

DEPARTMENT OF APPLIED SCIENCES

COLUMBUS



NEW HORIZON
COLLEGE OF ENGINEERING



SEGMENT 3

NEW HORIZON COLLEGE OF ENGINEERING
RANKED No.2 RANKED No.5
DATAQUEST

MESSAGE FROM PRINCIPAL



It gives me great pleasure to give my best wishes to the editorial committee of the Department of Applied Sciences, New Horizon College of Engineering. The students and faculty of the department are always enthusiastic learners and great thinkers embarking and enriching their know knowledge to grow as our future entrepreneurs and be our future pillars of strength. I congratulate all the achievers, contributors and students for bringing out such a captivating newsletter. May this newsletter instill the best in you.

Regards,
Dr. Manjunatha

LETTER FROM HOD

DR. ANUSUYA DEVI V.S PROF. & HOD – APPLIED SCIENCES



I am delighted to share our collective achievements in this newsletter, highlighting the remarkable efforts of both our students and teachers.

To our dedicated faculty members, Your commitment to excellence in teaching and research has been the cornerstone of our success. Your passion for chemistry and tireless efforts to inspire and guide our students do not go unnoticed. Thank you for your invaluable contributions to our department.

To our outstanding students, Your achievements this year have been truly impressive. Your curiosity, hard work, and commitment to academic excellence have set a standard for others to follow. We are proud of your accomplishments and look forward to witnessing your continued success in the future.

As we celebrate these achievements, let us also acknowledge the collaborative spirit that defines our department. Together, we create an environment where excellence thrives. Thank you all for your dedication and contributions.

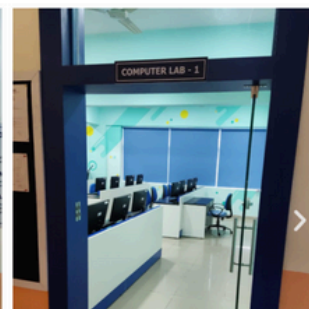
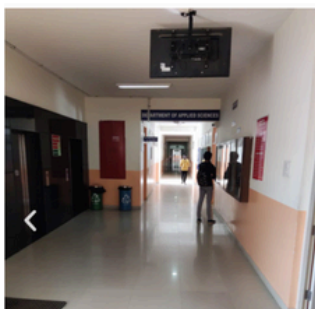
ABOUT THE DEPARTMENT

Department of Applied Sciences was started in the year 2001. As a fundamental department, supporting all branches in 1st year of engineering, laying emphasis on basics of Sciences and Engineering along with Humanities.

Furthermore, it deals with applications of Basic Sciences in engineering discipline covering all the major domains of technology. Applied Sciences Department has many dedicated Professors, Associate Professors and Assistant Professors, who are actively involved in research activities. Their experiential insights of research are also reflected in classroom teaching.

Numerous research publications in leading National and International Journals have been produced to the credit of department. The department has well-equipped laboratories for Engineering Physics, Basic Electrical Engineering, Engineering Chemistry and Languages.

Labs of Mechanical Engineering and Computer Science Engineering aid in developing and nurturing the students in the 1st year. The Department stands tall in developing scientific temperament among the budding engineers along with required elements of Humanities



APPLIED SCIENCES DEPARTMENT

VISION

To build strong and sustainable platform for churning out quality students bearing appreciable conceptual knowledge and engineering mindsets to their respective branch department(s).

MISSION

→ To develop and nurture dedicated teaching-learning team equipped with strong personality traits towards application driven approach, encompassing all stakeholders.

QUALITY POLICY

To provide education services of the highest quality both curricular and co-curricular so that our students can integrate skills and serve industry and society equally well at the Global level.

GOAL

To set academic and allied environments amongst First year BE students for channeling their personalities towards their parent branches.

DEPARTMENT ACHIEVEMENTS

- Mathematics , Chemistry and Physics R&D centers
- No. of Faculty persuaded Phd are 16
- No.Of research scholars perusing PhD are 16.
- 15 Awards
- No of research publications in last 5 years are 300
- 24 books / book chapters
- 25 Patents
- The faculty provides 25+ NPTEL courses per year.
- MOOC Courses: Our department faculties have enormous and varied courses completed in all categories and we strive to bring in capabilities of relearning always.
- From 2017 -23 we have successfully completed more than 200 courses . We are proud of our department faculties for always upskilling their learnings and imbibing them to the students.
- The New Horizon College of Engineering in India hosted the International Conference on Multidisciplinary Research in Technology and Management which was held on September 22nd – 23rd, 2023.
- 50+ papers were submitted by the department at the MRTM conference.

STUDENT INDUCTION PROGRAM

Student Induction program is designed to welcome new students to Higher Education and prepare them for their new role. Induction program is an effort for integrating new student into the Institution by giving her/him basic information necessary for settling down quickly and work for her/his academic success by adjusting their interests with those of the Institution.

Purpose of Student Induction Programme:

- Familiarize the new student with the various branches, methods of study, various facilities, the academic and administrative set up in the Institute.
- To develop a sense of aesthetics and enhance creativity among students.
- To generate favorable attitudes towards peers, senior students, teaching and nonteaching staff in the Institution.
- To inculcate value systems, ethics and leadership qualities among students.
- To promote entrepreneurial thinking among students.
- To inculcate effective communication skills, team work skills, multi-disciplinary approach, and develop a desire to apply knowledge of engineering for the real-life 4 problems.
- To sensitize students towards environmental issues and to develop an attitude to protect and conserve environment among students.
- Help new students adjust and feel comfortable in the new environment.
- Inculcate in them the ethos and culture of the institution.
- Help them build bonds with other students and faculty members .

UNIVERSAL HUMAN VALUES

UHV SESSION (CLASS WISE)

Department of Counselling organized Student Induction Program (SIP) for 1st year students.

The session was conducted by student counsellors Ms. Manasa T J and Ms. Prachi B. The objective of the session was to introduce and emphasize the importance of Universal Human Value (UHV-1) for students and to inspire them to embrace and promote these values in society.

The topics addressed during the session are:

1. Introduction to Universal Human Value (UHV-1)
2. Types of UHV
3. Importance of UHV
4. Benefits of Embracing UHV
5. Examples of UHV in Action
6. Challenges to upholding UHV
7. Strategies for promoting UHV
8. UHV in different cultures
9. Conclusion and Q&A

Overall, the session received positive feedback



UHV- A TALK BY DR. ARAVINDA

On 06.10.23, Dr Aravinda, Professor and Head of the Electronics and Communication Engineering Department gave a talk on 'Universal Human Values'.

The session started off with questioning 'How do you obtain knowledge?' and 'What are the sources of knowledge?', to which Dr Aravinda skilfully explained there are two sources of knowledge external and internal.

Dr Aravinda brilliantly utilized many exciting Abbreviations such as SUCCESS, GOAL, FATE, TEAM to explain to the students about human values and life lessons.

Dr Aravinda further spoke about the 6 internal enemies of one self. He further spoke about the importance of adequate exercise, proper breathing, correct food, optimum rest and a pure mind. Sir also described Ikigai Principle: Japanese Secret to Long and Happy Life.

Dr Aravinda concluded this information filled and life-changing talk by quoting - 'Life does not get better by chance; it gets better by choice.'

VISIT TO ART OF LIVING



On November 25, 2023, the students of New Horizon College embarked on a captivating journey to The Art Of Living, An experience that left an indelible mark on their hearts and minds. Fueled by a genuine curiosity for spiritualism, the students exhibited remarkable enthusiasm as they delved into the profound teachings of relaxation and had the unique opportunity to meet the revered spiritual leader, Shri Shri Ravishankar Guruji.

The day's adventure commenced with a visit to the Goshala, where the students immersed themselves in a delightful exploration of the bovine residents, gaining insights into their care and significance. Following this delightful encounter, the students were privileged to meet Shri Shri Ravishankar

Guruji, setting the tone for an inspiring meditation session that provided a serene respite for the young minds. The subsequent communal lunch served not only as a feast for the body but also as a feast for the soul, fostering a sense of camaraderie among the students.

Post-lunch, the group embarked on a visit to the gurukul, where they were enlightened about the distinctive educational methods employed, offering a glimpse into the

profound way in which students pursued knowledge. The immersive experience left the students with a newfound appreciation for the pursuit of knowledge and the serene environment that fosters spiritual growth.

As the day concluded, the students found themselves enriched with a wealth of knowledge and a sense of fulfillment that radiated from their beaming smiles. The trip to The Art of Living became more than just a physical journey; it became a transformative experience that resonated with the students, leaving an enduring impact on their educational and spiritual journey.

Overall, it was a journey towards spirituality as the students embarked on their first trip at NHCE and returned with fun memories.



LECTURES BY EMINENT PEOPLE

GUEST TALK ON INNOVATION

Department of Applied Sciences has organized a guest talk on Innovation by Dr. Harish MNK, Professor, Department of Chemistry, Acharya Institute of Technology, Bangalore, on 3rd October 2023. Students of First Semester B.E have attended the program. Dr. Harish MNK encouraged students to have passion for innovation.

He spoke about how to identify the problems and find solutions with the innovative thinking. The talk provided students with an opportunity to learn about the latest developments in science and technology. The program is designed for students who are interested in exploring the potential of Science, Technology and Innovation to improve the quality of life.



Outcome of the talk:
Students will be able to realize the importance of innovation, how to think creatively and how to apply their knowledge and skills in a practical way.

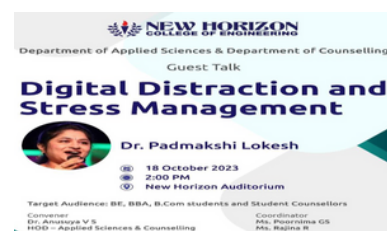


STRESS MANAGEMENT

In order to create awareness about the influence of digital devices, a guest talk on "Digital Distraction and Stress Management" was organized by the Department of Applied Sciences and Department of Counselling for BE, BBA, B.Com students and student counsellors on 18.10.23. The resource person was Dr Padmakshi Lokesh.



The resource person began by highlighting the multifaceted nature of digital distraction and outlined its detrimental effects on teenagers' cognitive, emotional, and social well being. She emphasized that the current teenagers or Gen Z's are constantly connected to their devices, which can lead to several negative consequences such as reduced academic performance, impaired social skills, sleep disturbances and other mental health issues because of the constant pressure of online interactions and comparisons on social media which can contribute to anxiety and depression.



The event was a success, fostering awareness and equipping the students with the knowledge and tools needed to address these critical issues. The resource person's expertise and engaging presentation style contributed to a productive and informative session.

LECTURES BY EMINENT PEOPLE

EXPERT TALK ON IPR

On November 16, 2023, from 11 a.m. to 12.30 p.m., the Department of Applied Sciences hosted an expert talk on "Intellectual property rights and their significance in research and innovation" in the Tejas Seminar Hall in honor of Dr. APJ Abdul Kalam's birth anniversary, in collaboration with the institution's innovation council.

NIPAM
Institution's Innovation Council
in association with
Department of Applied Sciences

Celebrates, Institution's Innovation Day
(Dr. APJ Abdul Kalam's Birth Anniversary)

Expert talk on
**Intellectual Property Rights and
its significance in Research & Innovation**

16 November 2023 | 11:00 AM
Tejas Seminar Hall
Target Audience – First year B.E Students

Rajitha T R
Indian Patent Agent
Patent Consultant

Dr. Ramachandra Nall
IC-Coordinator
Dr. Anusuya Devi V S
HOD – Applied Sciences
Coordinator
Dr. Sujin Jose
IC-Convener
Dr. Agastya V
IC-President
Dr. Manjunatha
Principal



Ms. Rajitha T. R., an Indian patent agent and patent adviser, spoke during the event and provided first-year engineering students with vital information about intellectual property rights.

THE CONSTITUTION-ON OF INDIA



Department of Applied Sciences organized a guest talk by Dr. Sanjeeve Gowda G. S., Senior Assistant Professor of Law, V. V. Pura College of Law, Bengaluru on 27th November 2023 at New Horizon Auditorium.



Students of first semester BE Physics and Chemistry cycles attended the lecture. Professor Dr. Sanjeeve Gowda G. S., has explained students about what is Constitution, Need and The objectives of the Indian Constitution, Fundamental Rights and Duties. Around 550 students along with the faculty members have attended the talk.

NEW HORIZON
COLLEGE OF ENGINEERING

Guest Talk
**The Constitution of India-
Its Significance and Objectives**

Resource Person:
Dr. Sanjeeve Gowda G. S.
Senior Assistant Professor of Law,
V. V. Pura College of Law, Bengaluru

Coordinator
Dr. Srinivasa G
Professor and Head-Mathematics,
NHCE

27 | November | 2023
10:30 am to 12:00 pm
New Horizon Auditorium

Dr. Anusuya Devi
Professor and
Head-Applied Sciences, NHCE

Dr. Anandhi R J
Dean-Academics,
NHCE

Dr. Manjunatha
Principal,
NHCE





THE STEM CLUB

Co-Curricular Club orientation

Inaugurating the academic year 2023-2024, STEM Club, part of the Department of Applied Sciences, hosted a vibrant Club Orientation at the New Horizon Auditorium on October 16, 2023. The event attracted approximately 700 enthusiastic first-year students and dedicated club members.

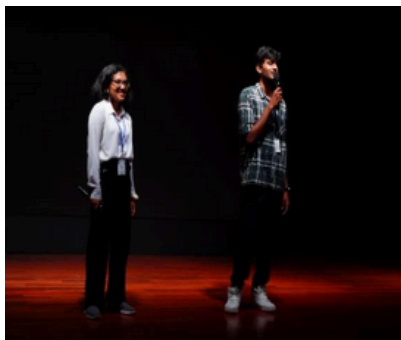
The occasion commenced with a melodious invocation, setting a harmonious tone for the proceedings. A significant moment transpired as the two prominent clubs, Genesis and Math Horizon, merged to form the new STEM Club. The formal inauguration of this merger was graced by the Head of the Department of Applied Sciences and esteemed faculty coordinators. The Presidents of the 2022-2023 academic year for Genesis and Math Horizon Clubs presented a comprehensive report on their previous year's achievements. Dr Piruthiviraj P, the Co-Curricular Club Activity In charge, addressed students and highlighted forthcoming club plans while emphasizing co-curricular activities' integral role in their holistic development and academic journey.



TALENT HUNT & INVESTITURE

TALENT HUNT

The club orientation set the stage for a follow-up; the anticipated Talent Hunt event. Filled with enthusiasm and curiosity our students eagerly gathered at the venue embracing the chance to express their creativity. It was a showcase of talent as participants, from both cycles stepped forward to share their gifts with both the audience and judges. The Talent Hunt truly lived up to its name by displaying a range of skills and abilities that make our student community vibrant and multi-talented.



INVESTITURE CEREMONY



Investiture Ceremony of Co-Curricular clubs was held on the 9th of November, 2023. STEM Club's newly chosen representatives took their oath and were sworn into office.

With the Blessings of Almighty, Programme started with the invocation song by Ms. Aradhya of II Year ISE and followed by the Lighting of the Lamp.

Dr. Piruthiviraj P Co-Curricular Club Incharge Associate Professor from Department of ECE delivered an overview of Co- Curricular Club report for the Academic Year 2022-2023.

The Principal of New Horizon College of Engineering addressed the newly elected office bearers of 15 Co-Curricular Clubs and encourage them about the timeliness to plan the event and to have a better outcome from each event.

The Office Bearers of each clubs were honored with the badges with 11 student core members identified as president, vice-president secretary treasurer and 7 board members along with their faculty club coordinator.

The ceremony ended with a vote of thanks, the national anthem, and a high tea for all students.



THE STEM CLUB

VISION OF THE CLUB

To cultivate a dynamic space for aspiring engineers and scientists to innovate, collaborate, and be creative.

OBJECTIVES OF THE CLUB

Skill development – To promote the development of soft skills like teamwork, problem-solving, and critical thinking alongside technical skills.

- **Hosting innovative challenges** – encouraging students to develop solutions to real-world problems and showcase their skills.
- **To be a Launchpad for students** – propelling students into the endless field of STEM.

FUNCTIONS OF THE CLUB

- **Creating an interactive and inclusive platform** that allows students to showcase their technical skills, creativity, and entrepreneurial mindset.
- **Organizing interactive lectures, seminars, and panel discussions** with the faculty of NHCE and guests.
- **Organizing exhibitions, workshops, and talent hunts** allowing students to discover and explore their skills.
- **Commemorating and celebrating days** that are of high importance in the field of STEM

OUTCOMES OF THE CLUB

- Increased interest in STEM** – Encouraging members to develop a greater interest in STEM and fostering a passion for scientific inquiry.
- To promote collaboration** – Fostering collaboration and teamwork among students allowing them to exchange their knowledge and ideas.

MATH JEOPARDY

- On December 20th, the STEM Club meticulously orchestrated “Math Jeopardy”, a captivating quiz event with a sophisticated mathematical game-show theme.
- Spanning across eight different classrooms, members and volunteers of the STEM club hosted Jeopardy in their assigned classrooms.
- This intellectually stimulating event covered the different disciplines of mathematics like Calculus, Algebra and Probability.
- Following the initial excitement, a second round of Jeopardy was conducted.
- Only three teams from each classroom qualified for the next round.
- The second round determined the 9 teams that qualified for the subsequent competition, “Math Heist.”



MATH HEIST

- On December 21st, STEM Club celebrated the successful completion of the final round of the Math Heist with a total of 9 teams.
- Engaged in a thrilling challenge, the event showcased exceptional teamwork and problem-solving skills as participants navigated through math-related clues in 3 of Chhatrapati Shivaji block's classrooms.
- Throughout the event, participants exhibited great collaboration, showcasing their mathematical knowledge to solve the heist within the given 45-minute time span.
- The rooms echoed with the excitement of solving math riddles, and the atmosphere was charged with the spirit of competition.



MATH DAY GUEST TALK

In 2012, the Indian Government declared December 22 to be observed as National Mathematics Day every year.

Objective -

- The main objective behind celebrating this day was to spread awareness about the importance of mathematics in the overall development of humanity and society
- Also, to focus on the younger generation, who is the future of the country needs to have a positive inclination towards gaining knowledge of mathematics.

Significance -

- The is celebrated to honour one of the greatest mathematicians, Sir Srinivasa Ramanujan
- With an aim to emphasize the need to carry forward the legacy of great mathematicians such as Ramanujan, Aryabhata and Brahmagupta, to encourage and nurture the glorious tradition of mathematics in the country, this day is celebrated.



- On 22nd December, STEM CLUB celebrated National Mathematics Day at Tejas Seminar Hall.
- National Mathematics Day is an annual celebration dedicated to the birth anniversary of the legendary mathematician Srinivasa Ramanujan.
- Renowned mathematician Dr. Dinesh P.A Sir shared his insights on Ramanujan's work and the evolution of mathematics.
- We also had discussions on the current state and future of mathematics education, displays showcasing the beauty of mathematical concepts and their real-world applications, and visual representations of Ramanujan's theorems.
- Our National Mathematics Day event served as a platform to celebrate the richness of mathematics and its profound impact on society.
- The Winners of the Math Heist event were also adorned with awards for their achievement by our respected dignitaries

NATIONAL INNOVATION DAY

National Innovation day is a day dedicated to celebrating the spirit of innovation, entrepreneurship and intellectual curiosity. The day recognizes creative economy, which includes audiovisual products, design, new media, performing arts.

The day's objectives include:

1. Raising awareness of the importance of creativity and innovation in problem solving.
2. Highlighting the importance of creativity and innovation in all aspects of human life.

On 16th of November, On the account of National Innovation Day, a guest talk was conducted Tejas Seminar Hall. Ms Rajitha, the speaker, shared insights about the importance of protecting our intellectual properties.

She also talked about the different ways to protect the intellectual properties and their processes.

She talked about the difference between Patent, Copywrite, Trademark etc.



About The Speaker:

Miss Rajitha is a graduate of Sir M Visweswaraya Institute of Technology (MVIT).

She worked as a scientist in KIRAN-IPR, TIFAC and DST from 2009 to 2010 which specialize in life sciences, Pharma, Chemical, Biomedical and Information Technology. She worked at origiini IP solutions LLP, Bengaluru, as a senior Patent Analyst.

She is currently working as a Patent Consultant to eminent law firms, startups, individuals and educational institutions across India.

She is a Gold medalist in Bachelor of Engineering, Biotechnology (SIR MVIT). Recognized as "Emerging IP Falcon" at the LEX FALCON GLOBAL AWARD in Dubai in 2023, her profile got featured in a booklet titled 75 success stories of women scientists in Dept. Of Sci and Tech.

FACULTY ACHIEVEMENTS

Dr. Ramachandra Naik



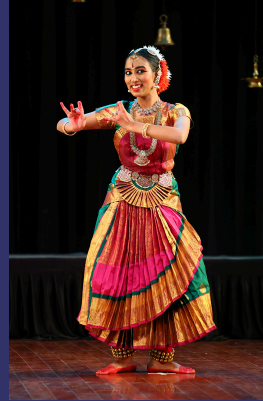
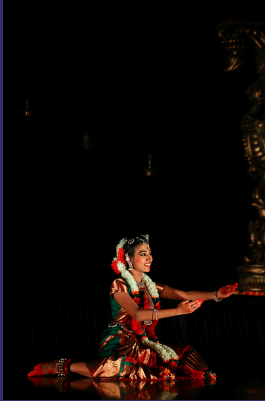
We are pleased to highlight the remarkable achievements of Dr. Ramachandra. With a prolific publication record comprising 59 scholarly works, Dr. Naik's impact is further underscored by an impressive H-index of 22 and a total citation count of 1,141. His dedication to advancing knowledge in his field is evident through his extensive research output and the substantial recognition it has garnered within the academic community. Dr. Naik was awarded the long service award. His commitment to excellence serves as a beacon of inspiration for both colleagues and students alike, embodying the spirit of innovation and scholarly pursuit at our institution.

Dr. Jisha PK



Dr. Jisha P. K. is a distinguished scholar who completed her Ph.D. in 2018 and has already made remarkable contributions to her field. With 12 published papers, her dedication to advancing research and sharing her profound insights with the academic community is truly commendable. Dr. Jisha's work not only reflects her expertise and passion but also serves as a source of inspiration and influence for her peers and students.

STUDENT ACHIEVEMENTS



“

I began dancing at the age of 8, and have been learning since 11 years. Bharatanatyam is my first love and pursuing this art form has been one of the best decisions of my life. Dancing is my closest form of meditation, as it brings my entire focus and attention to my body, mind, and soul. It has been the best stress buster; as long as I am dancing, I forget about everything else.

Dancing has instilled in me a sense of discipline, confidence, and has taught me the importance of consistency, hard work, and respect for my health. Every performance and every stage presents a new learning opportunity and a chance to improve. Managing my studies and dance has been quite a challenge at times, especially during my Arangetram practice, but the happiness I derive from dancing has always made the struggle worthwhile.

I am currently pursuing my Bachelor's in Fine Arts in Bharatanatyam from Annamalai University, Chidambaram, as I aim to advance in this field along with my studies. To me, dancing is not just a passion; it is a lifelong commitment.

”

~ T Nikhita Sai

Computer science engineering - data science
section 'R'

STUDENT ACHIEVEMENTS



“ I was about 9 years old when I joined Taekwondo lessons, starting off with a white belt. The journey through the different colored belts, each earned by passing examinations, was transformative. Taekwondo has been a significant part of my life, teaching me self-defense, speed, and strategic fighting. Initially, I doubted if this sport was for me, but with years of practice, I grew to love it and became known for my speed in class. Growing up in a defense family meant frequent relocations around the country, which had its pros and cons. Meeting new people was enriching, but finding consistent Taekwondo coaching was challenging. Despite these obstacles and a one-year gap , I managed to complete my 1st Poom Taekwondo promotion test, achieving my Black Belt in Chandigarh. After another gap year, I resumed training in Agra, participated in numerous tournaments, and won many medals in Interschool and state level championships . During my break from Taekwondo, I also earned a Diploma in Fine Arts, adding another dimension to my skills and interests.

~ Shenaaya Abraham
AIML
section 'K'

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HORIZONITE'S HIVE

M.Sandesh
23CS232



Dushyani Shree Manjunath
23A1178



HORIZONITE'S HIVE

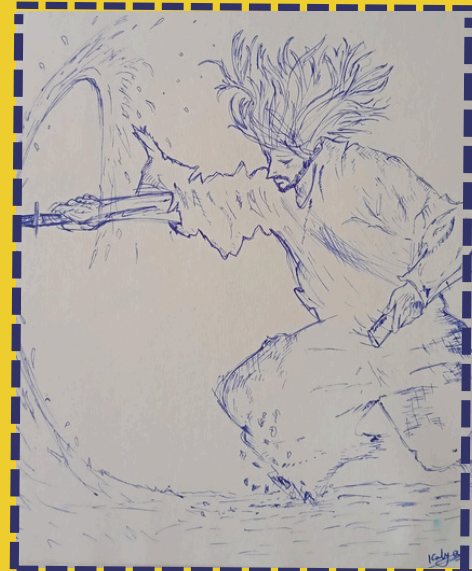
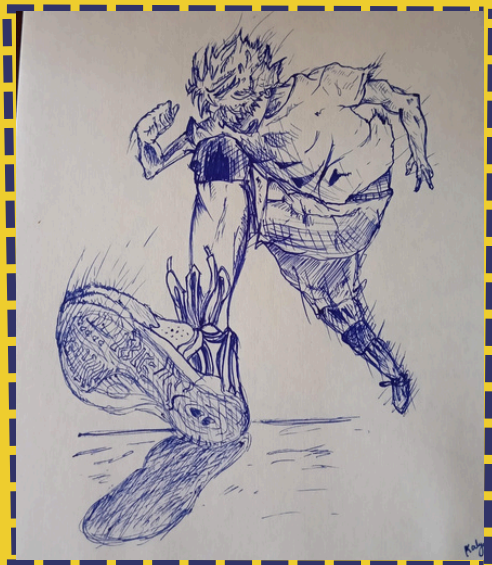
RAMYA PATHAK

23CS124



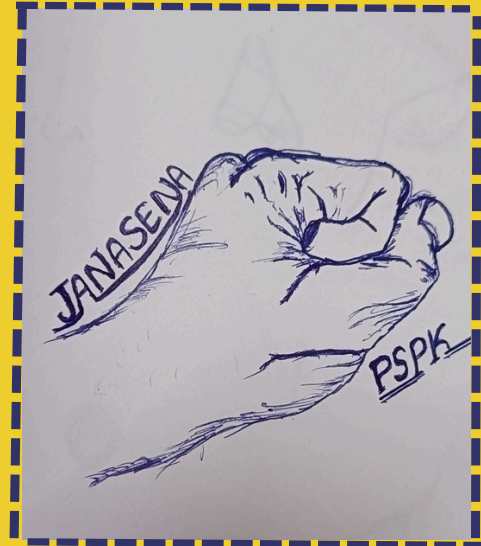
Sai Kalyan

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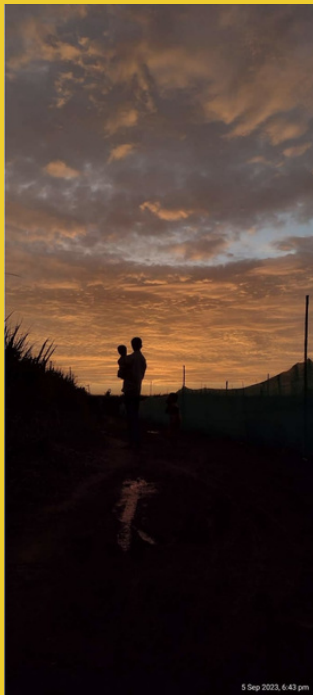


HORIZONITE'S HIVE

PASALA SAINITHIN
23EC006



Ratnavva C S
23CS324



HORIZONITE'S HIVE

Shenaaya Abraham
23A1013

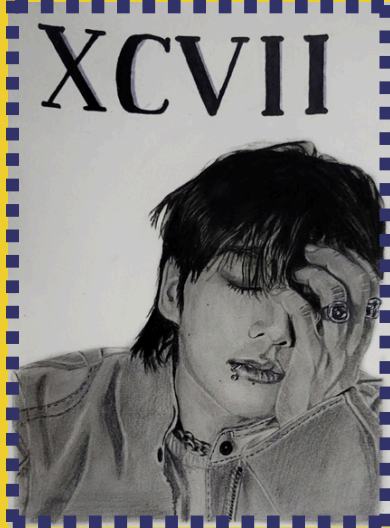


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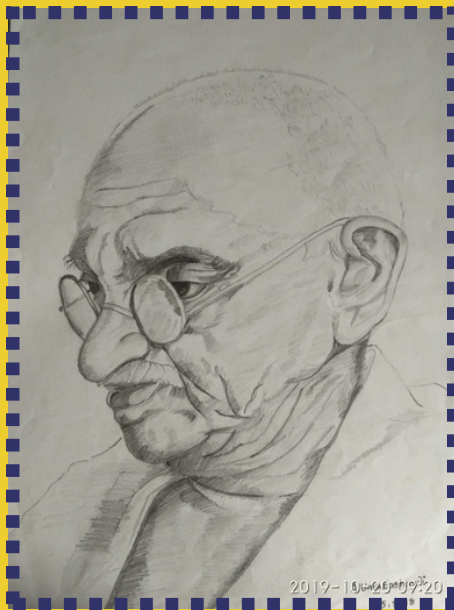


HORIZONITE'S HIVE

Divija Akunuri
23IS050



Allu Uma Eashanvi
23EC049



THE EDITORIAL TEAM



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Prof & HOD-Applied Sciences



Dr. Prashanth KK
Asst. Prof. Mathematics



Mrinmayee Choudhury
B.E 1st year



S. Shivani
B.E 1st year



Nithya Yadhunatha
B.E 1st year

A vibrant tropical-themed background featuring a dense arrangement of stylized leaves. The leaves are primarily yellow and green, set against a deep blue background. The pattern includes large, broad-leafed plants like banana leaves and various types of palm fronds, creating a lush, jungle-like feel. The leaves are scattered across the entire frame, with some overlapping, giving a sense of depth and texture.

*Thank
you*

