

Institute of Science Nagpur
Best Practices
Title of the practice: Science Club



Introduction

The Institute of Science's Science Activity Club (ISSAC) has emerged as the most sensational and talked-about club at our esteemed institution. With an unwavering commitment to nurturing scientific curiosity, ISSAC has not only ignited enthusiasm but also provided a platform for science students to unleash their theoretical knowledge in the practical world.

Inaugural ceremony

A momentous occasion unfolded on 3rd March 2023 as the Institute of Science's Science Activity Club (ISSAC) held its grand inaugural ceremony. The event was graced by the esteemed presence of Mr. Tarun Shrivastava, who ignited the spirits of all attendees with his enlightening address. Inauguration marked the beginning of an extraordinary journey, empowering students to bridge the gap between theoretical knowledge and real-world applications.

Committee Members

The General coordinators for the academic year 2022-23 were Mr. Vedant Patil and Ms. Devashree Diwanji. Active members in varied realms were Rutu Pimplapure, Charupriya Rewatkar, Soumya Singh, Suraj Sharma, Prachi Tupte, Rishikesh Dubey, Sharvari Patil, Monali Batki, Sushant Rathod and Prasad Rathod.

Programs and Initiatives

In its year of inception, following science-filled activities were performed: Treasure

Hunt: Finding Jerri

The event witnessed participation of over 250 people who unleashed their academic prowess with a series of clues entwined in concepts of science that were spread all around campus. Team AVVAN emerged as the winner of this hunt, solving all clues with the correct scientific explanation in only one hour and ten minutes.

Enframe

Photography and science came together into a beautiful harmony in this competition. This competition was all about finding Aesthetic beauty in the very raw form of science. Mandar Wadhav, Charupriya Rewatkar and Pallavi Pohankar emerged as winners of this competition.

Rube-Goldberg Machine

Institute of Science, Science Activity Club, brought together a demonstration of a Rube- Goldberg machine using various assemblies packed with physics and mechanics. The assemblies consisted of Dominoes of wooden blocks, stick bomb chain reaction, crystallophone, sliding ball assembly, pulley systems, etc.

Conclusion

The Institute of Science's Science Activity Club (ISSAC) has undeniably etched its name in the arteries of our institution's history. With an unrivaled reputation as the most talked-about club. ISSAC has kindled an unprecedented level of enthusiasm among science students, channeling their theoretical knowledge into the realms of practicality.

ISSAC INAUGURATION

(Institute of Science, Science Activity Club Inauguration)

On 03/03/2023, inauguration ceremony of Institute of Science, Science Activity Club (ISSAC) was held in the auditorium of the institute. The program was well harmonised with the 'Treasure Hunt' held later that day.

The ceremony began with lightening of the traditional lamp by the chief guest Mr. Tarun Shrivastav and fellow dignitaries of the institute. The anchor of the ceremony was MsSanskriti Admane (MSc I Physics) who opened the ceremony with welcoming remarks. This was followed by felicitation and floral welcome of dignitaries on the dais namely Dr. Tarun Shrivastav, Dr.

Sujata Deo, Prof Madhavi Mardikar, Dr. Kalpana Nagle, Dr. Nagesh Yemul. The chief guest read the hand-written scroll for the science activity club to commence new beginnings by inauguration of ISSAC.

Post this, Mr Vedant Patil (MSc I Statistics) briefed the idea and working of science activity club. He also laid down the core principles of the club, which is to bridge the gap between academic and everyday science. He also introduced all the committee members of the club. Followed by this, guest introduction was given by Ms Shravani Atkari (MSc I Statistics). She brought to light all the achievements and lifework of the chief guest. She further invited him to address the gathering.

Dr. Tarun Shrivastav, who has volunteered as the major fundraiser of the science club addressed the students in his speech. As the alumnus of the institute he articulated his duty towards his former fraternity. He also pledged to provide requisite capital for the benefit of the students in the near future.

Further, Dr. Sujata Deo, took to the microphone and shared an interesting anecdote regarding the genesis of function. She stated how the club members persuaded her into organising this event and she also indicated the joint efforts made by the students to make this program a success. She appreciated the determination and hard-work of the students.

Lastly, vote of thanks was presented by Mr Vedant Patil.

Later the day, as per scheduled intra-collegiate treasure hunt commenced. Students had a good time deciphering the different clues and riddles, and the team which ultimately figured out the last one was declared the winner. The event received a whopping Participation of around sixty teams. Over 250 students were engaged in the whirlpool of scientific clues themed 'Finding Jerri'.

The inauguration ceremony concluded on an enlightening note.



ISSAC



IS AGAIN BACK WITH

RUBE GOLDBERG MACHINE

RUBE GOLDBERG MACHINE

Get ready to witness the moment of truth! The winners of the 'Enframe' competition will be announced alongside this event. Stay tuned for an exciting announcement and join us in celebrating the creativity and talent of our participants!



Date: 13 April

Time: 2:00 p.m.

Venue: The Quadrangle

Join us for the hilarious invention which will be initiated by our director ma'am.

Dr. Anjali Rahatgaonkar ma'am

Director,
Institute Of Science, Nagpur



Institute of Science, Nagpur
(An Autonomous Institute of Government of
Maharashtra)



 *ISSAC is back again
with*

ENFRAME



Give Plight to your artistic
side with twist of science

To know more
about the event



For more information,
Please call: 9665375687



Rube Goldberg machine Demonstration by ISSAC Chief

Guest: Dr. Sandhya Dhabe (Head, Department of Statistics)

Valued attendees: Dr. Sunil. R. Patil, Dr. Mohammad Idrees Siddiqui, Dr. C. P. Chowdhury

On 15th April 2023, Institute of Science, Science Activity Club, brought together a demonstration of a Rube-Goldberg machine using various assemblies packed with physics and mechanics. The event was triggered by Chief Guest, Dr. Sandhya Dhabe, which triggered various assemblies.

The assemblies consisted of Dominoes of wooden blocks, stick bomb chain reaction, crystallophone, sliding ball assembly, pulley systems, etc. The presentation was visually appealing and worked soundly. The last trigger of the event was the announcement of the winners of a scientific Photography competition held under ISSAC, named Enframe. The event concluded on an enriching note with science echoing through the campus.

Title of the practice: Best Student Competition

Goals:

1. To develop competitive spirit among students.
2. To bring about all round development of students.
3. Approach towards holistic development.

Context:

The best student competition is conducted for the students of final year B.Sc. and M. Sc. since 1986. Ours is the only Institute to conduct Best Student competition. Application in prescribed format are invited from the students of final year B.Sc. and M. Sc. wherein they have to furnish the details relating to academic performance, curricular, co-curricular and extra-curricular activities, sports achievements etc. A critical evaluation of the details is furnished made by the scrutiny committee and finally three students are selected for presentation to be given by them before the Jury. Jury members are invited from different professions and students have to satisfy the queries of the Jury. The practice of best student award is unique in the Indian higher education because it helps students in making them globally competent.

Evidence of Success:

A very encouraging and successful impact of the practice has been observed in the past as a result of which large number of students has been selected for IAS, top ranking scientists etc. and holding very responsible and respectable positions in various organizations within and outside India.

Title of the practice: Organic farming

Objectives of the practice:

1. To raise environmental sensitivity and awareness among students.
2. To create awareness about cultivation of contemporary agriculture crops.
3. Conservation of environment and natural resources to maintain ecological balance.
4. To put an end to chemical pollution by refusing use of fertilizers and pesticides.
5. To give hands on training to the students.
6. To create environmental awareness.
7. To provide self-employment opportunity to students.
8. To create awareness of entrepreneurship.
9. To motivate students for hard work.
10. To promote participation of students in earn and learn scheme.

context:

After the dawn of green revolution the use of chemical pesticides and fertilizers has increased significantly over the years to meet ever increasing requirement of food to feed surging population world over. . However there are some serious side effects of these latest agricultural practices, for example excessive use of chemical fertilizer and pesticide is causing serious diseases like cancer, harming general population. Some of these chemicals are hazardous which accumulate in plant parts and cause adverse effect on human health. Latest technology no doubt has increased yield of agriculture produce but with hazardous side effects. To overcome this menace organic farming is the best solution and, therefore, in order to create awareness among the students organic farming skill/technique is developed with the active participation of students. Environmentalists all over the world are raising concerns over the existing practice and promoting chemical free farming. We, at the institute level, are doing our own bit by starting organic farming in our premises. Access to healthy and wholesome food is the main motto behind organic farming besides developing entrepreneurship qualities and marketing skills among students.

Practice:

This novel initiative is a joint effort undertaken by the NSS unit of our college along with the department of Botany, in collaboration with the Institute of Forensic Science which is also situated in our premises. Instead of chemical fertilizers locally prepared vermi- compost, manure and leaf litter is used. Vermicomposting is done in the institute premises itself. Special pits have been prepared for the same, where leaf litter and biological waste is decomposed by incubating with earthworms. Compost produced is harvested and added to the field plots. The piece of land adjoining the Green house is used for cultivation. The land is prepared for cultivation by following conventional methods. Initially field is cleaned by de- weeding. Weeds were removed by weed cutter and by mechanical uprooting. Then field is ploughed and seeds are sown. The field is irrigated by using sprinkler irrigation system. Seasonal vegetables like spinach, fenugreek, coriander, Amaranthus etc are grown in small plots. The entire process from de-weeding and preparing the plots, sowing, watering and maintaining the field is done by the students under the guidance of young and enthusiastic staff members. Crop rotation and intercropping is practiced to preserve soil fertility and to make the whole process sustainable. The vegetables produced are sold to the employees at a reasonable cost. This healthy practice benefits the students in many ways. Apart from taking part in cleanliness drive, they become aware about green initiative, learn the importance of farming and develop marketing skills. The maintenance of the farm

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including cleanliness, irrigation and harvesting the produce is done by the students under “Earn and Learn scheme”.

1. Evidence of success:

1. The entire plot of land covered with different vegetables is itself an evidence of success of this healthy and novel practice.

2. Seasonal vegetables like spinach, fenugreek, coriander Amaranthus, Chenopodium album etc are grown in the farm by students. The record of crops grown and sold is maintained in a separate register. The revenue generated is used for preparing the farm for next season. 3. The students not only get acquainted with the practice of farming but actually get a chance to participate in the entire process. They become aware about self-employment opportunities, entrepreneurship and how to judiciously manage funds besides earning money while learning. 4. Thus the environmental awareness in conglomeration with entrepreneurship speaks success story of organic farming.

Title of the practice: Holistic development

Objectives of the practice:

1. Promotion of holistic development of students is the prime motive of our Institute.
2. The objective of holistic development is to stimulate competitive spirit among the students to make them competent to face global competency.
3. The target is to inculcate among the students, values of life, develop their intelligence level, and promote leadership qualities, create social awareness to understand the duties and responsibilities as a responsible citizen of the country, all these leading to the holistic development of a student.
4. There is hidden talent and creativity dormant in every student which needs to be explored.
5. Though importance is given to classroom teaching, our institute has a network of extension cells with clearly defined objectives.
6. Various curricular and extra-curricular activities are organized by the different departments in collaboration with the extension cells like NSS, NCC, LACF etc.
7. These cells provide a platform to the students to showcase their talent and help in nurturing them. Our Institute also encourages needy students to follow “Earn and Learn Scheme”.

The context:

Sky is the limit for holistic development of every student. While ensuring the holistic development of the student it is also expected and observed that a general social awareness is created in the minds of the students. Various activities are undertaken for the holistic development of the student which in turn prepares them to be responsible citizens. Carrying out these activities with academics provides great platform for the students for their personality building and overall skill enhancement to meet the global challenges. The needy students of the Institute get chance to work under Earn and Learn Scheme” so that while learning they get access to fulfill academic needs like books, textbooks, journals etc. Practice:

The following activities are conducted by the various committees on a regular basis.

1. NSS: This cell follows the slogan “Not me but you” and strives to create social awareness among students which will transform them into responsible citizens of our country. NSS conducts the following activities :-

1. Blood donation camp: To

inculcate the feeling that we owe some debt towards society and that every responsible citizen must donate blood as and when possible which can save somebody's life, blood donation camps are organized every year. We take pride in mentioning that this camp is being organized in our Institute since the past three decades or more. 2. Cleanliness drive:-We strongly believe in the saying "Cleanliness is next to godliness". Cleanliness drive is organized regularly with the active participation of NSS students. Efficient solid waste management in the campus is the result of this activity. 3. Tree plantation: - Considering the importance of carbon footprints, tree plantation drive is conducted during July-August every year. 4. NSS Camp:-Every year a camp is organized for one week in a nearby village in which our NSS students create awareness among the villagers about cleanliness and hygiene besides educating them on various important issues. 1.LACF: The Literary and cultural forum (popularly known as LACF) was founded by a few talented students nearly 40 years back. It follows the slogan of Brotherhood". The activities of the LACF include imparting guidance and training to students and encouraging them to take part in various cultural and literary programs. Various competitions like Debate, Elocution, Poetry and Open Talent Contest are organized by this forum to showcase the talent of students. LACF motivates the students for excelling in extracurricular activities. Every year there is a healthy competition among students to bag prizes. It is worth mentioning that under the aegis of this forum, our students have participated and bagged prizes in different cultural and literary events at University, Inter University and State levels. 2.Best Student Competition: The best student competition is conducted for the students of final year B.Sc. and M. Sc. Application in prescribed format are invited from the students of final year B.Sc. and M. Sc. wherein they have to furnish the details relating to academic performance, curricular, co-curricular and extra-curricular activities, sports achievements etc. A critical evaluation of the details is furnished made by the scrutiny committee and finally three students are selected for presentation to be given by them before the Jury and they have to satisfy the queries of the Jury. The practice of best student award is unique in the Indian higher education because it helps students in making them globally competent. A very encouraging and successful impact of the practice has been observed in the past as a result of which large number of students has been selected for IAS, top ranking scientists etc. and holding very responsible and respectable positions in various organizations within and outside India. 1.Career Counselling 2. Women development cell 3. NCC 4. Student task force 5. Earn and learn scheme Evidence of success: Active participation of students and their involvement in the above mentioned programs helps in creating awareness among the students which has helped them in deciding excelling in the career of their choice.

Title of the practice: Conserving nature through PET bottles

Objectives of the practice:

1. Conservation of Nature.
2. To reduce plastic waste by making Eco-bricks.

Context:

This initiative had been taking place in our Institute during epidemic of 'COVID' most of people were restricted to their house due to this virus. Practice Students collected the single used plastic from neighborhood, from other family members and friends and started filling this single use plastic in plastic bottle until it gets hard and totally full; that is one bottle of 2-liter capacity can hold 400-500 plastic wafers. This is great initiative taken by Institute student. During lockdown we have contributed our most of time to preserve nature and reduce plastic waste.

Evidence of success:

PET are used to form hedge and edge. This practice enabled us to convert a waste material to a socially useful product We could manage to reduce plastic waste and conserve nature.

Title of the practice: Catering to the needs of Society during pandemic

Objectives of the practice:

1. To make people aware of detrimental effects of COVID-19.
2. To make necessary arrangement to help affected section of society during pandemic.
3. To provide lifesaving equipments to the hospitals.

Context:

COVID-19 attained a grave form during second wave as many people succumbed to it. To perform social responsibility we have identified the areas for catering to the needs of society. An Online Campaign was driven by NSS volunteers of Institute of Science, for spreading awareness about guidelines of lockdown to the students of that college. Practice: An online meet was conducted where the volunteers shared the guidelines given by Government officials to students. Importance of following condition and rules implied were shared. All the students and teachers pledged to follow the rules and regulations of the lockdown. Posters were made to create awareness regarding the symptoms, preventions, misconceptions, etc. Various students participated in many other poster competitions and created multitudes of colorful and informative posters.

Evidence of success:

- Mask Donations Volunteers participated in Covid-19 prevention and community uplifting through the mask donation to poor. Masks were distributed to

needy people. Students of NSS, Institute of Science distributed masks to common people and to those who needed. As whole country was locked down by Corona virus (COVID-19) it was difficult for the volunteers to carry a drive like this. But all the volunteers were determined to help the needy. Therefore, all the volunteers distributed masks in their respective residential areas.

- Contribution to Community Kitchen Several volunteers of NSS Institute of Science bravely contributed to the community kitchen during second wave of Covid-19. Students worked with the NGO CO-19 for 30 days and provided food to needy people. They were involved in preparation of food, packing and distribution.

- DONATED OXYGEN CONCENTRATOR Considering the need of the circumstance NSS unit of our Institute collected funds, to buy Oxygen Concentrator. As mentioned before, the situation was very helpless and thousands of people were dying due to lack of facilities and proper treatment. Giving the concentrator in Nagpur itself was not a very high priority because there were more unprivileged areas in the nation, suffering from the effects of pandemic. So, giving the concentrator in Nagpur was not into an option as the city had ample supply of facilities to be taken care of. After a proper survey and analysis carried out by the volunteers – the NSS Unit decided to lend the concentrator in the Bamni Village, Tahashil – Ballarpur, District – Chandrapur. As, most of the volunteers were from Chandrapur district, this decision of donating the oxygen concentrator to Bamni village got the green signal because somehow, it would be easy for the volunteers to keep a watch on the

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management. The volunteers kept all their eyes very attentive and moved ahead keeping the entire organization into surveillance. D. Awareness YouTube Channel NSS volunteers took a collective step towards creating a YouTube channel to broaden their reach and spread awareness to people about Covid-19 pandemic through the wide platform of YouTube. [https://www.youtube.com/channel /UCumvXfFrEsMLNvXITt-DZ-A](https://www.youtube.com/channel/UCumvXfFrEsMLNvXITt-DZ-A) various short videos were uploaded by the volunteers ranging from - why to wear masks to how to unlock yourself during this lockdown. Volunteers were eager to make videos and thus helped create different engaging videos for the channel