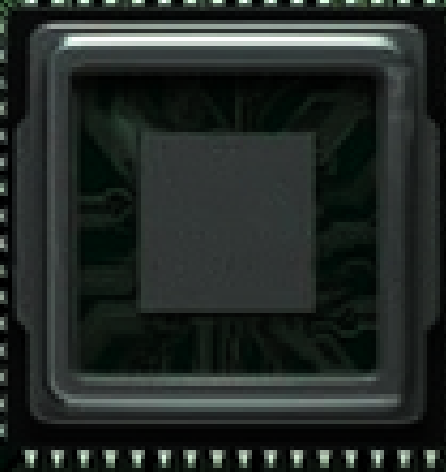Shri Dharmasthala Manjunatheshwara
College of Engineering & Technology, Dharwad

Department of Electronics and Communication Engineering Presents

ELECTROBEATS

2022-2023

THE RHYTHM OF TECHNOLOGY

PRINCIPAL'S MESSAGE

I am delighted to present this message to the E-Magazine on "Electrobeats - Rhythm of Technology" published by the team of students from the Department of Electronics & Communications Engineering for the academic year 2022-23.

Dr. K. Gopinath
Principal, SDMCET
Dharwad

This initiative is one of the best practices introduced in the department, and the E-Magazine provides a platform for students to showcase their ideas, views, and technical articles. I have no doubt that such attempts by a few of the students in the department will inspire the rest of the student community to actively participate in their growth.

I am pleased to note that the E-Magazine is being uploaded to the blog, and viewers can access the articles from there.

With my best wishes to all those concerned.

HOD'S MESSAGE

Dr. Vijaya C.,
**Professor and Head,
Department of E & C
Dharwad**

I am delighted to share with you our departmental magazine, "ELECTROBEATS - The Rhythm of Technology," which showcases the outstanding work and accomplishments of our students for the academic year 2022-23.

I encourage all of you to make the most of the opportunities available to you, such as attending seminars and workshops to gain additional knowledge. I wish you all the very best for the upcoming academic year and look forward to seeing you succeed.
I would also like to express my gratitude to our team members for their hard work and dedication. We are committed to continuing to make meaningful contributions in the years to come.

Table of Contents

"Unleashing the Power of 8085 Microprocessor: Insights from SDM College's Workshop"

The Department of Electronics and Communication Engineering (ECE) at SDM College of Engineering and Technology, in collaboration with CIII, organized a workshop on the 8085 microprocessor on December 26th, 2022. The aim of the workshop was to provide students with practical knowledge of microprocessors and their applications in the field of electronics and communication engineering.

The workshop began with an overview of the 8085 microprocessor and its architecture. Dr. Viraktamath provided students with a comprehensive understanding of the various applications of microprocessors in the field of electronics and communication engineering. He also discussed the various programming techniques used in 8085 microprocessors and demonstrated their practical applications through examples and case studies.

The workshop was highly interactive, with students actively participating in the sessions and asking questions. Through the hands-on sessions, students were able to experiment with the 8085 microprocessor and test its various functions and capabilities.

The collaboration between CIII and the ECE department was a testament to their commitment to providing students with the best possible educational experience and preparing them for the challenges of the industry. The workshop was a great success, providing students with a valuable opportunity to gain practical knowledge and hands-on experience in the field of microprocessors.

In conclusion, the workshop on the 8085 microprocessor organized by CIII and the ECE department at SDM College of Engineering and Technology was a valuable learning experience for students. The workshop provided students with practical knowledge and hands-on experience in the field of microprocessors. The event was a great success, thanks to the efforts of Dr. S. V. Viraktamath and the organizers. Such events are essential in preparing students for the challenges of the industry and ensuring their success in the field of electronics and communication engineering.

ALUMNI INTERACTIONS

The field of engineering is highly dynamic and constantly evolving. It is therefore imperative for students to stay up to date with the latest developments and trends in the industry. One way to do this is through alumni interactions. Such interactions provide students with an opportunity to learn from professionals who have already established themselves in the industry.

In December 2022, the students of SDMCET had the privilege of interacting with two highly accomplished professionals in the field of engineering, *Mr. Rohan and Mr. Nikhil Rathi. Mr. Rohan, a graduate engineer trainee at Elektrobit*, shared his experiences on the importance of problem-solving skills and the ability to work well in a team. He also highlighted the significance of taking initiative and being proactive in finding solutions to problems.

Mr. Nikhil Rathi, an application analyst at Tyson India Pvt Ltd, spoke about the importance of continuous learning and development. He emphasized the need for students to take up internships and gain practical experience to prepare for their careers. He also discussed the importance of adaptability and flexibility in the rapidly evolving field of technology.

In January 2023, SDMCET continued its tradition of alumni interaction by hosting Mr. *Arfali Naikar, a software engineer at Luman Technologies, and Mr. Sharan N. Nargund, an associate software engineer at Hexaware Technologies*. Mr. Naikar spoke about the importance of internships and continuous learning, while Mr. Nargund emphasized the significance of developing strong communication skills and networking.

These interactions provide a valuable opportunity for students to learn from successful professionals who have already navigated the challenges of the industry. It also provides a platform for students to ask questions and clarify their doubts, which is essential for their growth and development.

In conclusion, alumni interactions are an essential component of the learning experience for engineering students. They provide valuable insights into the industry and help students prepare for their future careers. SDMCET's alumni interactions with Mr. Rohan, Mr. Nikhil Rathi, Mr. Arfali Naikar, and Mr. Sharan N. Nargund were a resounding success, providing students with practical knowledge and insights into the rapidly evolving field of engineering. It is imperative that educational institutions continue to organize such interactions to ensure that students are well-prepared for the challenges of the industry

DIY

DO IT YOURSELF-2023

The Department of Electronics and Communication Engineering, in association with the Institute of Engineers (IE), organized a DIY (Do It Yourself) event on 3-3-23. The event was aimed at providing a platform for students to showcase their innovative ideas and technical skills. The event saw an enthusiastic participation of 70 students from the ECE department who were eager to learn and explore their technical abilities.

The DIY event was a great learning experience for the participants as they gained hands-on experience in building and designing projects. The event helped the students develop their teamwork, communication, and problem-solving skills, which are essential in the field of electronics and communication engineering.

The success of the DIY event was a testament to the dedication and hard work of the organizing team, who ensured that the event ran smoothly and efficiently. The event was an excellent initiative by the Department of Electronics and Communication Engineering and the IE, and we look forward to more such events in the future.

Staff coordinator :
Dr. S.V.Viraktamath

HOD :
Dr. Shredhar.A.Joshi

Dean A P:
Dr. Vijaya C
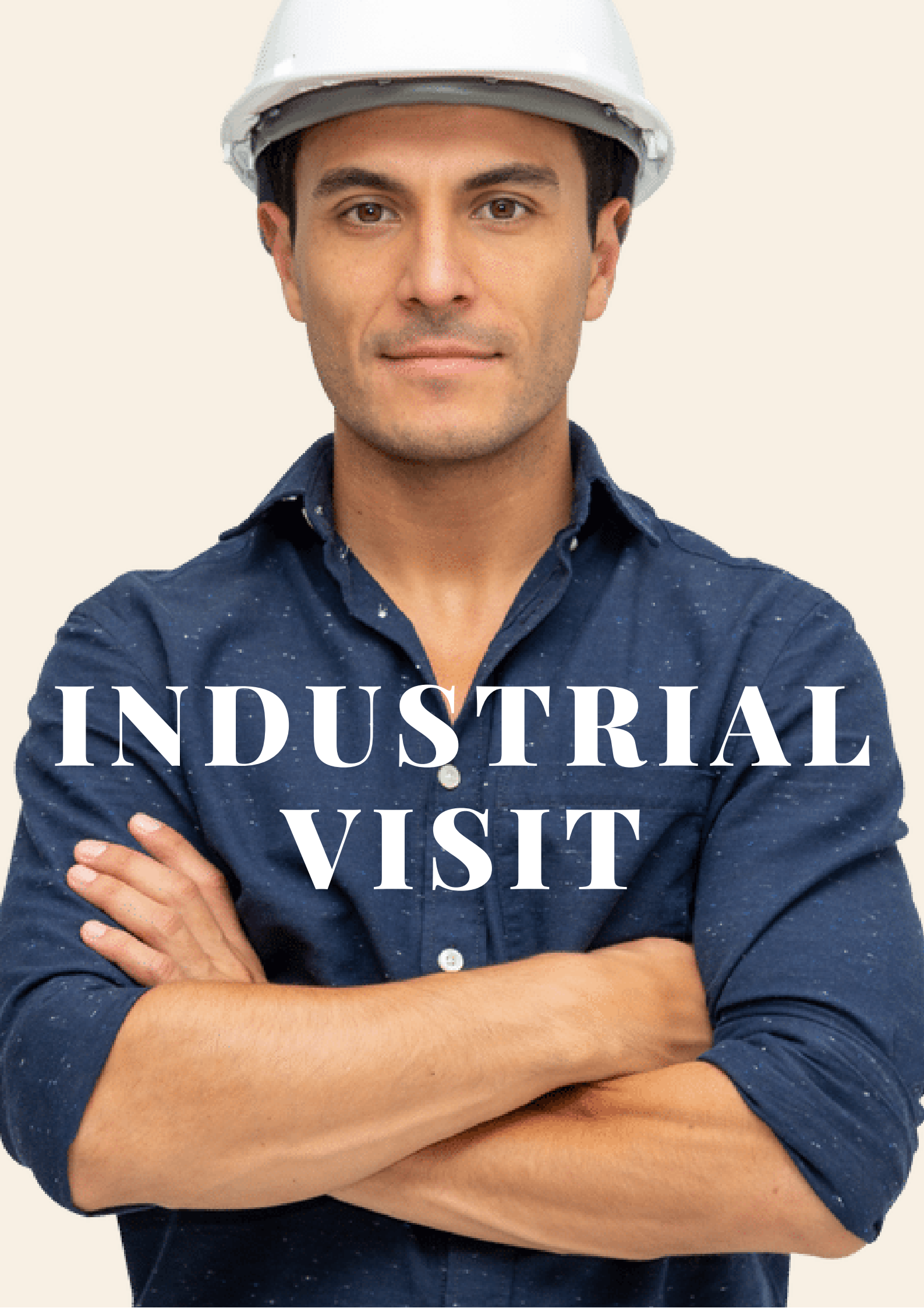
INDUSTRIAL
VISIT

INDUSTRIAL VISIT TO TATA MOTORS.

On 6th Feb 2023, an industrial visit to Tata Motors was organized for students of the Department of Electronics and Communication Engineering (ECE) at SDM College of Engineering and Technology. The visit was aimed at providing students with practical knowledge and a better understanding of automotive electronics.

The students had a unique opportunity to witness first-hand how the various electronic components are integrated into automobiles, from basic components like sensors and actuators to more advanced systems like ADAS and EVs.

During the visit, the students were taken on a tour of the manufacturing facility, where they got to see how the vehicles were assembled. The experts at Tata Motors explained the different stages of production and how electronics played a crucial role in ensuring the safety, performance, and efficiency of the vehicles.

The students were fascinated to see the various electronic components integrated into the vehicles and how they worked together seamlessly. They were also able to learn about the different types of sensors used in the vehicles and how they were calibrated to work together.

Overall, the industrial visit to Tata Motors was an enriching experience for the students, providing them with practical knowledge and insights into the world of automotive electronics. The students left with a better understanding of how electronics are used in the automotive industry and the role they play in ensuring the safety and efficiency of vehicles.

BATCH 1 :

BATCH 2 :

STUDENT ARTICLES

ಪ್ರತಿ ಜೀವಕ್ಕೂ ಒಂದು ಬೆಲೆ ಇದೆ

ಗೆಜ್ಜೆಯ ಬೆಲೆ ಸಾವಿರ ಸಾವಿರ ಹಾಕುವುದು ಕಾಲಿನಲ್ಲಿ, ಕುಂಕುಮದ ಬೆಲೆ ಪೈಸೆಯಲ್ಲಿ ಹಚ್ಚುವುದು ಹಣೆಯಲ್ಲಿ. ಇಲ್ಲಿ ಬೆಲೆ ಮುಖ್ಯ ಅಲ್ಲ ಅದರ ಕೃತಿ ಮುಖ್ಯ. ಉಪ್ಪಿನಂತೆ ಕಟು ಮಾತನ್ನು ಹೇಳುವವನು ನಿಜ ಸ್ನೇಹಿತ, ಸಕ್ಕರೆಯಂತೆ ಸಿಹಿ ಮಾತನ್ನು ಹೇಳುವವನು ನಯವಂಚಕ. ಅದಕ್ಕೆ ಉಪ್ಪಿನಲ್ಲಿ ಹುಳ ಬಿದ್ದ ಇತಿಹಾಸವಿಲ್ಲ, ಇತಿಹಾಸದಲ್ಲಿ ಹುಳ ಬೀಳದ ಸಿಹಿ ಇಲ್ಲ. ಕಾಣದ ದೇವರಿಗೆ ಹಾಲು, ತುಪ್ಪಗಳ ನೈವೆದ್ಯ, ಹಸಿದ ಬಡವನಿಗೆ ರೊಟ್ಟಿ ಹಳಸಿದ ಅನ್ನ. ಇದೆಂಥ ವಿದ್ಧೆ ಏ ಮಾನವ ಈ ಜೀವವು ಅಷ್ಟೊಂದು ಒಳ್ಳೆಯದಿನಲ್ಲ ಒಳ್ಳೆಯದೇ ಆಗಿದ್ರೆ ಯಾರು ಈ ಭೂಮಿಗೆ ಬರುವಾಗ ಅಳುತ್ತಾ ಬರುತ್ತಿರಲಿಲ್ಲ ಮತ್ತೆ ಹೋಗುವಾಗ ಎಲ್ಲರನ್ನೂ ಅಳಿಸಿ ಹೋಗುತ್ತಿರಲಿಲ್ಲ. ಬಾ ಎಂದರೂ ಸರಿ ಮಾರ್ಗದಲ್ಲಿ ಯಾರು ಬರುವುದಿಲ್ಲ, ಯಾರು ಕರೆಯದ್ದಿದರು ಕೆಟ್ಟ ಮಾರ್ಗದಲ್ಲಿ ಎಲ್ಲರೂ ಹೋಗುತ್ತಾರೆ. ಅದಕ್ಕೆ ಸಾರಾಯಿ ಮಾರುವವನ ಬಳಿಯೇ ಎಲ್ಲರೂ ಹೋಗುತ್ತಾರೆ, ಹಾಲು ಮಾರುವವನೇ ಎಲ್ಲರ ಮನೆ ಮನೆಗೆ ಬಂದು ಹಾಲು ನೀಡುತ್ತಾನೆ. ಹಾಲು ಮಾರುವವನಿಗೆ ಕೇಳ್ತಾರೆ ಹಾಲಿನಲ್ಲಿ ನೀರು ಬೇರೆಸಿದಿಯಾ ಅಂತ, ದುಪ್ಪಟ್ಟು ಹಣದಿಂದ ಕೊಂಡುಕೊಂಡ ಸರಾಯಿಗೆ ತಾವೇ ಕೈಯಾರೆ ನೀರು ಬೆರೆಸಿ ಕುಡಿಯುತ್ತಾರೆ.

ಮದುವೆ ಸಮಾರಂಭದಲ್ಲಿ ಮದುಮಗ ಹಿಂದೆ ಜನ ಮುಂದೆ , ಶವಾಯತ್ರೆಯಲ್ಲಿ ಶವ ಮುಂದೆ ಜನ ಹಿಂದೆ. ಮೊಂಬತ್ತಿ ಹಚ್ಚಿ ಸತ್ತವರನ್ನು ನೆನೆಯುತ್ತಾರೆ, ಅದೇ ಮೊಂಬತ್ತಿ ಆರಿಸಿ ಜನ್ಮ ದಿನ ಆಚರಿಸುತ್ತಾರೆ. ಊಟದ ಬೆಲೆ ರೈತನಿಗೆ ಗೊತ್ತು, ದುಡ್ಡಿನ ಬೆಲೆ ಬಡವನಿಗೆ ಗೊತ್ತು. ಹುಟ್ಟಿದಾಗ ಜಾತಕ ಮಧ್ಯದಲ್ಲಿ ನಾಟಕ ಸತ್ತಾಗ ಸೂತಕ ಆದರೂ ನಿಲಿಲ್ಲ ಈ ಜನರ ಮಾತಿನ ಕೌತುಕ....

By-Aishwarya Naroni

3rd year

In today's world, where electronics have become an integral part of our lives, batteries have become a necessity. Batteries power everything from our smartphones and laptops to electric cars and airplanes. However, as the use of batteries has become more widespread, the need for efficient battery management has also increased. This is where the Battery Management System (BMS) comes in.

A Battery Management System (BMS) is a system that monitors and manages a battery's performance, health, and safety. The primary function of a BMS is to ensure that a battery operates within safe limits and optimizes its performance. A typical BMS consists of hardware and software components that work together to achieve this goal.

Hardware Components of a BMS:

1. Battery Monitoring Unit (BMU): The BMU is the main component of a BMS. It is responsible for monitoring the battery's voltage, current, temperature, and other parameters. The BMU collects this data and sends it to the BMS controller for analysis.

2. Cell Balancing Circuit: A BMS typically consists of multiple cells connected in series or parallel. The cell balancing circuit ensures that each cell is charged and discharged equally. This helps to extend the battery's life and improve its performance.

3. Safety Circuit: The safety circuit protects the battery from overcharging, over-discharging, short-circuiting, and other potentially dangerous situations. In the event of an emergency, the safety circuit can disconnect the battery from the system to prevent further damage.

Software Components of a BMS:

1. Control Algorithm: The control algorithm is the brain of the BMS. It analyzes the data collected by the BMU and decides how to manage the battery. The algorithm may adjust the charging rate, cell balancing, or other parameters to optimize the battery's performance.

2. User Interface: The user interface provides a way for the user to interact with the BMS. This may be a simple LCD display or a more complex graphical user interface (GUI) that allows the user to adjust the settings and monitor the battery's performance.

3. Communication Interface: The communication interface allows the BMS to communicate with other systems. This may include other battery management systems, the vehicle's control system, or a remote monitoring system.

Benefits of a Battery Management System:

1. Improved Battery Performance: A BMS can improve a battery's performance by optimizing its charging and discharging cycles. This can extend the battery's life and improve its efficiency.

2. Increased Safety: A BMS can protect the battery from overcharging, over-discharging, and other potentially dangerous situations. This can prevent accidents and reduce the risk of fire or explosion.

3. Remote Monitoring: A BMS can be integrated with a remote monitoring system, allowing the user to monitor the battery's performance from a distance. This can be especially useful for electric vehicles or renewable energy systems.

In conclusion, a Battery Management System (BMS) is an essential component of any battery-powered system. It ensures that the battery operates within safe limits and optimizes its performance. With the increasing use of batteries in various applications, the importance of BMS will only continue to grow.
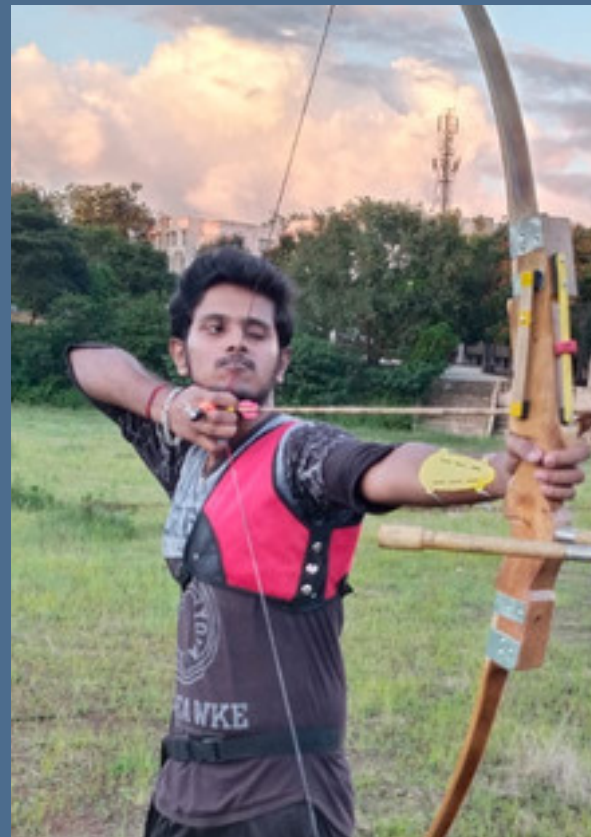
By Vishnureddy M Patil

Achievements

Manjunath Mandi

Secured 3rd place in state-level archery competition held at RV College in Bangalore and got selected for VTU men's archery team for the All India Nationals Championship held at Gurukashi University, Bhatinda, Punjab.

Nikil Vijayakumar Jujaganv

We from Vande Mataram Gurukulam and Team Adrishya conducted school painting Activity on 18th & 19th February in

Government Higher Primary and Urdu School, Hirebendigeri
Government High School, Hirebendigeri
Government boys hostel, Hirebendigeri

Nikil Vijayakumar Jujaganv

As a part of the 23rd Kargil Vijay Diwas, We From Team Adrishya conducted Kargil Vijay diwas program in more than 125+ schools and colleges.

Each program consisted of a talk about soldiers who were martyrs in the Kargil war, in 1999 and soldiers' life, a dance performance, and singing with artwork conducted.

Rakshita Tembadmani

Participated in 21st VTU YOUTH FESTIVAL.
which was held in BENGALURU for three days.

The Art
and the Artists
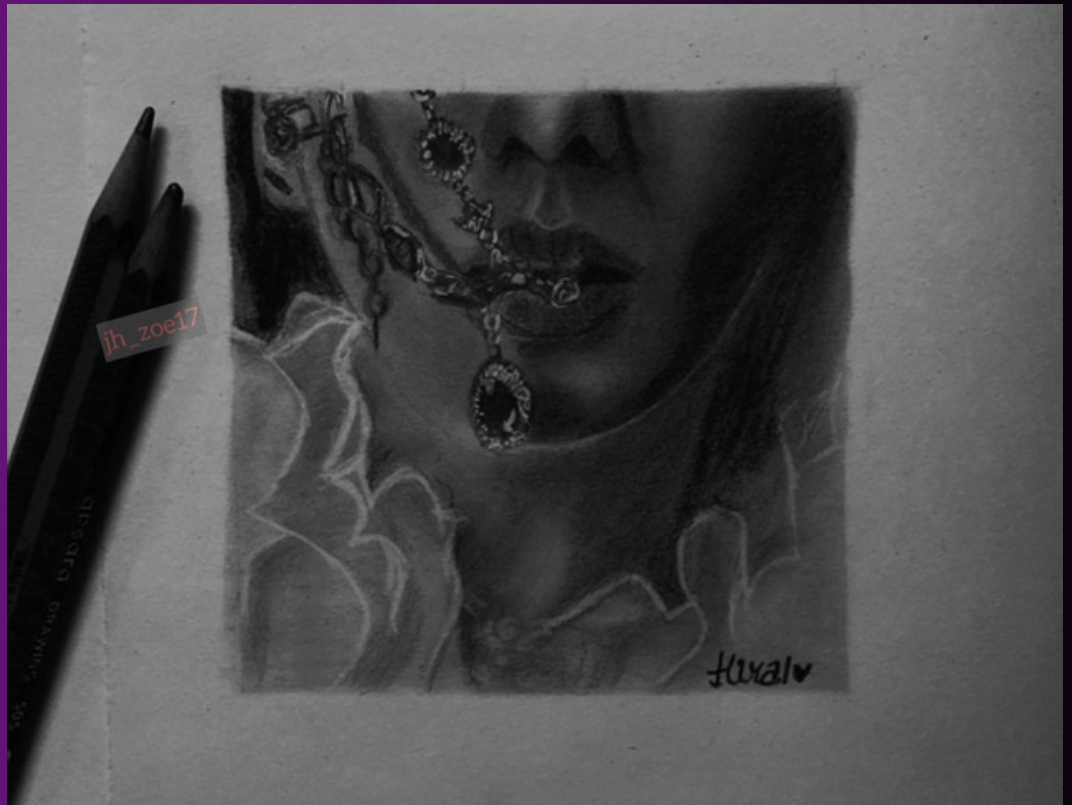
Hiral Gorani

-My escape corner

SPHOORTI K

-Art is my go to form of liberation.
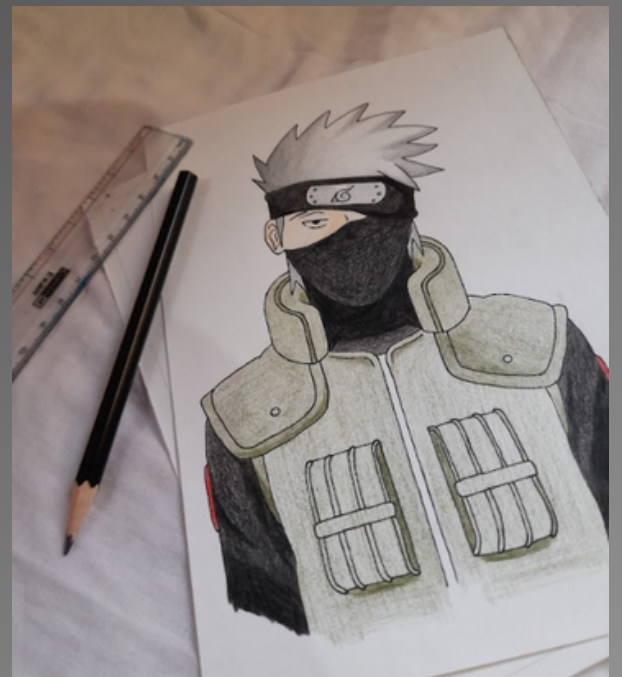
ANKITA KATTI

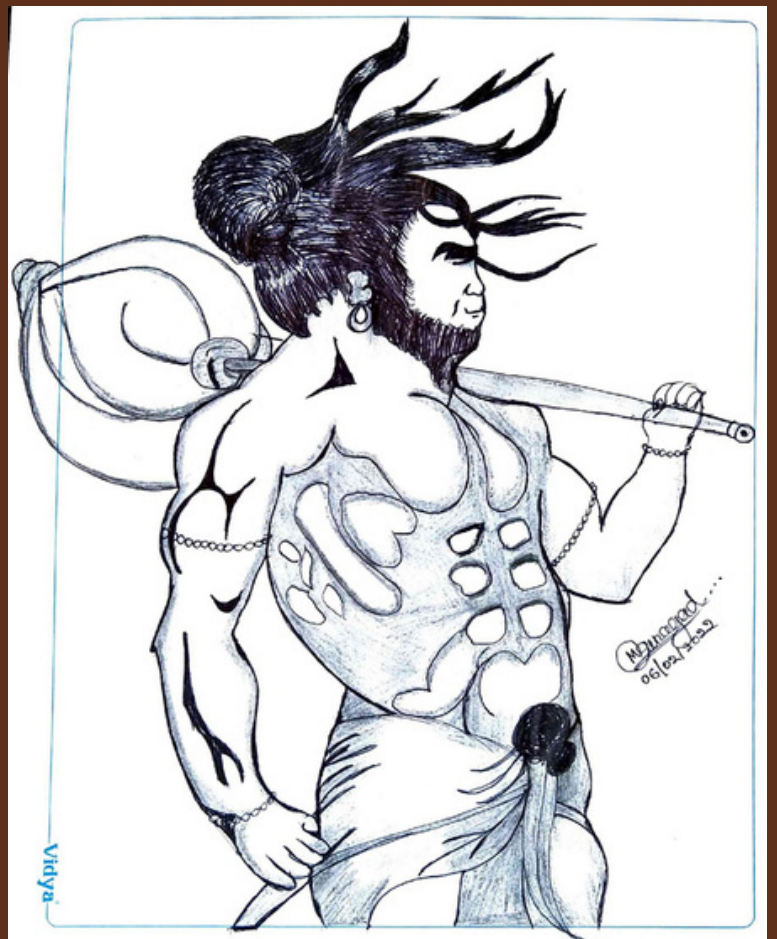Mandala is an art that gives a lot of peace and joy.
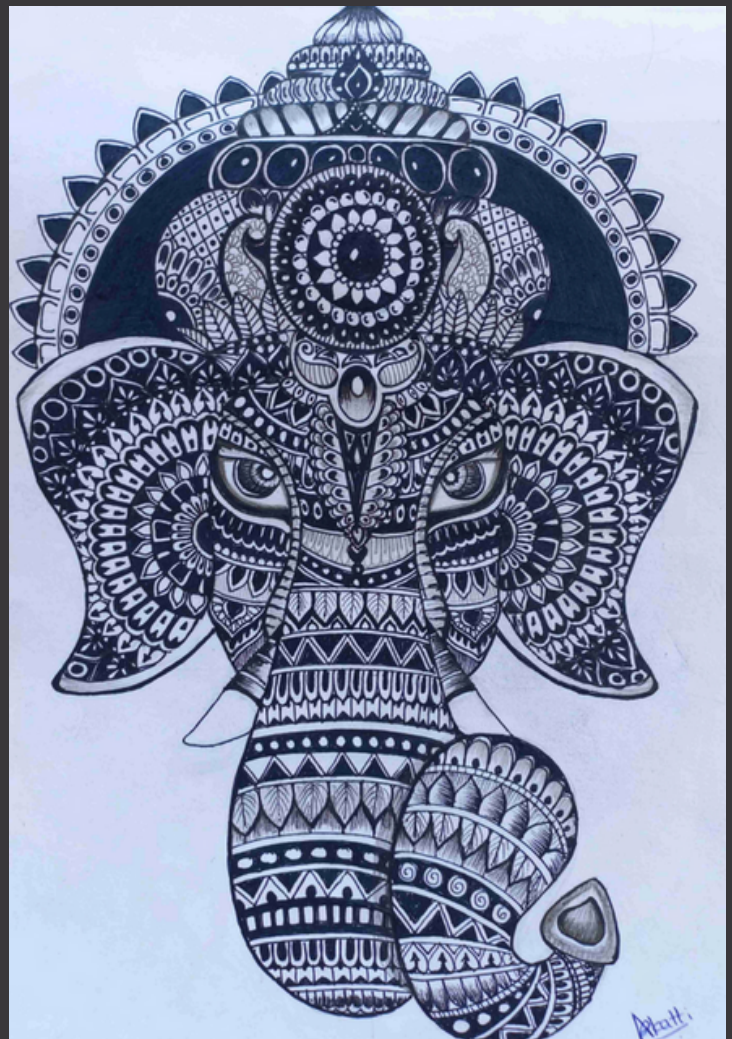
ROHAN ARI

Sketch of the G.O.A.T
cricketer
Virat Kohli

MANJULA SUNAGAD

Mandala is an art
that gives a lot of
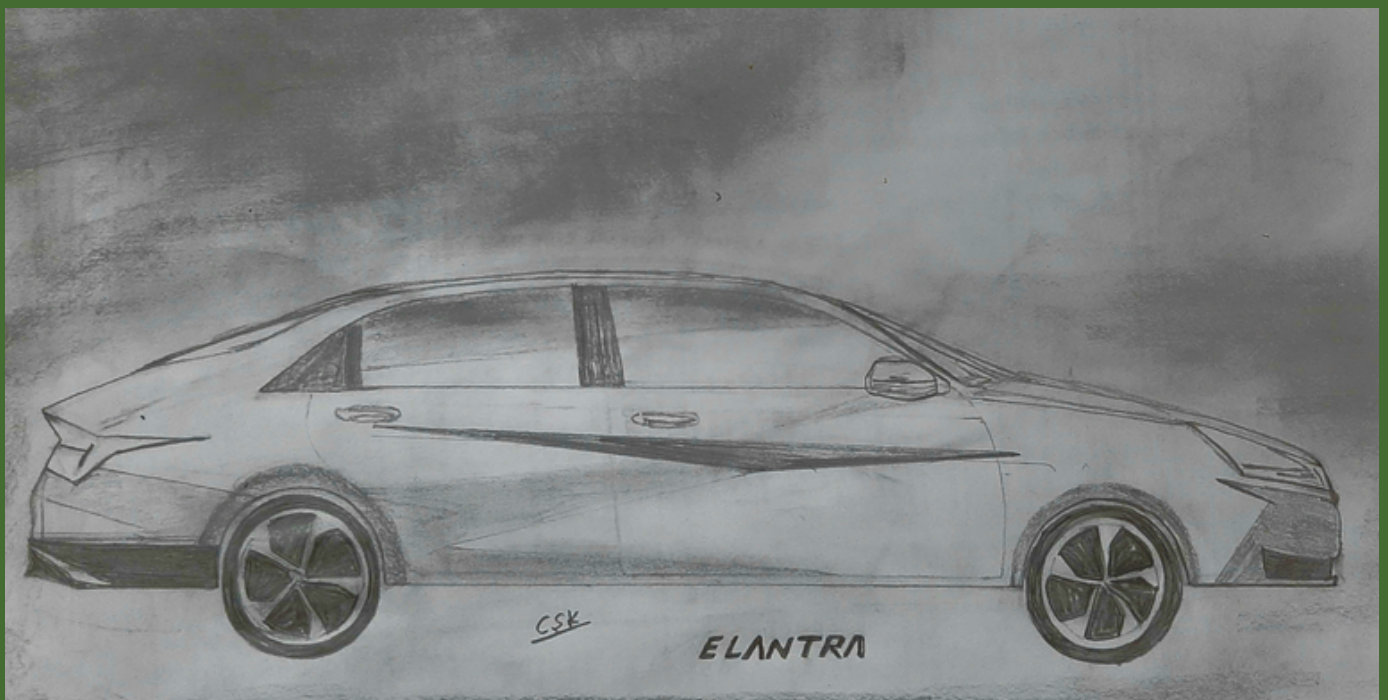peace and joy.

RAKSHITA R S

The night sky is her audience,
and her guitar is
the star of the show.

Wings of freedom and
petals of serenity,
a perfect balance in nature.

CHETAN KURAHATTI

Heaven is under our feet as well as over our heads.

SANJEEV SANGANNAVAR

The faithful servant of Lord Rama, Hanuman teaches us the power of devotion and loyalty.

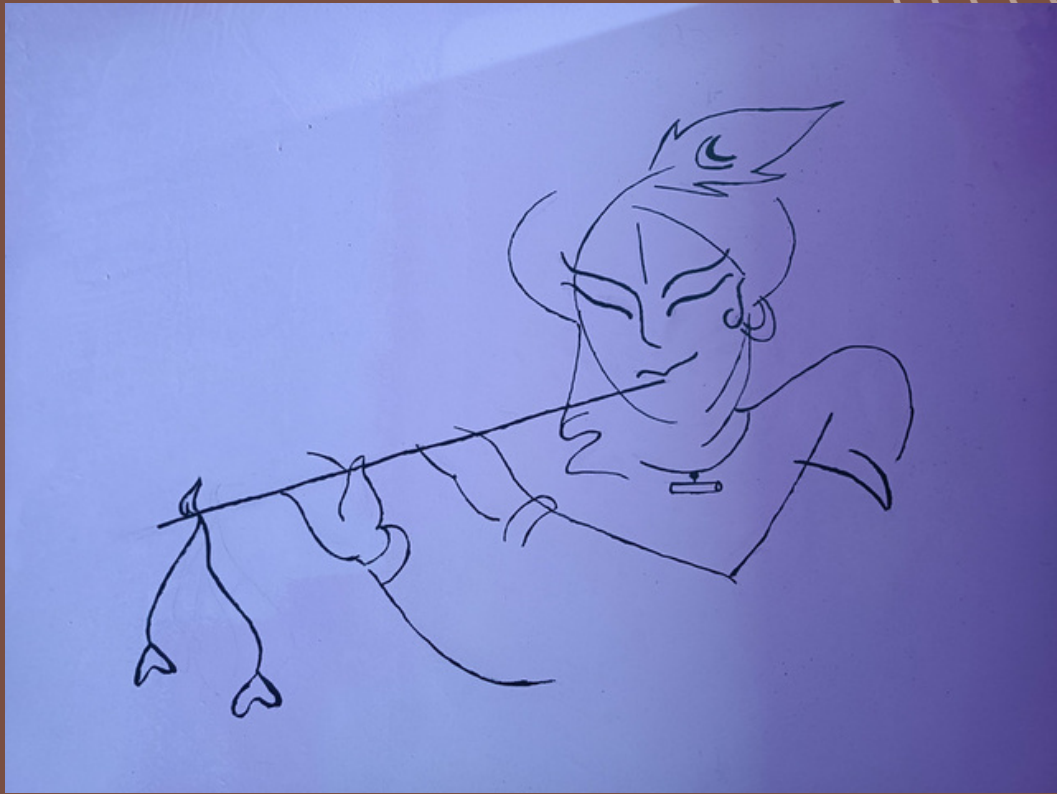The powerful Lord Shiva, the destroyer of evil and the protector of the universe.

PREETI RADDER

The sunset over the winter mountain is the peaceful moment that reminds the beauty of nature.
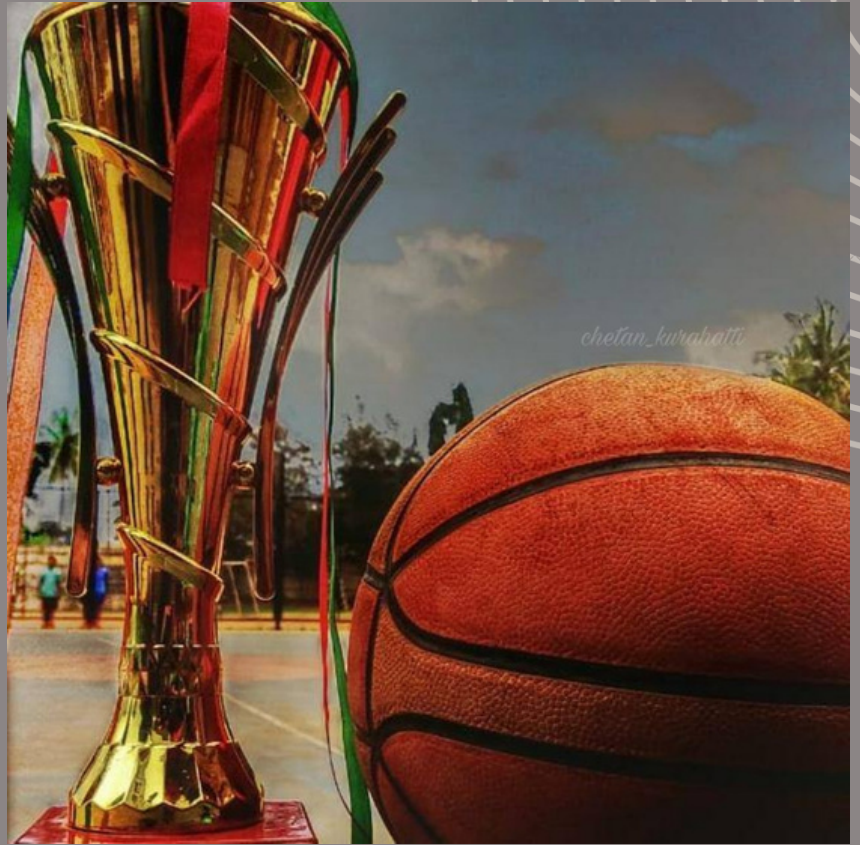
Kavya N Burud

CHETAN KURAHATTI

Chrysanthemum flower

Victory never tasted so sweet - the thrill of winning the basketball trophy.

The wings of freedom petals of serenity,a perfect balance in nature

A river seems like a magic thing!

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