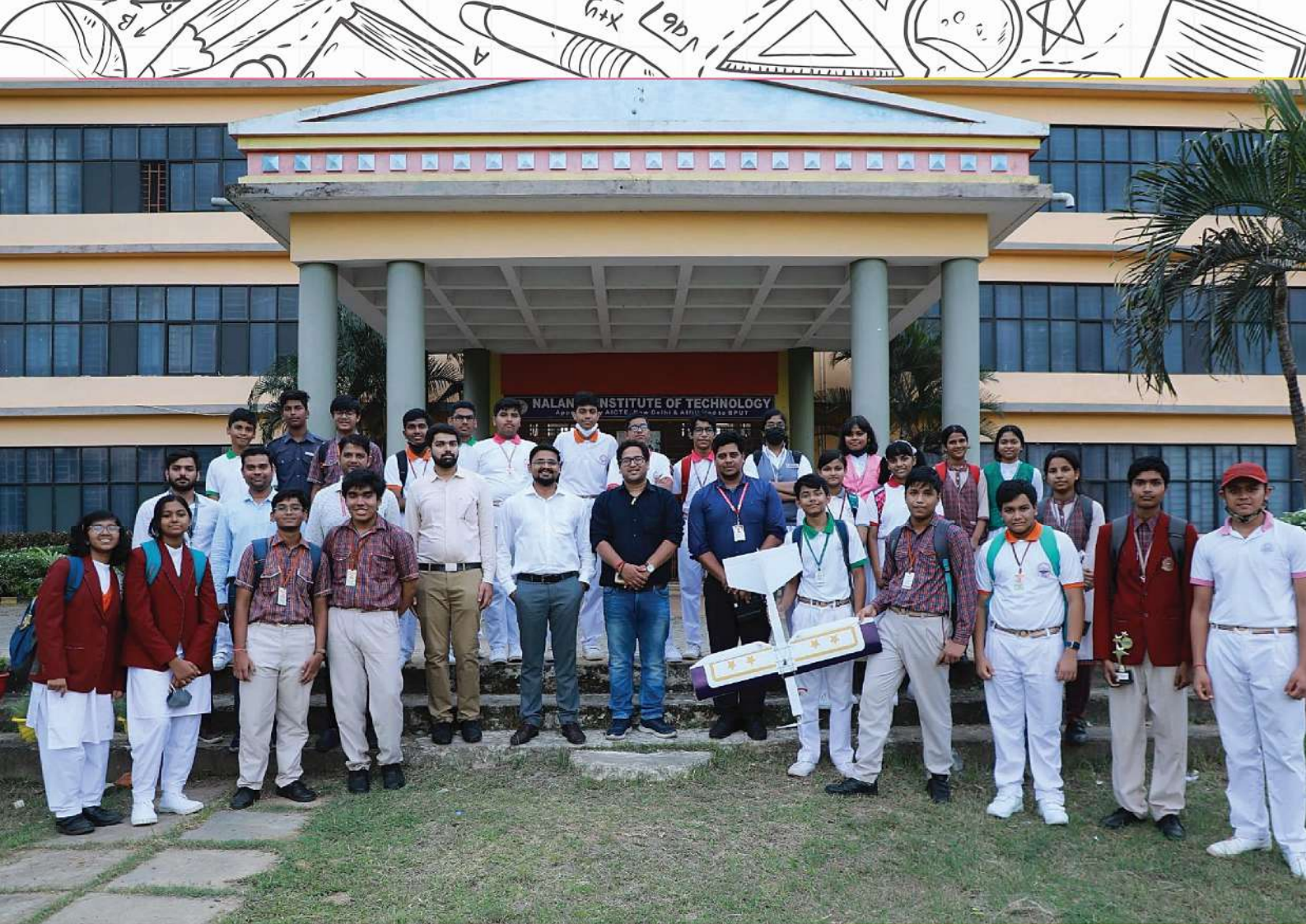
First Chapter

DAV PUBLIC SCHOOL KALINGA NAGAR

Ghatikia Bhubaneswar Khorda, Odisha - 751029

Program Highlights

Date : 25th June 2022

Participant School : DAV Public School, Kalinga Nagar

I-Yantra
Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of IOT & Robotics
- Micro-gadgets and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Bibhu P Bahalia

Organisation : AIC-Nalanda

Topics Discussed :

- Idea to Prototype
- Building a Product
- Starting a Startup

TINKER SATURDAY

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Tech-ride Demonstration

Idea Blazon
Innovator Pitch

Adi & Ayushman are working upon a low cost and multipurpose automatic machine which will help the farmers sprinkle the pesticides in a short period of time and minimize physical strain causing to farmers for handling such machines.

Second Chapter

Program Highlights

Date : 2nd July 2022

Participant School : DAV Public School, Pokhariput

I-Yantra
Session

Mentor : Siddharth Bhatter

Organisation : Karkhana

Topics Discussed :

- **Basics of IOT & Robotics**
- **Micro-gadgets and Coding Fundamentals**

Mentor : Aswini Ku Sethy

Organisation : DMN Edtech

Topics Discussed :

- **Introducing AR & VR**
- **Basics of Simulation**

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- **Additive Manufacturing**
- **Importance of IP in Innovation**

Mentor : Durga Prasad

Organisation : AIC-Nalanda

Topics Discussed :

- **Idea to Prototype**
- **Building a Product**
- **Starting a Startup**
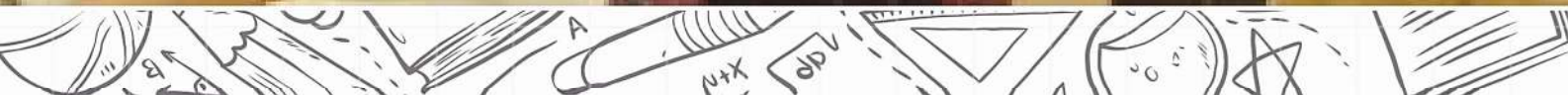
TINKER SATURDAY

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Tech-ride Demonstration

Idea Blazon
Innovator Pitch

Satwik is intrigued by a homework management system which shall bring an uniformity in the assignment of task on everyday basis and shall prevent in overburdening
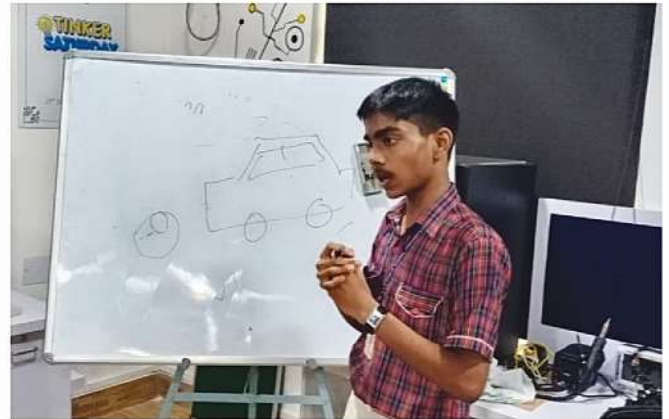
Third Chapter

SRI AUROBINDO INSTITUTE OF INTEGRAL EDUCATION
BHUBANESWAR

Program Highlights

Date : 23rd July 2022

Participant School : Sri Aurobindo Institute of Integral Education, Bhubaneswar

I-Yantra
Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Aswini Ku Sethy

Organisation : DMN Edtech

Topics Discussed :

- Introducing AR & VR
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Durga Prasad

Organisation : AIC-Nalanda

Topics Discussed :

- Idea to Prototype
- Building a Product
- Starting a Startup

TINKER SATURDAY

Tech-ride
Demonstration

Idea Blazon
Innovator Pitch

Madhusmita wants to build a smart device that could connect pregnant women in rural areas to the nearest medical facility for continuous monitoring and can also reach out to her at the time of need.

Fourth Chapter

Program Highlights

Date : 30th July 2022

Participant School : Buxi Jagabandhu English medium School-II

ATL Code: 16695371

I-Yantra Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Bibhu P Bahalia

Organisation : AIC-Nalanda

Topics Discussed :

- Idea to Prototype
- Building a Product
- Starting a Startup

TINKER SATURDAY

Tech-ride Demonstration

Idea Blazon
Innovator Pitch

Yashasvini demonstrated a biofertilizer composition which increases the nutritive parameters of the soil with low cost and organic ingredients to replace the harmful pesticides available in the market.

Antariksh presented an innovative railway seat model which will help handicapped and senior citizens to access upper/middle seats in the berths easily and without manual intervention.

List of Participants

SL	Name of the Participants
1	Purbi Satpathy
2	Raseshwari Nayak
3	Antariksha Mishra
4	Kumar Srinibas Padhi
5	Rituraj Samal
6	Ayush Kumar Sahoo
7	Anwesh Kumar Swain
8	Saksham Mohanty
9	Sai Arman Bhol
10	Yashaswini Sahoo
11	Divyanshu Panda
12	Shrija Mishra
13	Aayushi Dash
14	Aurna Auro Kiran
15	Swakatika Pani
16	Snigdha Suhani
17	Archana Panda
18	Barsha Ragini
19	Shravani Abhilipsa
20	BS Swayam Siddha
21	P.Yashaswini
22	Raj Aryan Raut
23	Chinmaya Ranjan Nayak
24	Surya Snata
25	Dattatreya Samal
26	Devanshu Samal
27	Abhijeet Maharana
28	Yashasvi Sahu
29	Ishwatha Pradhan
30	Tapaswini
31	Saswat Ray

Fifth Chapter

DAV PUBLIC SCHOOL

Chandrasekharpur, Sailashree Vihar, Bhubaneswar Khordha, Odisha - 751021

Program Highlights

Date : 06th Aug 2022

Participant School : DAV Public School, Chandrasekharpur

ATL Code: 219E8878

I-Yantra
Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
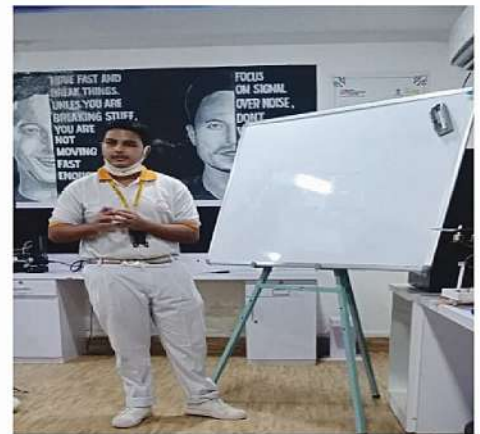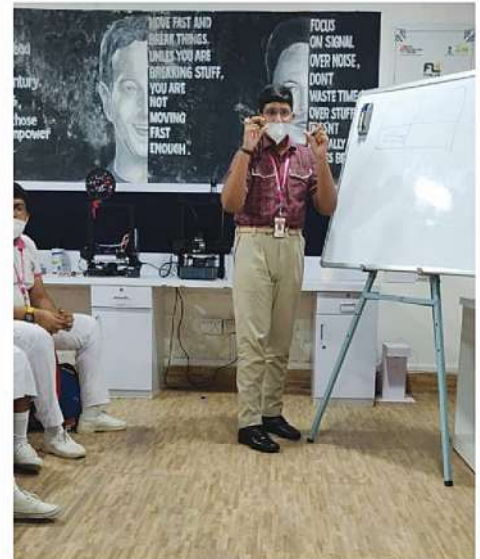- Importance of IP in Innovation

TINKER SATURDAY

Tech-ride Demonstration

Idea Blazon
Innovator Pitch

Preet wants to work on an innovative idea about early alert system to avoid accident at blind spots in stiff slope/ hilly areas

List of Participants

SL	Name of the Participants
1	Udit kumar
2	Arihant Mohanty
3	Swayam Das
4	Adysha Abhilisha
5	Priyanshu Biswal
6	Abhinav Mahanty
7	Angel
8	Kritika Dalai
9	Sana Sadiya
10	Anueesha
11	Sai prasad Mishra
12	Pratik Jena
13	Ayeush Mohapatra
14	Purnajay Pradhan
15	R.B. Prabhu Ptradhan
16	Shivansh Parasha
17	Anuvesh Parashar
18	Ronit Kumar Samal
19	Aditya Narayan Pattanayak
20	Chetan Kumar Sathpathy
21	Mayukh Parida
22	Rashmi srichandan Mishra
23	Anamika Mishra
24	Aishwarya jena
25	Manyasha Ray
26	Preet Acharya
27	Ankita Priyadarshini Nayak
28	Kabyakrishna Mishra
29	Sambhabana Panda
30	Shibani Das

Sixth Chapter

Program Highlights

Date : 13TH AUG 2022

Participant School : DAV Public School, Unit 8, Bhubaneswar

ATL Code: 62AB11172

I-Yantra
Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Aswini Ku Sethy

Organisation : DMN Edtech

Topics Discussed :

- Introduction to AR-VR
- Hands-on Experience

TINKER SATURDAY

Tech-ride Demonstration

Idea Blazon
Innovator Pitch

Sarthak is working upon an interactive learning system that would help differently abled students in the deprived areas by RFID Management systems.

List of Participants

SL	Name of the Participants
1	Sambhabna Panigrahi
2	Signorina Priyadarshini
3	Shivangi Pattnaik
4	Spandan Swaroop Patra
5	Pinali Das
6	Divyajyoti Senapati
7	Kavya Biswas
8	Akanshya Jena
9	Anwesa Tripathy
10	Pratikhya Nayak
11	Arpita Nayak
12	Bhoumik H Mohapatra
13	Abhijit Rout
14	Divyanshi Payttnaik
15	Suhani Sahoo
16	Ayush Behera
17	Tusar Jyoti Das
18	Sarthak Mishra
19	Dibyanshu Pani
20	Biswabijayee Mohapatra
21	Spandon Swarup Jena
22	Udit Narayan Parida
23	Sai Sankar Dash
24	Pratyush Priyadarshi
25	Antariksh Das
26	Anabinda Mahanta
27	Aryan Mohapatra

Seventh Chapter

GOVT. HIGH SCHOOL, IRC VILLAGE, BHUBANESWAR

Program Highlights

Date : 20th Aug 2022

Participant School : Govt. High School, IRC Village, BBSR

ATL Code: 19433368

I-Yantra
Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Durga Prasad

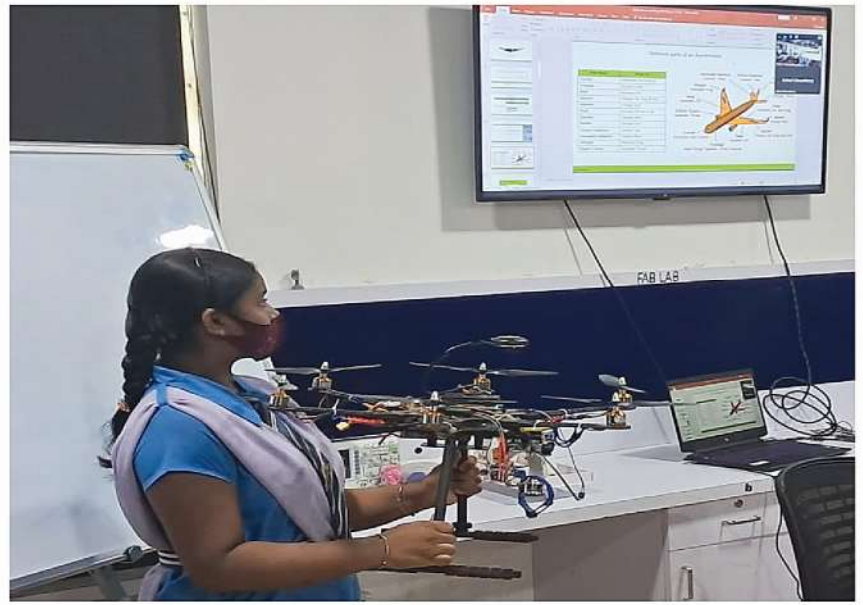**Organisation : AIC-Nalanda**

Topics Discussed :

- Design Thinking
- Starting a Startup

TINKER SATURDAY

Tech-ride Demonstration

💡 Idea Blazon
Innovator Pitch

Saroj is keen to build an automated litter collector and trash management system for municipal waste collection system.

List of Participants

SL	Name of the Participants
1	Rakesh Kumar Sahoo
2	Saroj Kumar Pradhan
3	Partha Sarthi Upadyaya
4	Omm Prasad Sahoo
5	Sankar Sahoo
6	Sanjay Kumar Panda
7	Priyadarsani Baral
8	Jamuna Behera
9	Jyoshnarani Pradhan
10	Sibani Senapati
11	Pujarani Sethi
12	Santosini Patra
13	Sangamitra Jena
14	Amrita Maharana
15	Aliva Patra
16	Sushree Udyamita Sahu
17	Swarnaprabha Barik
18	Lipsarani Behera
19	Rudra Narayan Dutta
20	Ganesh Muli
21	Omm Bikash Nayak
22	Prakash Maharana
23	Debasish Nayak
24	Roshan Digal
25	Sashmita Pradhan

Eighth Chapter

Program Highlights

Date : 27th Aug 2022

Participant School : Sai International School, Bhubaneswar

ATL Code: 33346484

I-Yantra
Session

Mentor : Siddharth Bhatter

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Manas K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Durga Prasad

Organisation : AIC-Nalanda

Topics Discussed :

- Design Thinking
- Starting a Startup

TINKER SATURDAY

Tech-ride Demonstration

💡 Idea Blazon
Innovator Pitch

Bhoomi, Trishna and Manmoy are working on a project to enhance literacy rate in rural areas and create contents to ensure education for all.

Satwik wants to remove harmful gases from air and build an air filtration system in industrial areas through gas precipitation & carbon sinking.

List of Participants

SL	Name of the Participants
1	Ayush Ku Meher
2	Siddharth Maharana
3	Yohann Jena
4	Abhipsha Ray
5	Ayush Pattnaik
6	Antra Agarwal
7	Yashraj Agarwal
8	Nishant Ratha
9	Saksham Sahu
10	Saanvi Swanjana Dash
11	Devansh Chowdhury
12	Mehr Seal
13	Navendu Nishith Behera
14	Manomay Tripathy
15	Smayan Moharana
16	Saisidhi Dash
17	Summit Sahu
18	Bhoomi Bharti
19	Bhabani Shankar Acharya
20	Ekansh Mohanty
21	Saanvi Misra
22	Prajjwal Sutar
23	Aman Aryan Nanda
24	Aayush Tripathy
25	Sambhav Behura
26	Deeptanshu Prakash
27	Satwik Ranjan Nanda
28	Anwesha Maharana
29	Hitesh Kumar Jena
30	Aatisha Pradhan

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by @5w anurag

Ninth Chapter

Program Highlights

Date : 3rd Sept 2022

Participant School : Capital High School, Bhubaneswar

ATL Code: 1293751

I-Yantra Session

Mentor : Nandan Singh

Organisation : Karkhana

Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury

Organisation : Imaginxt

Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : M K Samantaray

Organisation : AIC-Nalanda

Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Durga Prasad

Organisation : AIC-Nalanda

Topics Discussed :

- Design Thinking
- Starting a Startup

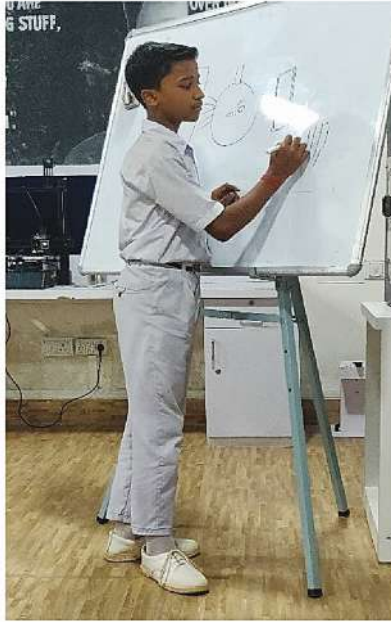**TINKER SATURDAY**

Tech-ride Demonstration

Lokanath is curious to work in the field of anti-accident measures in railways with extensive use of IOT to ensure passenger safety.

Nalini demonstrated a solar based refrigeration system for street vendors who sell vegetables to keep their products fresh for larger shelf life.

List of Participants

SL	Name of the Participants
1	Om Shree Ranbir Singh
2	Sunil Mahakud
3	Kamalesh Nayak
4	Lokanath Pradhan
5	Sraban Kumar Murmu
6	Binapani Behera
7	Bindu Sagarika Pradhan
8	Subhasmita Mohapatra
9	Chanaram Soren
10	Dibyadrasta Sah
11	Bhagyalaxmi Acharya
12	Ranjit Sahoo
13	Tapas Ranjan Behera
14	Bikasha Kumar Sahoo
15	Rajalaxmi Patra
16	Somya Ranjan Mallick
17	Pritinath Murmu
18	Subhankar Rout
19	Madan Mohan Sabar
20	Nirod Nalini Jena
21	Swapnasidha Sahoo
22	Sukanya Sahoo
23	Arasmita Behera
24	Sidhartha Mohanty
25	Dibya Ranjan Rana
26	Rabindra Murmu
27	Guru Charan Behera
28	Laxmipriya Sahoo
29	Om Prakash Sahoo
30	Subhashree Chhatria

Tenth Chapter

Program Highlights

Date : 10th Sept 2022
Participant School : S. M. Ali High School, Bhubaneswar
ATL Code:

I-Yantra
Session

Mentor : Nandan Singh
Organisation : Karkhana
Topics Discussed :

- Basics of Internet of Things
- Robotics and Coding Fundamentals

Mentor : Rahul Choudhury
Organisation : Imaginxt
Topics Discussed :

- Introducing UAVs
- Basics of Simulation

Tech Talks
Listen to Expert

Mentor : Anurag Swain
Organisation : AIC-Nalanda
Topics Discussed :

- Additive Manufacturing
- Importance of IP in Innovation

Mentor : Durga Prasad
Organisation : AIC-Nalanda
Topics Discussed :

- Design Thinking
- Starting a Startup

TINKER SATURDAY

Tech-ride Demonstration

Nagma Begum wants to design a smart trash bin for domestic waste accumulation and easy removal through less human intervention.

Pratap has come up with an innovative public toilet system that could also be integrated for detecting diseases on demand and indicated to the user.

List of Participants

SL	Name of the Participants
1	Narottam Sahoo
2	Siba Prasad Routray
3	Badhal Gouda
4	Muna Pradhan
5	Sammer Pradhan
6	Subham Patra
7	Balabhadra Maharana
8	S. Narasingh Reddy
9	Asutosh Nayak
10	Somya Ranjan Behera
11	Devraj Dev
12	Tulasi Barik
13	Lipsa Chhualsingh
14	Puja Patra
15	Pujarani Ptara
16	Soumyashree Sahoo
17	Khusi Sahu
18	Swapna Pradhan
19	Bibek Kumar Behera
20	Pratap Chandra Patra
21	Nagma Begum
22	Chittaranjan Sahu
23	Asish Sahu
24	Narayan Sahu
25	Deepanjali Patra
26	Akanshya Mishra
27	Sonakshi Barik
28	Smrutishree Mahapatra
29	Sonali Mallick
30	Subham Ku Sahoo

ATAL
INCUBATION
CENTRE

NALANDA INSTITUTE OF TECHNOLOGY FOUNDATION

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website: www.aicnalanda.com

Ideate | Create | Elevate

We shape your journey of Success!