B.I.T SINDRI

Dhanbad, Jharkhand-828123

National Hardware
Hackathon 2020

Junior (School) & Senior (UG)

Organized By: Model Club, B.I.T. Sindri

In association with

INSTITUTION'S INNOVATION COUNCIL (Ministry of HRD Initiative)

Supported by:

NITI Aayog | ATAL INNOVATION MISSION

Sponsored by

TEQIP-3 Technical Education Quality Improvement Programme

23rd - 24th December, 2020

Online Mode

www.bitsindri.ac.in

www.modelclubbit.com

ABOUT B.I.T. SINDRI

B.I.T. Sindri was started as College of Mechanical and Electrical Engineering in 1949 at Patna. After an year it was shifted to Sindri on 17th November, 1950 .The institute grew and flourished rapidly during the early days under the dynamic leadership of Prof. D.L.Deshpande, the then Director[1950-61].

The institute is controlled administratively by the Department of Science and Technology, Govt. of Jharkhand, Ranchi .All courses are approved by All India Council of Technical Education and most of the undergraduate programs are accredited by the National Board of Accreditation, New Delhi.

The main aim of the institute is to cater to the needs of the nation for technological manpower development and research programs comparable to the best of the world. The college today offers B.Tech courses in 10 disciplines of engineering namely Mechanical, Electrical, Metallurgy, Production, Chemical, Electronics & Communications, Civil, Mining, Computer Science, Information technology, having NBA accreditation.

ABOUT MODEL CLUB

Model Club is an attempt to manifest the technical mind set, personality development and success stories of this premier technical institution of Jharkhand. This club is the only technical club established by the BIT administration in 1976 for conducting technical activities for the young technocrats of our college. Model Club is an organization that is inherently associated with diffusion of science and technology in would-be technocrats. Concentrated solely in the BIT Sindri campus, the organization strives to sync the college with latest technological trends by tech-events, workshops, seminars,webinars and likes.

Model Club's unexpected success years after year are backed up by sizeable portion of students, professors, commercial giants and intellectuals alike. Model Club is hub of about 60 committed students who have been extracted out of the best minds of the state and country making it the best work force available possible. Model Club members are trained to excel at professional capacities through methods, which are prerequisites for personality development, in the weekly rendezvous. Presently, Model Club members solely indulge in the execution of the technical revolution in the campus. Round the year Model Club organizes Workshops, Seminars, Guest-Lectures, Invited Talks and alike events including a Mega Tech-Fest named "Sandhaan".

INNOVATION CHALLANGES

The themes and Problem Statements aims at accelerating research, development and demonstration (RD&D) in technology areas that could provide significant benefits.

For Junior Hardware Hackathon it covers various themes Farmers and Agriculture, Covid19 & Healthcare, Home Equipment, Equipment for Old People, Chemistry Tricks, General Physics, Energy Production, Women Safety, Biological Models, Electronics Gadgets etc.

For Senior Hardware Hackathon, the problem statements include Save Energy, Track-o- solar, Human scavenging of potholes, Waste management, Traffic management, Accident prevention, Sanitation , Smart dustbins, Educational solutions for better understanding ,Public health, Crisis management, Data processing for hospitals, Cyber bullying, Portable brick manufacturing & Open innovation.

These challenges are designed to check the creative and positive mindset of the students of various age groups and all the institutes of India.

"Innovation is the calling card of the future."

~ Anna Eshoo

The future of a country lies in it's students. The more innovative the youth is today, the better will be the country's future. Model Club is excited to announce the "Junior Hardware Hackathon" completely exclusive for school students.

Very meticulously designed, this challenge will give ample scope to all the changemakers to ponder over and solve some real-world needs. This Hardware Hackathon would surely be a window of opportunity for your crazy ideas to turn into reality and transform many lives.

WHO CAN PARTICIPATE?

School Students
Std VIII-XII

THEMES

- Farmers and Agriculture
- Covid19 & Healthcare
- Home Equipment
- Equipment for Old People
- Chemistry Tricks
- General Physics
- Energy Production
- Women Safety
- Biological Models
- Electronics Gadgets
- Space and Astronomy
- Earth Science
- Engineering
- Construction of Bridges
- Computer and Programming
- Mathematical Instruments
- Animal Sciences
- Behavioural and Social Sciences
- Plant Sciences
- Open Theme

Link to detailed themes: bit.ly/Themes_JrHardwareHackathon

"You can't solve a problem on the same level that it was created. You have to rise above it to the next level."
~ Albert Einstein

A revolutionary attitude is all it takes to craft out the best of solution to any predicament. Model Club is extremely proud to present "Senior Hardware Hackathon" for all cognizant and proactive college students. It is an opportunity for all the inventive minds out there to exhibit their prowess.

The contest will provide the perfect framework to enable you to think out of the box and shine through. Test your ingenuity at this challenge. Climb up the unconventional ladder with your ground breaking ideas and solutions.

WHO CAN PARTICIPATE?

All the Students currently pursuing education from recognized institutes are allowed to take part in the event.

All Engineering & Non-Engineering Undergraduates are allowed to take part.

PROBLEM STATEMENTS

- Save Energy
- Track-o- solar
- Human scavenging of potholes
- Waste management
- Traffic management
- Accident prevention
- Sanitation
- Smart dustbins
- Educational solutions for better understanding
- Public health
- Crisis management
- Data processing for hospitals
- Cyber bullying
- Portable brick manufacturing
- Open innovation

Link to detailed PS: http://bit.ly/Themes_SeniorHardwareHackathon

WHO CAN PARTICIPATE?

School Students : Std VIII-XII

All the Students currently pursuing education from recognized institutes are allowed to take part in the event.

All Engineering & Non-Engineering Undergraduates are allowed to take part.

NO REGISTRATION FEE

EXPECTED NUMBER OF PARTICIPANTS 500+ from all over India

TEAM COMPOSITION

•Registration can be done in a group of maximum 4/3(Jr.) and minimum 1 participant.
•This platform welcomes anyone with the perspective to present their idea. In a team, members can be from different institutes too.
•The Team Name should be unique and not contain the name of your institute in any form.
•No inter-branch restrictions.
•Teams will have their Team ID which will be used for further contacts and process of Junior Hardware Hackathon.

REGISTER AT
http://sciencefair.modelclubbit.com/

OBJECTIVES OF NATIONAL HARDWARE HACKATHON

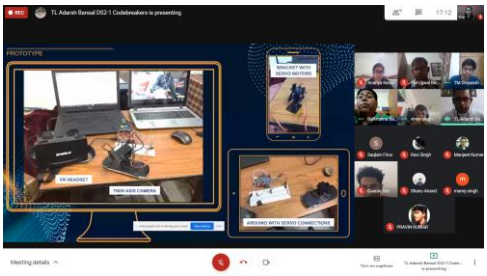
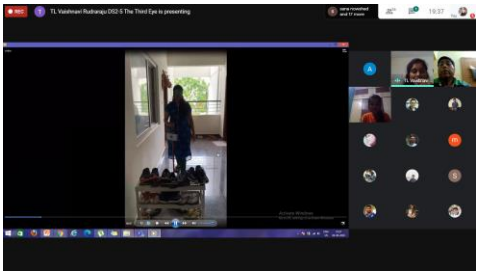
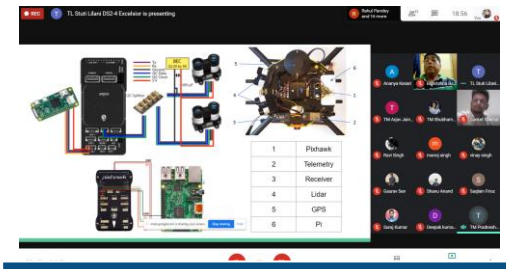
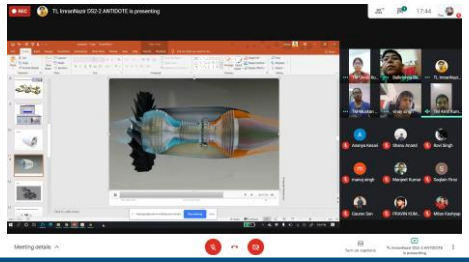
- To discuss with students of Schools and Institutes to understand their problems related to the scientific happenings which plays major role after COVID era.
- To find the creative ideas which may produce next generation methodologies or products which could help in the easy and useful development.
- To encourage the competitive spirit among the students of schools or eminent institutes/universities and colleges to shape-up their ideas.

EMINENT INVITEES

- **Judges**
- **Hackathon Specialists**
- **Industrial Experts**
- **Software and Hardware Experts**
- **Employees of Reputed Companies**

BENEFITS TO THE PARTICIPANTS OF THE HACKATHON

- Identifying new domains of science to explore the business.
- Getting new ideas to develop new tools and techniques.
- Identifying talented human resource for the development.
- Hackathon will help to establish networks among students, experts, and professionals.
- This event can be used for job/recruitment fairs and allow the students to assess their abilities and find ways to accomplish the tasks and how they work in a team.
- A novel method to enhance the market potential and get their brand out there to innovative, tech-savvy, technology-minded people in their area.


Glimpses of Previous Virtual Hackathon

नव उज्ज्वल e-innovation Hackathon

INTELLECTUAL PROPERTY

The intellectual property of the team members will belong to the participants or jointly as applicable. The proposed relevant technology should be indigenously developed, which could be actively used in the field of Problem Statements.

SCHEDULE OF HACKATHON

Inaugural Ceremony: 23rd December 2020, 11:00 AM Onwards

Junior Hackathon: 23rd December 2020, 2:00 PM-5:00 PM

Senior Hackathon(S1): 24th December 2020, 11:00 AM- 1:00 PM

Senior Hackathon(S2): 24th December 2020, 4:00 PM- 6:00 PM

Announcement of Results: 31st December 2020, 9:00 PM

EVALUATION PROCESS

Basic Criteria: The Judges will score eligible submissions using the equally weighted criteria mentioned in rubrics.
Few common process include:
(i) Relevant, feasible and applicable solution to the problem
(ii) Quality of the Idea
(iii) Valuation of product in market
(iv) Technical implementation

SUBMISSION REVIEW

1.Each team has to select its Problem Statement while registering.

2.By the end of Registration and final product verification, teams will be allowed to present their models in front of a jury and judgment will be based on the feasibility, practicability, sustainability, scale of impact, user experience and potential for future work.

SCREENING PROCESS

The participants will submit their improved Abstract with all specifications. Participant must show their prototype (Product) via the Google Drive Link. On these bases, out of all participants best 20 teams for Junior and Best 40 teams for Senior will be Screened in.

RUBRICS

Parameters	Marks
Technical Complexity	**10**
Project Effectiveness	**10**
Working Prototype/Product	**20**
Business Plan /STP/ SWOT	**10**
Feasibility/ Practicality	**10**
Originality(USP)	**10**
Cost-Effectiveness	**10**
Research and Need	**10**
Final View (System)	**10**

FINAL PRESENTATION

During the finals the team need to address the problem , approach towards it, details regarding idea including flowchart and its Workflow, Dependencies , Technology Stacks, Specifications, Implementation of problem background and their solutions.

All hardware and software elements, Development of working prototype ,Cost Estimation, USP (Unique Selling Proposition) of the idea are required.

TENTATIVE PROGRAMME (DAY-1 & DAY-2)

DAY 1 :23RD December 2020
Traditional Initiation by Mantras
Welcoming
Problem Discussions
Address by Director, B.I.T Sindri
Address by Prof. In-Charge, Model Club
Rules Discussions
Jury and Teams Announcements
Vote of Thanks
National Junior Hardware Hackathon(G1&G2)

DAY 2:24th December 2020
National Senior Hardware Hackathon
For Group S1G1
For Group S1G2
For Group S1G3
For Group S1G4
For Group S2G1
For Group S2G2
For Group S2G3
For Group S2G4

PROBABLE OUTCOME OF NATIONAL HARDWARE HACKATHON 2020

- Enthusiastic Minds of school students to excel more in the field of Science and technology.
- A good reason to think of career in engineering and technology for school Students.
- Undergraduates must get developed in the sense of skillsets and creative thinking.
- Exchange of ideas among the students, industry professionals, academicians and authorities.
- Boost-up the research and development in the domain of Science & Technology.
- Conversion of ideas which could be translated into manufacturing products of market.

PATRON

Prof. (Dr) Dharmendra Kumar Singh

Director, B.I.T. Sindri,
Dhanbad, Jharkhand

PROFESSOR IN-CHARGE

Dr. Ramjee Prasad Gupta

Assistant Professor, EE, B.I.T. Sindri
Prof. In-Charge, Model Club

B.I.T. Sindri

Dhanbad, Jharkhand

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