

Srivenkateshwaraa
College of Engineering & Technology



ASPIRE TO EXCEL

Ariyur, Puducherry-605102.

# MSPERIA

"Campus Magazine - 2023"

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#### About SVCET

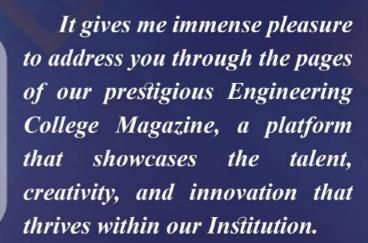
Sri Venkateshwaraaa College of Engineering & Technology (SVCET) is a vibrant Institute of higher education established in the year 2014 with the objective of producing globally competitive and ethical Engineers with Industrial exposure. SVCET is affiliated to Pondicherry University and approved by All India Council for Technical Education (AICTE), New Delhi.

The College campus nestles amidst calm and clean campus sprawling 20 acres situated at Ariyur which is about 12 km from Pondicherry. The College operates a fleet of buses connecting all parts of the City for the convenience of the Students and Staff. Besides this, the College is well connected to different parts of the city by public transport buses.

The Students of SVCET are given the opportunity to pursue first grade and advanced technical education regardless of background, gender or financial constraints. The Institution is open to exchange ideas, where discovery, creativity, personal and professional development can flourish. It is a responsive, Student oriented Institution that is committed to the creation, dissemination and acquisition of knowledge through Teaching, Research and Service.

#### From the desk of

Chairman, SVGI.



In today's fast-paced world, the role of Engineers has never been more critical. We are witnessing Technological advancements that are reshaping Industries, Societies, and even our daily lives. Our College has always been committed providing a holistic education that goes beyond textbooks and classrooms. We encourage our Students to dream big, think innovatively. and embrace challenges. Through our state-of-the-art laboratories, Industry collaborations, experiential learning opportunities, we strive to foster a culture of innovation and entrepreneurship. Our goal is not only to produce Engineers but also visionary leaders who can drive change and inspire others.

The pages of this Magazine are a testament to our achievements and aspirations, and I look forward to witnessing the incredible contributions that each one of you will make to our College and the world beyond. Thank you, and may the spirit of innovation and excellence continue to thrive in our College.

Shri.B.Ramachandiran Chairman, SVGI.

From the desk of Managing Director, SVGI.

It is with great pleasure and pride that I extend my warmest greetings to all of you through the pages of our esteemed Engineering College Magazine. As the Managing Director of this Institution, I am delighted to witness the continuous growth and evolution of our College community.

it.



Our Engineering College has always been a place where innovation, knowledge, and creativity converge. It is a hub where young minds embark on a journey of discovery and development, where they not only gain technical expertise but also cultivate the essential skills, values, and attitudes that will shape their future and the world around them. This Magazine is a testament to the talent and dedication of our Students and Staff. We will continue to invest in cutting-edge Technology, research, and education to provide our students with the best possible learning experience. Together, we will empower the next generation of Engineers to address global challenges and drive innovation.

I look forward to seeing our College and its Students continue to flourish. Thank you for being part of our journey, and I hope you enjoy reading this Magazine as much as we enjoyed creating

Shri.A.R.Rajiv Krishna

Managing Director, SVGI.

### From the desk of Executive Director, SVGI.

I am both honored and privileged to address you through the pages of our esteemed College Magazine. The journey of education and enlightenment is one that shapes not only our minds but also our character.

It is a journey that each of us embarks upon with dreams and aspirations, and it is the responsibility of our Institution to nurture these aspirations and transform them into reality. Our College Magazine is a reflection of this journey, capturing the essence of our academic endeavors, research breakthroughs, and the vibrant tapestry of experiences that define the life at College.

This Magazine is a testament to the resilience and adaptability of our academic community. From groundbreaking research projects to extraordinary achievements in extracurricular activities, each page of this Magazine is a testament to our collective spirit and determination.

Together, we shall continue to reach new heights, push the boundaries of innovation, and make a lasting impact on the world.

Mrs. R. Moushmi Executive Director, SVGI.



# From the desk of Chief Operating Officer

It is with great pleasure and excitement that I address you through the pages of our esteemed College Magazine. I am both honored and humbled to be part of a community that is dedicated to nurturing the future leaders of the Engineering world.

Our Engineering College has a rich legacy of academic excellence, innovation, and a commitment to pushing the boundaries of knowledge. It is a place where bright minds come together to explore, learn, and create solutions that have a profound impact on society. As we continue to evolve and adapt to the ever-changing landscape of Engineering and Technology, it is essential to reflect on our journey and celebrate our achievements.

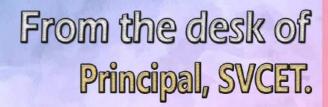
In the pages of this Magazine, you will find a testament to the remarkable talent and creativity that thrives within our college. From groundbreaking research projects to inspiring success stories of our alumni, this Magazine is a testament to the collective efforts of our community. It serves as a platform to showcase our accomplishments, share knowledge, and foster a sense of unity among all members.

Together, we will continue to shape the future of Engineering, making a positive impact on our society and the world at large. I look forward to witnessing your continued achievements and contributions to the field of Engineering.

Best wishes,

Dr.B. Vidhya

Chief Operating Officer, SVGI.



It is with immense pride and enthusiasm that I extend a warm welcome to each one of you to the pages of this year's College Magazine.

Our College, a hub of innovation and academic excellence, has once again witnessed remarkable achievements,

groundbreaking research, and unparalleled dedication from the entire College community. The pages of this Magazine are a testament to the collective efforts of our Students, Faculty, and Staff who continue to push the boundaries of knowledge and contribute to the academic and Technological advancements that define our Institution.

I encourage each one of you to delve into the pages of this Magazine with curiosity and pride. May it serve as a source of inspiration and a reminder of the incredible potential that resides within our College community.

Wishing you all continued success and fulfillment in your academic and professional pursuits.

Best wishes,
Dr.S.Pradeep Devaneyan,
Principal, SVCET.

# From the desk of Dean, SVCET.

I am honored to extend my warmest greetings to the entire Engineering College community through the pages of our College Magazine. This annual publication serves as a testament to our collective achievements, highlighting the dedication, innovation, and excellence that define our Institution.

In the pursuit of knowledge and the spirit of discovery, our Engineering College has continued to reach new heights. Our Students, the heart and soul of our academic community, have displayed unwavering commitment to academic excellence and have brought pride to our Institution through their achievements in various fields.

I extend my heartfelt gratitude to the editorial team and contributors who have worked tirelessly to bring this Magazine to life. Your efforts have captured the essence of our community and created a lastingrecord of our shared journey.

Together, we will continue to shape the future of Engineering education and make a positive impact on the world.

Wishing you all continued success and fulfillment in your academic and professional pursuits.

Warm regards,

Dr.K.B.Jayarraman, Dean, SVCET.

# From the desk of Computer Science HOD



It brings me immense joy to engage in conversation with you through this College Magazine, as Sri Venkateshwaraa College of Engineering & Technology proudly presents the Annual College Magazine for the Academic Year 2022-23. Over the years, the College has expanded its presence without losing its youthful vigor; it remains a beacon of prestige, committed to the pursuit of excellence and professionalism.

Beyond imparting quality education, our aspiration is to offer Students a comprehensive and enduring learning journey. The synthesis of academic excellence, coupled with co-curricular and extracurricular engagements, forms the integral fabric of the educational journey. While perusing these pages, you will gain insight into the significant milestones attained by the College this year. Additionally, our emerging talents have creatively articulated their thoughts, ideas, hopes, feelings, aspirations, and convictions. In essence, the Magazine reflects the authentic achievements and qualities of both Students and Faculty.

I am confident that this Magazine will serve as a benchmark for fostering ongoing enhancements in the comprehensive development of the College. My heartfelt congratulations go to the Magazine Incharge and the Editorial Board for uncovering the latent potential of the Students and contributing to the creation of a significant chapter in the history of the College.

Dr.N.Balaji CSE HOD, SVCET.

#### From the desk of

#### ECE HOD cum IQAC Coordinator



I'm thrilled to engage with you through our College Magazine, showcasing Sri Venkateshwaraa College of Engineering & Technology's commitment to crafting the Annual College Magazine for the Academic Year 2022-23. Bringing this magazine to fruition has been an immense and challenging undertaking.

While the college has undergone substantial growth, it has upheld its enduring prestige, persistently striving for excellence and professionalism. Our mission extends beyond providing quality education; we aim to offer Students a comprehensive learning journey that transcends academics. The fusion of academic excellence with co-curricular and extra-curricular activities is fundamental to our educational ethos. Reflecting on our time within these walls brings forth memories of a nurturing environment, upbringing, and instilled values that profoundly impact lives. Within these pages, you'll encounter the noteworthy milestones achieved by the College this year. Furthermore, our talented Students have artfully conveyed their thoughts, ideas, aspirations, and beliefs, infusing creativity into this publication. The Magazine mirrors the genuine qualities of our Students and Faculty. I am confident that this edition will set a standard for continuous progress and the holistic growth of our College. Heartfelt congratulations to the Magazine In charge and the Editorial board for unveiling the untapped potential of our Students, carving out a significant place for this Magazine in our College's history. Dr. V. Nagaraj

ECE HOD cum IQAC Co-ordinator, SVCET.

# From the desk of Mechanical HOD

"As we initiate a novel segment of our academic adventure, I'm filled with pride and hope. Mechanical Engineering, central to the field of Engineering, is constantly evolving, merging innovation with Technology to shape our world. It strives for

increasing the knowledge, enhancing the critical thinking, ability to change information into knowledge and power of analyzing the things technically of each and every individual of ever changing society through Students. Our Laboratories have been very well established not only to cover complete syllabus but to motivate Students to learn beyond the syllabus which definitely develops complete knowledge of the subject (both the practical and theoretical depth of knowledge) and develop skill sets of students to become promising Engineers in future.

This Magazine will bring not only the intellectual pursuits but also the creative ideas of our Students, alongside technical articles. It will serve as a valuable platform for faculty and Students to share information and stay updated. I'm confident that it will be an outstanding channel for showcasing the capabilities and accomplishments of our Engineering Students to the world. I extend my appreciation and recognition to the editors and their committee members for their hard work in producing this Magazine and wish them success in their endeavors."

Dr. B. Magimai Raj

Mechanical HOD, SVCET.

#### From the desk of

Electrical & Electronics HOD

I feel extremely happy to speak to you through this College Magazine, as Sri Venkateshwaraa College of Engineering & Technology brings out the Annual College Magazine for the Academic Year 2022-23. I feel extremely happy to speak to you through this College Magazine, as Sri

Venkateshwaraa College of Engineering & Technology brings out the Annual College Magazine for the Academic Year 2022-23.

Apart from providing the quality education, we craving to provide our students a holistic learning experience for life. Academic excellence along with Co-curricular and extra co-curricular activities complete the process of education. The memories of days spent in the College will remind you of the quality of care, upbringing and the value system which will help you tAs you scan through the pages, it will enlighten you with the important milestones that College has achieved this year.

Besides, our budding talents have expressed their thoughts, ideas, hopes, feelings, aspirations and convictions in a creative way. On the whole the Magazine mirrors the true credentials of the Students & Faculty. This Magazine should be a good source of guidance for faculty and coming batches of Students in choosing activities of their choice in their future for building their careers. I congratulate Magazine In charge and Editorial board for unleashing the hidden potential of the Students and making this Magazine a chapter of College history.

Mr.R.Venkedesh EEE HOD, SVCET.

#### From the desk of

Science & Humanities HOD

It is with great pleasure and pride that I extend my warm greetings to all the Students, Faculty and Staff of our esteemed

Engineering College as we come together to celebrate yet another edition of our College Magazine. This annual publication not only

serves as a record of our collective achievements

but also stands as a testament to the vibrant intellectual and creative spirit that defines our academic community.

In this year's College Magazine, I encourage our Students and Faculty to showcase not only their academic prowess but also their artistic and literary talents. Let us celebrate the fusion of science and humanities, recognizing that creativity and innovation are not mutually exclusive but rather complementary forces that drive progress. Our students are not just Engineers; they are thinkers, dreamers, and visionaries. As we flip through the pages of this Magazine, let us appreciate the myriad ways in which our community contributes to the rich tapestry of our College life.

I extend my heartfelt gratitude to the editorial team and all those involved in bringing this Magazine to life. Your dedication and hard work have given us a platform to share our stories, aspirations and achievements.

Let this Magazine be a source of inspiration, a reminder of our collective strength, and a testament to the spirit of inquiry that defines our academic journey. May it inspire future generations to continue pushing the boundaries of knowledge and creativity.

Wishing you all a delightful journey through the pages of this year's College Magazine.

Mr.V.Ganesan S&H HOD, SVCET.

# From the desk of Bio-Medical HOD



It's evident that the Magazine serves as a platform to showcase not only the academic accomplishments but also the rich tapestry of co-curricular and extra-curricular activities that contribute to the well-rounded development of Students.

The emphasis on a comprehensive learning journey and the fusion of academic excellence with creative expression and personal development is commendable.

The Magazine appears to be a reflection of the collective spirit and ethos of the college, capturing the memories, values, and milestones that define the Institution. It's particularly noteworthy that the Students thoughts, ideas, aspirations, and beliefs, adding a personal and creative touch to the Magazine.

A special acknowledgment to the Magazine In charge and the Editorial board for their efforts in unveiling the untapped potential of Students and contributing to the College's history. May this edition serve as a beacon for future endeavors and further strengthen the sense of pride and achievement within the College community.

Mr. S. Balaji Bio-Medical HOD, SVCET.

# From the desk of MBA HOD

I am delighted to extend my warmest congratulations on the release of our new College Magazine. It brings me immense pride to witness the culmination of hard work, creativity, and dedication that has gone into producing this Magazine.

The Magazine not only serves as a reflection of the academic and extracurricular achievements of our College but also stands as a testament to the vibrant talents within our community. It is a platform for our budding talents to express their thoughts, ideas, hopes, feelings, aspirations and convictions in a creative way.

I congratulate the editorial team and all contributors for their efforts in putting together a captivating and insightful edition. May this Magazine inspire, inform, and instill a sense of pride in all who read it.

As we celebrate this milestone, let us continue to foster a spirit of learning, collaboration, and excellence within our academic community. I look forward to witnessing the continued success and growth of our College. Congratulations once again, and my best wishes for the continued success of our College Magazine.

Mrs. A.Anitha
MBA HOD, SVCET.



# From the desk of Placement Officer

In an era of rapid innovation, Engineering skills have undergone a transformative journey, influenced by a diverse spectrum of Technological advancements that continue to shape and redefine the field.

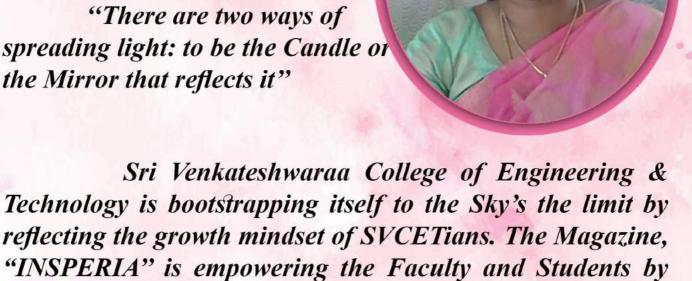
These advancements serve as a fertile ground for budding explore, innovate, and contribute Technocrats to ground-breaking developments in Engineering and Technology. To meet the expectations of ever challenging field of Engineering, one has to be Industry ready with strong fundamentals. At Sri Venkateshwaraa College of Engineering & Technology, Our mission is to produce Engineering professional with ambitious spirt to work in their discipline to achieve their goal of recruiter as well as individual. As a result of our strong commitments in the past, we have successfully meet the expectations of our esteemed recruiters. We provide a platform to our Engineering Graduates to excel their careers ahead through training and placement activities. We ensure to produce dynamic environment for our recruiters to shape the new engineering horizons. We strongly believe in our stakeholders, alumni and collaborators towards effective engagement in our student's career enrichment.



# From the desk of Research & Development

"There are two ways of spreading light: to be the Candle or the Mirror that reflects it"

succeed in their career and life.



I wish that the magazine would captivate our Students kindle everyone's inner potential. would wholeheartedly wishing the team of the Magazine for their untiring efforts in making it happen. I wish that the Magazine would witness the plethora of success and would be the Icon of our Institution.

stepping out of their comfort zone and embrace challenges to



#### FACULTY EDITORIAL BOARD



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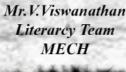


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Creative Team

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## Content

- 1. ISO Certification
- 2. MoU Signing
- 3. Cultural Achievements
- 4. Academic Achievements
- 5. Sports Achievements
- 6. Events Recap
- 7. Yoga Day
- 8. Tree Plantation
- 9. Ayudha Pooja Celebration
- 10. Pongal Celebration
- 11. Farewell Party
- 12. Traffic Awareness
- 13. Younify Radio
- 14. Smart India Hakathon
- 15. EduSkills Award
- 16. Electric Vehicles The Advantages and Challenges
- 17. The Millions of Inspiration M.S.Dhoni
- 18. Engal Vitu Pillai
- 19. Bancquest 2023
- 20. Robotic based Technology to manage and monitor the water pollution caused to rivers.
- 21. An Artificial Intelligence based security Robot.
- 22. Pi Arm visual servoing in Robotic arm.
- 23. Recommendations for a hybrid framework for classifying biomedical relationship data.
- 24. Ambient computing everything you need to know about the rise of invisible Technology.
- 25. All about Covid vaccination.

- 26. Revolutionizing healthcare The era of Artificial organs.
- 27. Booming biomedical.
- 28. Introducing Whoop 4.0 A Revolutionary AI-Based Wearable for Holistic Health Tracking.
- 29. IOT (Internet Of Things).
- 30. Embedded Technology.
- 31. Robotics
- 32. Powering Savings: Practical Tips for Energy Conservation in Your Household.
- 33. Biomechanics and Prosthetics.
- 34. Innovations in Robotics.
- 35. Automotive Engineering Breakthroughs.
- 36. The Future of Renewable Energy Systems.
- 37. Advancements in Sustainable Engineering Practices A Path Towards a Greener Future.
- 38. Art Works.
- 39. Tamil Poems.
- 40. Photography.
- 41. POETRY "College Chronicles: Where Dreams Unfold"
- 42. Mind Time.
- 43. Vote of thanks to Readers.

Welcome to the vibrant world of INSPERIA – where each page is a gateway to inspiration, information, and sheer delight! We're thrilled to have you as our esteemed reader, ready to embark on a journey of discovery with every turn.



ISO 21001 is a quality management system that aims to standardise education management to ensure it meets learners' needs. It's intended to help Schools, Colleges, Training providers and other educational organisations implement best practice.

SRI VENKATESHWARAA COLLEGE OF ENGINEERING & TECHNOLOGY has implemented an Educational Organizations Management System in accordance with ISO 21001:2018

For Scope of IMPARTING EDUCATION LEADING TO UG DEGREES IN ENGINEERING AND TECHNOLOGY

The certificate is valid in conjunction with the main certificate

From 2020.

Certificate Registration No: 99 135 00027/04

Date of Initial certification: 2020-07-17





MoU with 5k cars





MoU with
Atheenapandian
pvt ltd

MoU with AIIRF





MoU with
CGH
IT consultancy
pvt ltd

# MoU with Eduskills





MoU with
Global Talent
Track Foundation
Newsletter

MoU with Medingers Healthcare solution.





### MoU with Talent Factori

## MoU with YUCI





# MoU with YUVA Young Indians

MoU with Zaphire Newyork, USA





Organized & Conducted By: Pondicherry University National foundation for communal harmony

S.No	Name of the event	Name of the students participated	
1.	Photography	Ezhilarasan	
2.	Group Dance	Abhimaniu Santhosh	
3.	Drama	Dhivyasri Dinesh Kumar Sarvesh Durgadevi Parthiban R.Sivaraj K.Gowsigane	
4.	Poster Making	Prithiba Aravind Kumar Chaudri M.Gowtham K.Balachandar Roshini J.Rithiga Priyadarshini V.Shanmuganathan	
5.	Group Singing	K.Sivagami Madhivathani M.Hariharan D.Janai T.Muthumaran	
6.	Solo Dance	R.Sivaraj	



#### Organized & Conducted By: Puducheery Technological University

S.No	Name of the event	Name of the students participated
1.	Clash of Codes	S.Ajay A.Arul Jenifer M.Shiyam M.Thiruvarasan
2.	Debugging	S.Ajay A.Arul Jenifer K.Nishanthi M.Shiyam V.Sountharya M.Thiruvarasan
3.	Anime Quiz	E.Gunal K.Gowsikane J.Rithika Durgadevi Harini Shamini Sivaraj Srilatha Shanmuganathan Abinaya Sharmila
4.	Connection	M.Gowtham Sivasakthipriyan
5.	Project Expo	G.Sathyamoorthy B.Jayaganesh

#### Achievements in different competitions conducted by Various Institutions and Industries

S.No	<b>Event Name</b>	Organised By	<b>Students Name</b>	Prize
6.	Best Manager	Community College	Kethan	I
7.	Mobile Photography		Suryaprakash	I
8.	Picture perfect (	Christ College of Engineering &	S.Subasri M.Mouhamad Fahima	I
		Technology	S.Nagaraja R.Viswa	) II
9.	Business Quiz		D. Sudharsan V. Gopinath	I
10.	IPL Auction		Madhavan Vinoth R. Vishva Karthick	I
			Arunkumar .S Sujay kumar .B Sudharsan Praveen kumar	II
11.	QUIZ	Pondicherry University  M.Divya S.Prishila mary K. Harshini S.Saranya		I
12.	Shark Tank	k Tank  K Tank  B.Anan R.Kavip Harihari Sanjai		I
13.	Business Analytics		M.Priyadharshini Rakshagan Lokesh kumar	I

S.No	<b>Event Name</b>	Organised By	<b>Students Name</b>	Prize
14.	Start up Ideas	Pondicherry	R.Kavipriya devi B.Anandhi	I
15.	QUIZ Busters	University	S.Arunkumar D.Suryaprakash	I
	Code Storm	Aruljenifer Ajay Sinduja		I
16.		Manakula	Saraswathi devi	II
		Vinayagar Institute of Technology	Satish Paritosh biswas Hrithika roy	III
17.	Connection		M.Gowtham D.Sivasakthipriyan	Ι
18.	Innovative Contest	CII Puducherry Innovation Contest	G.Sathyamoorthy	II
19.	MNC specific training	Permit Solutions	B.Jayaganesh	II
20.	Garnishing talent program	EATON Power Quality Private Limited & CII	R.Thanigaivel Deenadayalan M.Gowtham Sivasakthipriyan Sinivasan Savitha HariHaran Adithiya Shyam Ajay	I

### SPORTS

#### ACHIEVEMENTS

2000年12月1日				Miller Brown and Aller Brown
S.No	Name of the award	Organized / Conducted By	Level	Name of the students
1.	I <sup>st</sup> Place Volleyball summer coaching camp, TADA (Men)	Volleyball summer coaching camp, TADA	National	S.Kirubanantharaj
2.	I <sup>st</sup> Place Volleyball Youth National games. (Men)	Youth India Council	National	S.Kirubanantharaj
3.	I <sup>st</sup> Place Power Lifting 74kg(Men)	Pondicherry University	University	D.Janakiraman
4.	Silver medal Judo junior 48 kg(W)	Pondicherry Olympic Association	State	S. Rubhini
5.	Bronze medal Judo junior 48 kg(W)	Pondicherry Olympic Association	State	A.Reshma
6.	Bronze medal Judo junior 48 kg(W)	Puducherry Judo Association	State	A.Reshma
7.	Bronze medal Judo junior 44 kg(W)	Puducherry Judo Association	State	S.Renuga
8.	Bronze medal Judo junior 44 kg(W)	Pondicherry Olympic Association	State	S.Renuga
9.	Silver medal Judo junior 52 kg(W)	Puducherry Judo Association	State	M.Vinitha









#### CAP's intercollegiate

#### T20 Tournament

This cool match was held on 05.05.2022 at 2 pm between Mahathma Gandhi PG institute of Dental Science and Sri Venkateshwaraa College of Engineering and Technology. MGDS won the toss and chose batting securing 102/6 in 20 overs.

SVCET chased in full fledge and won the match by scoring 104/1 in 7.3 overs.

S.Ranjith: 39 runs in 21 balls (7\*4, 0\*6) and G. Sathya Murthi: 37 runs in 22 balls (4\*4, 2\*6) hit the ground with their amazing performance and V.Vineeth Kumar:(2-0-13-1) displayed his excellent bowling and together led our team towards winning.



# MAN OF THE MAN OF CH®

Man of the Match or Player of the Match award is given to the outstanding player, almost always the one who makes the

most impact in a match. The term was originally used in cricket before being adopted by other sports. The award can go to a player from the any team. If team has lost but a player from losings team has incredible performance then he can also awarded as Man of the Match.

S Ranjith from Sri Venketeshwaraa College of Engineering and Technology beheld this position as man of the match by hitting 39 runs in 21 balls.

"Cricket Is Life... Everything Else Is Just a game."

A true batsman should in most of his strokes tell the truth about himself.

Neville Cardus



S Ranjith (CSE-IV Year)

# SEMINAR ON CAREER OPPORTUNITIES IN INSURANCE SECTOR DATE: 10:00 am VENUE: PG SEMINAR HALL Mr. K. SEKAR Deputy Manager, Oriental Insurance Company Ltd. Pondicherry

#### EVENTS RECAP.

SEMINAR ON CAREER OPPORTUNITIES

HONOURING Mr.S.THANIGAINATHAN





SEMINAR ON EMERGING GLOBAL TRENDS







# PRODUCT DEVELOPMENT WORKSHOP





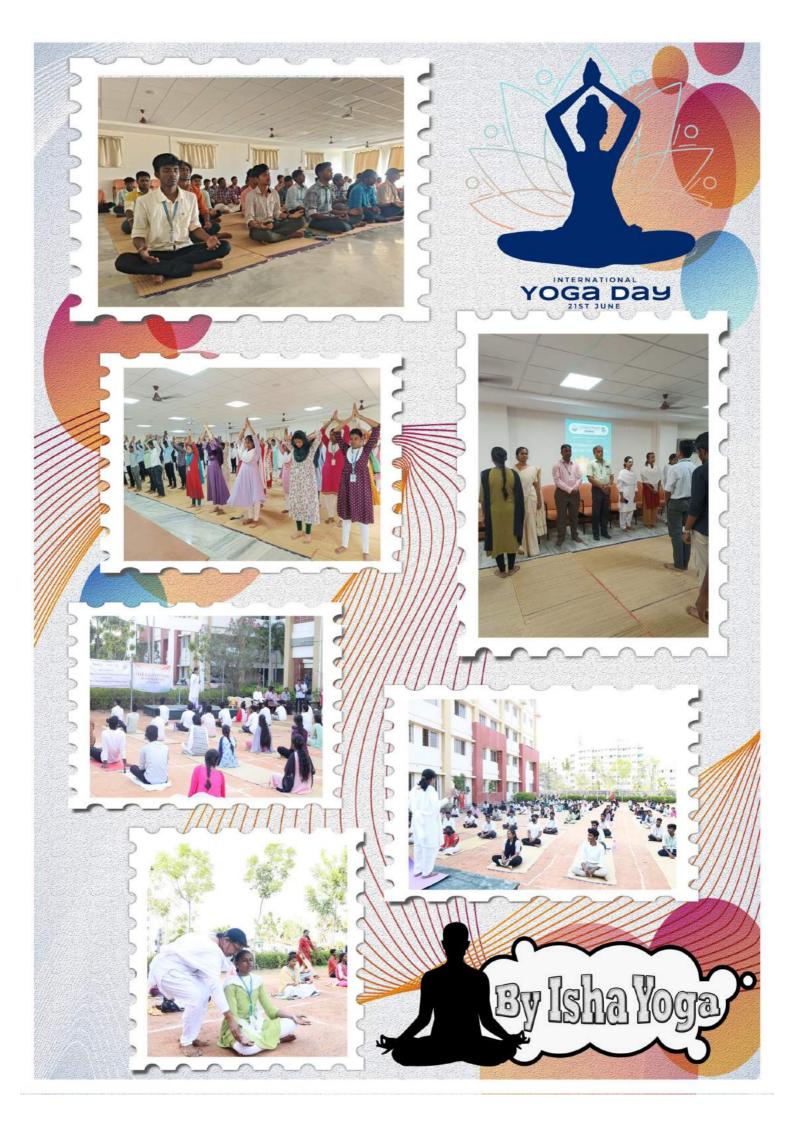














# Ayudha Pooja Celebration



















# **Pongal Celebration**



































# TRAFFIC AWARENESS PROGRAME

# STOP



































Nation Building Through Skills





# BEST PERFORMING INSTITUTE









# Electric Vehicles The Advantages and Challenges

The era of electric vehicles, or EVs, is here to stay, no doubt about it. Electric vehicles (EVs) have zero exhaust emissions, which directly reduces air pollution and helps cut down on oil imports.

In recent years, there has been a notable increase in both the manufacture and sales of electric vehicles. To meet the rising demand, a number of significant automakers have made significant investments in electric vehicle (EV) technology and have introduced a broad range of electric models. The idea that the era of electric vehicles (EVs) is here to stay is supported by the growing variety and accessibility of EVs. Infrastructure and battery technology advancements have been key factors in driving the adoption of EVs. Customers' range anxiety has decreased as a result of electric vehicles' increased driving range thanks to the development of more costeffective and efficient batteries. Additionally, drivers now find EVs to be more onvenient and accessible because to the development of the charging infrastructure, which includes both home and public charging options.

In addition, global leaders and governments have demonstrated a strong commitment to supporting electric vehicles as a way to combat climate change and lower emissions.

# Why are EVs crucial?

### **Environmental Benefits:**

- \* EVs can help fight climate change by drastically lowering greenhouse gas emissions.
- \* EVs emit no emissions from their exhaust, in contrast to cars powered by fossil fuels.
- \* EVs contribute to the reduction of air pollution, smog, and global warming by lowering carbon dioxide (CO2) and other pollutants.
- \* Pollutants including nitrogen oxides (NOx), particulate matter (PM), and volatile organic compounds (VOCs) are less common when driving an electric vehicle.
- \* Since cleaner air lowers the risk of respiratory and cardiovascular ailments, this directly benefits public health.

## Technological Development and Job Creation:

- \* The creation and uptake of electric vehicles (EVs) has prompted advances in electric drivetrains, battery technology, and charging infrastructure.
- \* These developments have wider uses, including as energy storage for renewable energy sources and grid stability, in addition to being advantageous to the car industry.
- \* Jobs and innovation in battery production, renewable energy, and charging infrastructure are generated by electric transportation.

### What are the challenges for EVs?

- \* High Initial Cost
- \* Limited Charging Infrastructure
- \* Range Anxiety
- \* Battery Technology and Supply Chain
- \* Limited Model Options

#### What should be the Way Forward for India to adopt EVs?

- \* Reduce the initial cost of owning an EV by providing subsidies, tax incentives, and financing schemes for both consumers and manufacturers.
- \* Increase the choice of EVs by encouraging innovation, competition, and collaboration among Original Equipment Manufacturers (OEMs), start-ups, and other stakeholders.
- \* Encourage domestic manufacturing of EVs and related components through incentives and supportive policies.
- \* Raise the awareness among the public by launching campaigns, portals, and platforms to educate them about the benefits and incentives of EVs.
- \* Improve the electricity distribution and supply by investing in renewable energy sources, smart grids, and energy storage systems.
- \* Reduce the charging time of EVs by developing fast-charging and battery swapping technologies and standards.
- \* Expand the EV charging infrastructure by creating a network of public and private charging stations across the country with adequate quality and accessibility.
- \* Enhance the service centre and repair options for EVs by training and certifying technicians, mechanics, and dealers for EV maintenance and servicing.
- \* Encourage government institutions, including public transport authorities, to adopt EVs in their fleets. This would create a significant demand for EVs, stimulate the market, and demonstrate the viability of electric mobility.
- \* Developing a domestic battery manufacturing ecosystem and reducing reliance on imports is crucial to address this challenge.

India has set a very ambitious target to achieve net zero by 2070. To achieve this goal, EVs have a crucial role to play. While EVs themselves produce zero tailpipe emissions, the overall environmental impact of electric vehicles depends on the source of the electricity used to charge them. If the electricity is generated from renewable sources like solar or wind, the environmental benefits are maximized.

Mr. R. VENKEDESH HOD - EEE

# **The Millions Of Inspiration**

Cricket is very popular in India. The team players have many fans across the country. One of the coolest captains in the world is MS Dhoni.

Mahendra Singh Dhoni is a humble boy from Ranchi who entered the world in the year 1981. He was a great fan of football and badminton but he developed a keen interest in cricket. Many people supported him throughout the journey and made

HARMINAR

him realize his dream. He is a wonderful human, who was always up for absorbing new learning from his peers.

He never hesitates to appreciate the outstanding work of others.

He never lost hope and put in extra effort to fulfil his dream. The turning point of MS Dhoni's life was when he decided that he wanted to pursue cricket as his career. He left his job of Indian Railways and concentrated on improving his skills as a cricketer. Many people look up to him and they want to become like him!

The former Indian captain, who is also known as Captain Cool, has made the country proud with his admirable sportsmanship.

The wicket-keeper batsman, who won all the ICC trophies during his tenure of captaincy

Mahendra Singh Dhoni has inspired many youngsters from all over the world to take their passion seriously. He inspires youngsters to take up a sport and excel in it. Manpreet Singh is an International Hockey Player and he is an ardent follower of MS Dhoni. MS Dhoni co-owns a hockey time called Ranchi Rays. Manpreet Singh plays for the team and he feels that MS Dhoni is truly an inspiration.

Dhoni's patience has often made him an inspirational figure among youngsters.

M.S.Dhoni said "In almost all the interviews that I give, I often talk about how the process is more important than the result, the result is just a by-product of the process. But in

today's world, we are so focused on the byproduct that we get away from the process. So take care of the process, all the small things and eventually you will get the desired result. We often complain that we should have gotten more as a result but actually, we got whatever we had prepared for. If we prepare well, we execute well, if we are honest to ourselves more often than not, we will get the desired result. And if there is a shortcoming then there is always learning". You have to be honest in life. You have to be honest with yourself. You have to be practical. You have to take risks in life, but at the same time, you have to be calculative," Dhoni, who has faced several ups and downs in his life, believes in his facing difficulties with a smile. "Go through the difficult periods and fight them out. If you face your difficulties with a smile, you will become part of maybe the five per cent people who can do it."We crib about life and the tough period but what's important is to realise that these moments make you a better human being,"

# Engal Veetu Pillai









He started his career with svcet family and completed his degree in the year 2019 in the stream of Civil Engineering and got placed in our group of institutions. Presently he is working as site engineer at SV High Global School, Vanagram, Chennai.



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5th February 2022, 11.00 a.m She started her career with SVCET family and completed her degree in the stream of Electronics and Communication Engineering and She did internship in one Yes Technologies. Finally she got selected in Cognizant Technology Solution in chennal with the role of Programmer Analyst.











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## NLEDGE 4.0 ALUMNI Talks Hear from नलंकनं वैंदें एनंकन... My Career Path MR.V.VIGNESHVARMA JBPM and Java Full stack Expert ATOSISYNTEL 2nd June 2021, 10.00 AM To 11.00 AM Zoom Meeting ID: 977 4763 4001

**LUMNI** Talks

LIVE MOWLEDGE 4.0 **ALUMNI** Talks Hear from எங்கள் வீட்டு பள்ளை... My Career Path Mr. Melvin Dukles. R Programme Analyst Trainee - AIA(MSBI) Cognizant Technology Solutions (CTS)

4th June 2021, 10.00 AM To 11.00 AM

Zoom Meeting ID: 974 7644 6427 Passcode: 804089











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My Career Path



Hear from

**ALUMNI** Talks

**MR.LOKARAJ** Text researcher Integra software service

3nd June 2021, 10.00 AM To 11.00 AM

Zoom Meeting ID: 916 5435 9867 Passcode: 804089



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**MR.ARAVIND MANICKAM** Team Leader, MRN TECHNOLOGIES PVT LTD

5th June 2021, 10.30 AM To 11.30 AM

Zoom Meeting ID: 924 0802 1753 Passcode: 804089





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College is the best time of your life.

# Bancquest '23 Winners



SVCET Congratulates the Department of Management Studies (MBA) team for winning two prizes at the Bancquest '23 event organized by Pondicherry University!



### Business Plan - 1st Prize

Winning the first prize in the Business Plan competition is a great achievement and shows your team's excellent entrepreneurial skills and creativity. B. Ananthi and Kavipriya devi deserve special recognition for their outstanding work in developing a winning

business plan.



**B.**Ananthi

R.Kavipriya devi



## Business Quiz- 2nd prize

Winning the second prize in the Business Quiz competition is also a remarkable accomplishment. It demonstrates your team's knowledge and expertise in the field of business, as well as your ability to working both collaboratively and under pressure. D.Suriya prakash and S.Arun kumar deserve special recognition for their impressive performance in the quiz.



S.Arun kumar



D.Suriya Prakash





# ROBOTIC BASED TECHNOLOGY TO MANAGE AND MONITOR THE WATER POLLUTION CAUSED TO RIVERS.



Robotic based technology to manage and monitor the water pollution caused to rivers is the proposed invention. The invention aims at implementing robotic aspects to monitor the water pollution that will be caused to rivers. This is achieved using image recognition techniques which will intimate the robotic unit in cases of persons throwing bins into water. Continuous monitoring of river beds and backwater of river is the intention of the proposed invention.

## AN ARTIFICIAL INTELLIGENCE BASED SECURITY ROBOT

Security robots patrol the road independently, recognizing outsiders and communicating with officers. The human behind the monitor screen has already regressed in time, and the robots have spotted the infraction. The only role of a security guard will be to physically deter a potential intruder.

An industrial robot is one that is designed to automate labor-intensive manufacturing processes like those required by a constantly moving assembly line. An industrial robot's five major components are a controller, sensors, a robotic manipulator, an end-effector, and a drive. The robot controller is the brain of the robot. It is a computer device that instructs the robot on how to work using coded programmes. It is defined as a mechanical machine used to automate production-related processes in industrial environments. Security robots collect real-time information about the facility's surrounds and activities. It is equipped with a vision sensor, a laser radar, an ultrasonic sensor, a number of environmental sensors, a GPS unit, a walking mechanism, a wireless communication unit, and an acousto-optic reminding device. This data can then be analyzed to identify patterns, trends, and opportunities for the development of security protocols. Robots' expertise can be used to make intelligent and proactive security decisions for the organization. When a dangerous or emergency situation arises, a quick response is essential. Because of their mobility and real-time communication, security robots can alert human operators or activate relevant security procedures to minimize damage.

Dr. N.BALAJI, Ph.D.,

M.I.S.T.E., Head,

Computer Science and Engineering Department,

SVCET.

# "PIARM"-VISUAL SERVOING IN ROBOTICARM

Robotics is an engineering discipline that deals with the conception, design, construction, and operation of robots. The goal of robotics is to develop intelligent machines that can aid people in a variety of ways. Robotic arms are machines that are programmed to perform a given activity or duty in a timely, efficient, and precise manner. The proposed approach intends to create a low-cost Robotic Arm utilising the Raspberry Pi. The suggested system combines anAdafruit PCA9685 16-channel servo motor board with a Raspberry Pi for the Pi Arm design. Developing a solution for repetitive and consistent object-lifting tasks. As a result, the design of a robotic arm, as well as its augmented intelligence to identify and recognise items, has become a critical area of research. Robotic arms with 4 to 8 degrees of freedom (DOFs) are available as alternatives, although they are pricey. The costs of design and manufacture are significant. The Pi Arm is a low-cost way for building an efficient robotic arm from the ground up. The main aim is to create a robotic arm from the ground up, with integrated hardware and software modules capable of classifying surrounding objects for targets and initiating necessary contact.

# RECOMMENDATIONS FOR A HAYBRID FRANCEWORK FOR CLASSIFYING BIOMEDICAL RELATIONSHIP DATA

The ability to extract correlations between medical ideas is extremely useful in the medical field. Researchers must extract relevant information and semantic linkages between medical concepts such as drug and drug, gene and drug, herbal and drug, disease and drug, drug and food, drug and lab and drug and test. These connections can be identified in biomedical literature published in various databases. This study investigates the extraction of semantic links between Drugs and Targets. The findings will help doctors make appropriate decisions when administering medication to a patient and will keep them up to date in their field. The purpose of this work is to use Natural Language Processing (NLP) methodologies to find various medication and target relevant characteristics from medical texts.

The Support Vector Machine classifier uses these attributes to extract valuable semantic relationships between text pieces. The power of a proposed NLP technique that uses the UMLS ontology to extract correct and appropriate characteristics (frequency features, lexical features, morphological features, syntactic features, and semantic features). The purpose of this research is to discover multi-cross corpus correlations in medical data using Natural Language Processing and Machine Learning approaches. SVM, CNN, LSTM and BERT Transformer model play a role in this study. These attributes are altered in order to establish the relationships between biomedical text. The proposed approach was evaluated against a MEDLINE standard corpus. For all relationships, the accuracy 98% is higher than in BERT

Ms.S.Vinitha

**Assistant Professor, Department of CSE** 

# AMBIENT COMPUTING — EVERYTHING YOU NEED TO KNOW ABOUT THE RISE OF INVISIBLE TECHNOLOGY

Ambient computing, generally appertained to as ubiquitous computing, is the conception of blending calculating power into our everyday lives in a way that's bedded into our surroundings unnoticeable but useful.

The thing is to reduce the disunion involved in exercising tech, making it easier for druggies to take full advantage of technology without having to worry about keyboards and defenses. rather of having to directly interact with different computing bias to get asked results – for illustration, using your phone to make a phone call and your remote to turn on a television – ambient computing allows all of your bias to work together seamlessly to fulfil your requirements.

"In a multi-device world, people do not want to spend their life fussing with technology. An ambient approach gets the teVch out of your way so you can live your life while getting the help you need,"

IoT refers to the vast array bias that connect to the internet to optimize their functionality, like smart detectors and smart speakers ambient computing builds on that.

In other words, ambient computing focuses on the commerce between these bias once they're connected. For illustration, a light bulb that connects to an app is an IoT device; still, how the light bulb gathers data from its surroundings about your preferences and acts consequently is where ambient computing comes in.

The Internet of effects lives through detectors and selectors bedded in bias interacting with the world physically and functionally. Ambient computing contains this communication at the core and harnesses the terrain for business processes and perceptivity.

Mrs.K.Andal

**Assistant Professor, Department of CSE** 

# ALL ABOUT COVID VACCINATION

When most of the countries in the globe are still combating Covid-19, our proud nation has already started defeating it and also donating vaccines to our neighbors. India's drug regulator DCGI has given emergency approval for Oxford-Serum Institute's vaccine named Covishield and Bharat Biotech's Covaxin for restricted emergency use. A dry run Mock trial was conducted in Christian Medical College, Vellore on 8th January 2021. Vaccination for Health care workers has been already commenced from 16th January 2021. Here let's have a glimpse of the vaccine approval process, otherwise known as:

CLINICAL TRIALS The general stages of the developmental cycle of a vaccine are

1. Exploratory stage

2. Pre-Clinical stage animal studies

3. Clinical development human studies

4. Regulatory review and approval

5. Manufacturing

6. Quality control

Phase I: Trial conducted in 2100 healthy volunteers to study the safety and side effects of vaccines.

Phase II: Conducted in around 1000 volunteers to study the safety and immunogenicity of the vaccine.

Phase III: Conducted in more than 1000 people in a larger group to study the safety and efficacy of the vaccine by randomized control trials.

The normal licensure for a vaccine takes place after phase 3 trials are completed and the manufacturing of the vaccines are begun on a large

scale. The outbreak paradigm or 'wrap speed' is something different in the sense that Phase I, II, III trials and large scale manufacturing runs parallel.

The vaccine used right now is recombinant chimpanzee Adenovirus vector vaccine encoding the SARS-CoV-2 spike Sglycoprotein with technology transfer from AstraZeneca/Oxford University.

No serious adverse events as side effects have been documented so far.

A.R. AFRIN BANU
LAB TECHNICIAN- BME
SVCET

# REVOLUTIONIZING HEALTHCARE 'The Era Of Artificial Organs'

In recent years, advancements in medical technology have paved the way for ground-breaking innovations, and one of the most promising frontiers is the development of artificial organs. These bioengineered marvels hold the potential transform the lives of countless individuals awaiting organ transplants and redefine the landscape of healthcare as we know it.

Artificial organs, also known as bio artificial organs or bionic organs, are engineered constructs designed to mimic the functions of natural organs. The scarcity of donor organs for transplantation has been a long standing challenge in the field of medicine, leading researchers to explore alternative solutions.

Artificial organs offer a ray of hope, addressing the critical issue of organ shortages and improving the quality of life for patients with organ failure. One of the key players in this revolutionary field is the artificial heart. Developed to replicate the intricate pumping mechanism of the human heart, these synthetic counterparts aim to provide a lifeline for individuals awaiting heart transplants. With continuous advancements in materials science and biomechanical engineering, artificial hearts have become increasingly sophisticated, offering improved durability and compatibility with the human body.

Similarly, artificial kidneys are emerging as a game-changer for patients with renal failure. These bioengineered kidneys mimic the vital functions of their natural counterparts, including filtration and waste elimination. The development of implantable artificial kidneys raises the prospect of freeing patients from the constraints of traditional dialysis treatments, providing a more seamless and sustainable solution.

Beyond cardiac and renal applications, artificial lungs, livers, and pancreases are also under intensive research and development. These artificial organs aim to replicate the complex physiological processes of their natural counterparts, offering hope to patients with respiratory disorders, liver diseases, and diabetes.

G.SAKTHIPRIYA BME-III year

# **BOOMING BIOMEDICAL**

Engineering and Technology is a broad set of disciplines that deal with everything connected to the design, manufacture, and m maintenance of infrastructure, devices, tools, and information systems used by people on a daily basis. 0 Engineering is a crucial part of our society Z because it provides solutions to the problems . Ф we face in our daily lives. Engineers use their : Н knowledge, skills, and creativity to design, build, and maintain systems, structures, and technologies that improve our quality of life.

Biomedical engineering (BME) is the application of engineering principles to solve biological and medical problems for the purpose of improving health care. This field tries to close the gap between engineering and medicine. Biomedical engineers also known as Bio/Design/Clinical Engineers. Biomedical engineer is the ocean of knowledge. Biomedical engineers created many of today's standard health care instruments. BME is also traditionally logical sciences to advance health care treatment, including diagnosis, monitoring, and therapy. Also included under the scope of a biomedical engineer is the management of current medical equipment in hospitals while adhering to relevant industry standards. Biomedical engineers work at the intersection of engineering, the life sciences and healthcare. Prominent biomedical engineering applications include the development of biocompatible prostheses, various diagnostic and therapeutic medical devices ranging from clinical equipment to micro-implants, common imaging equipment such as MRIs and EKG/ECGs, regenerative tissue growth, pharmaceutical drugs and therapeutic biologicals. Scope spreads around fields of Bioinformatics, Biomechanics, Biomedical optics, Tissue Engineering, Genetic Engineering, Neural Engineering, Pharmaceutical Engineering, Clinical

Engineering, Rehabilitation Engineering, Hospital and medical Engineering etc.

Biomedical engineering, is a specialized subset of bioengineering strictly focused on the application of engineering practices for health care purposes by designing medical devices and developing processes to improve health outcomes.



K.SOFANA BME-III Year

## **Introducing Whoop 4.0**

## A Revolutionary AI-Based Wearable for Holistic Health Tracking

In the ever-evolving landscape of wearable technology, Whoop 4.0 stands out as a distinctive device that redefines the parameters of health and fitness tracking. Unlike traditional smartwatches, Whoop 4.0 intentionally forgoes features such as a display, GPS, and notifications, offering a singular focus on comprehensive health assessment.



#### **Innovation by Design**

Conceived by the visionary William Ahmed, Whoop 4.0 transcends the typical fitness tracker. Weighing a mere 0.14kg with a compact 7.1-inch form factor, this wearable harbors 32GB of memory. Its uniqueness lies in its AI-driven capabilities, providing not just fitness insights but a holistic health analysis based on sleep and workout data. Whoop 4.0 excels in data collection through its advanced hardware, a discreet strap, and pod equipped with an array of sensors. These sensors measure heart rate variability with an astounding precision of 99.9%, respiration rate, blood oxygen saturation, sleep patterns, and temperature.

#### **Strain and Recovery: The Core Metrics**

The device operates on the foundational concepts of Strain and Recovery. Strain gauges the effort exerted, correlated with heart rate, while Recovery analyzes heart rate variability and sleep patterns. The amalgamation of these metrics provides a nuanced understanding of the user's health. Remarkably, Whoop 4.0 boasts a battery life of 4-5 days. A unique feature is the LED battery indicator, activated by tapping the front screen twice. Alternatively, users can check the battery level through the dedicated Whoop app.

#### **Tailored Fitness Guidance**

The Whoop app presents a visually intuitive interface with two circles representing Recovery (0-100) and Strain(0-21) scales. The device dynamically adjusts the strain level to an optimum range based on recovery status. When this optimal state is achieved, a haptic vibration prompts the user to maintain the balance.

#### **Beyond Fitness: Health Insights**

The device goes beyond fitness tracking, detecting fever through a temperature sensor and even discerning unhealthy dietary choices based on strain level fluctuations. This makes Whoop 4.0 a comprehensive health companion. Celebrated athletes, including cricket icon **Virat Kohli**, have embraced Whoop 4.0. Its adoption in high-stakes matches, such as the Indian semifinal, underscores its efficacy as an automatic

AI-based workout coach.

#### Conclusion

In the realm of wearables, Whoop 4.0 emerges not just as a fitness tracker but as a holistic health companion. Its innovative design, coupled with AI-driven insights, positions it as a leader in the field. As we prioritize holistic well-being, Whoop 4.0 paves the way for a new era in health-centric wearables.



A.Deenadayal<mark>an</mark> BME III-Year

# **IOT** (Internet Of Things)

### Understanding the Internet of Things (IoT)

This article provides a comprehensive overview of the Internet of Things, explaining its definition, key components, and how it is transforming various industries. It also discusses the challenges and future prospects of IoT.

### Security Challenges in IoT: A Comprehensive Analysis

Security is a critical concern in the IoT landscape. This article delves into the various security challenges associated with IoT devices and networks. It explores potential threats and suggests strategies to enhance the security of IoT ecosystems.

### IoT in Healthcare: Revolutionizing Patient Care

The healthcare industry is leveraging IoT to improve patient care and streamline operations. This article explores the use of IoT in healthcare, discussing applications such as remote patient monitoring, smart devices, and data analytics for better health outcomes.

### The Role of IoT in Smart Cities

Smart city initiatives are on the rise, and IoT plays a crucial role in transforming urban landscapes. This article examines how IoT technologies are being used to enhance city infrastructure, improve efficiency, and create more sustainable and livable urban environments.

## IoT and Industry 4.0: Shaping the Future of Manufacturing

Industry 4.0, characterized by the integration of digital technologies into manufacturing processes, relies heavily on IoT. This article explores the intersection of IoT and Industry 4.0, detailing how connected devices, data analytics, and automation are revolutionizing the manufacturing sector.

ROSHINI. L SHATHEEZH ECE II- Year

## EMBEDDED TECHNOLOGY

### The Role of Embedded Systems in Modern Technology

Embedded systems are at the heart of numerous devices and technologies that surround us. This article explores the significance of embedded systems, which are specialized computing systems designed for specific tasks. It delves into their applications across various industries, such as automotive, healthcare, consumer electronics, and industrial automation. The article also discusses the challenges and trends in the field of embedded systems, including real-time processing, power efficiency, and connectivity. As technology continues to advance, understanding the role of embedded systems becomes crucial for innovators.

### Unveiling the Power of Embedded Technology: Shaping a Connected Future

Embedded technology is the unsung hero behind the seamless operation of countless devices we encounter daily. This article explores the multifaceted world of embedded technology, delving into its core concepts, applications, and transformative impact on various industries. From smart home devices and wearable gadgets to automotive systems and industrial automation, embedded technology is the driving force propelling the Internet of Things (IoT) revolution. The article also discusses the challenges and opportunities in the realm of embedded technology, including real-time processing, energy efficiency, and the evolving landscape of connectivity standards. As we navigate the era of digital transformation, understanding the intricacies of embedded technology is pivotal for engineers, innovators, and technology enthusiasts alike.

#### Embedded Technology: Enabling a Smarter, Connected World

In our increasingly interconnected world, the role of embedded technology has become paramount, silently powering the devices that make our lives more efficient, secure, and enjoyable. From the smart thermostat regulating your home's temperature to the intricate systems controlling the latest electric vehicles, embedded technology is the driving force behind these innovations.

# **ROBOTICS**

#### The Rise of Robotics in Manufacturing: A Revolution on the Factory Floor

This article explores how robotics is transforming manufacturing processes. It delves into the increasing adoption of industrial robots, their impact on efficiency, and the evolving role of human workers in collaboration with robotic counterparts.

#### Robots in Healthcare: Revolutionizing Patient Care and Surgery

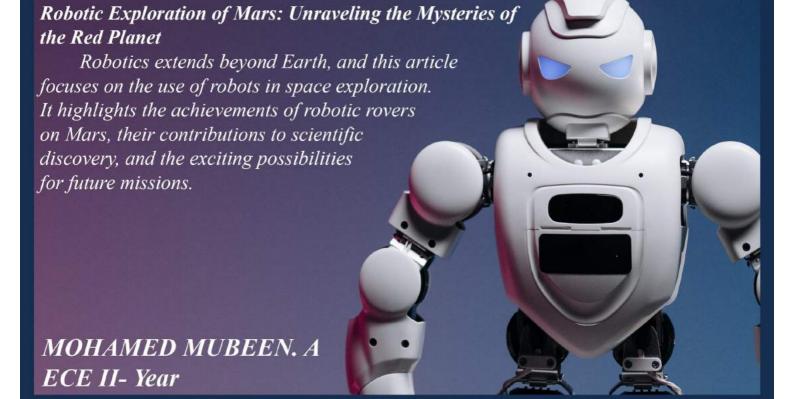
The healthcare industry is experiencing a revolution with the integration of robotics. This article discusses the use of robotic systems in surgeries, patient care, and rehabilitation, highlighting their precision, efficiency, and potential for improving medical outcomes.

#### Exploring the Ethics of AI and Robotics: Navigating the Human-Machine Relationship

As robots become more intelligent, questions about ethics arise. This article delves into the ethical considerations surrounding artificial intelligence and robotics, addressing issues such as job displacement, bias in algorithms, and the responsible development of autonomous systems.

#### Educational Robotics: Inspiring the Next Generation of Engineers

Robotics is becoming a cornerstone of education, engaging students in hands-on learning experiences. This article explores the use of educational robotics in schools, coding programs, and competitions, emphasizing its role in fostering creativity and preparing students for future STEM careers.



# **Powering Savings: Practical Tips for Energy Conservation in Your Household**

#### Introduction:

Conserving energy at home not only reduces utility bills but also contributes to a more sustainable and environmentally friendly lifestyle. This article provides practical tips for energy conservation in households, empowering individuals to make conscious choices that benefit both their wallets and the planet.

#### 1. Efficient Lighting:

Replace incandescent bulbs with energy-efficient LED or CFL bulbs.

Remember to turn off lights when leaving a room and utilize natural light whenever possible.

#### 2. Smart Thermostat Usage:

Install a programmable thermostat to regulate heating and cooling based on your schedule.

Lower the thermostat in winter and raise it in summer to save on heating and cooling costs.

#### 3. Appliance Efficiency:

Choose energy-efficient appliances with the ENERGY STAR label when purchasing new devices.

Unplug chargers and appliances when not in use to avoid "phantom" energy consumption.

#### 4. Proper Insulation:

Ensure your home is well-insulated to maintain a comfortable temperature without excessive reliance on heating or cooling systems.

Seal gaps and cracks to prevent drafts that can lead to energy loss.

#### 5. Water Conservation:

Fix leaky faucets promptly to avoid wasting both water and the energy used to heat it.

Consider using energy-efficient appliances, such as low-flow showerheads and front-loading washing machines.

#### 6. Optimized Heating and Cooling:

Regularly clean and replace HVAC filters to maintain system efficiency.

Use fans strategically to circulate air and reduce the need for heating or cooling.

#### 7. Energy-Saving Habits:

Turn off electronic devices when not in use, and consider using power strips to easily disconnect multiple devices.

Wash clothes with cold water whenever possible, and air-dry clothes instead of using a dryer.

#### 8. Solar Solutions:

Explore the possibility of installing solar panels on your property to generate clean, renewable energy.

Even smaller solar solutions like solar water heaters can contribute to energy savings.

#### 9. Energy Audits:

Conduct a home energy audit to identify areas of inefficiency.

Implement changes based on the audit, such as adding insulation or upgrading windows.

#### 10. Education and Family Involvement:

Educate family members about the importance of energy conservation and involve them in adopting energy-saving practices.

Make it a family effort to reduce energy consumption and track progress together.

#### Conclusion:

Small changes in daily habits and thoughtful investments in energy efficient technologies can collectively make a significant impact on household energy conservation. By embracing a more sustainable lifestyle, individuals can not only save on utility bills but also contribute to the global effort to reduce energy consumption and mitigate environmental impact.

Mr.C.Sandou Louis Kichor

**Assistant Professor, Department of EEE** 

# **Biomechanics and Prosthetics**



Introduction Biomechanics and prosthetics are rapidly evolving fields at the intersection of biology, engineering, and medicine. Recent advancements have significantly improved the quality of life for individuals requiring prosthetic devices, blending human physiology with mechanical innovation.

## 1. Advanced Prosthetic Limbs

Prosthetic limbs have seen remarkable developments, with new devices offering realistic movement and even the ability to convey sensations. These advancements allow for greater dexterity and a more natural feeling for the user.

### 2. Bionic Prosthetics

Bionic prosthetics represent a leap forward in biomechanics, interfacing directly with the user's muscle and nerve systems. This integration allows for intuitive control and movement, closely mimicking natural limb functionality.

## 3. Prosthetic Innovation in Sports

The impact of prosthetic advancements extends into the world of sports, enabling athletes with prosthetics to achieve high performance and compete at professional levels. These innovations demonstrate the potential of prosthetics in enhancing physical abilities.

## 4. 3D Printing in Prosthetics Image:

A 3D printer creating a custom prosthetic limb.

3D printing technology has revolutionized prosthetic manufacturing, allowing for the creation of custom, affordable prosthetics. This technology enables a tailored fit and rapid production, making prosthetics more accessible.

## 5. Future of Prosthetics Image:

Futuristic concept of prosthetics with advanced integration and capabilities.

The future of prosthetics is likely to see even greater integration of technology, with developments in materials science, robotics, and neural interfaces promising more advanced, intuitive, and integrated prosthetic solutions.

#### Conclusion

The field of biomechanics and prosthetics is not just about replacing lost limbs but enhancing human capabilities. As technology advances, the line between human and machine continues to blur, offering new horizons for those who rely on these vital devices.

Mr.M.Nataraj

# Innovations in Robotics

## Introduction

The field of robotics has seen remarkable advancements in recent years, driven by breakthroughs in artificial intelligence, materials science, and engineering. These innovations are shaping the future, with robots becoming increasingly sophisticated and capable of performing tasks once thought impossible.

## 1. AI-Powered Autonomous Robots

AI has revolutionized robotics, enabling robots to make complex decisions and learn from their environment. Autonomous robots are now being deployed in various sectors, including healthcare, manufacturing, and transportation.

## 2. Soft Robotics

Soft robotics is a rapidly growing field focusing on creating robots made from flexible materials. These robots have the potential to perform tasks in delicate environments, such as handling soft or fragile items, and can work safely alongside humans.

#### 3. Swarm Robotics

Inspired by nature, swarm robotics involves the development of multiple robots that can work together to perform tasks more efficiently than a single robot could. These swarms can be used in scenarios like agricultural monitoring, search and rescue operations, and environmental surveys.

## 4. Humanoid Robots

Humanoid robots continue to advance, with improvements in bipedal locomotion and human-like dexterity. These robots are being designed to perform tasks in environments built for humans, from assisting in homes to working in hazardous areas.

## 5. Underwater and Aerial Robots

The development of specialized robots for challenging environments like underwater or in the air has opened new possibilities for exploration and data collection. These robots can reach places inaccessible to humans, aiding in scientific research and environmental monitoring.

## Conclusion:

The innovations in robotics are not just technological marvels; they represent a fundamental shift in how we interact with machines. As these technologies continue to evolve, they promise to bring even more transformative changes to our world.

Mr.C.Manikandan

# **Automotive Engineering Breakthroughs**

## Introduction

The automotive industry is undergoing a transformative era with breakthroughs in technology reshaping the way vehicles are designed, manufactured, and operated. These advancements are not only enhancing performance and efficiency but are also contributing to environmental sustainability.

## 1. Electric Vehicle (EV) Technology

Electric vehicles have revolutionized the automotive industry with their eco-friendly operation. Recent breakthroughs include improved battery technology, faster charging capabilities, and extended range, making EVs more practical and accessible.

## 2. Autonomous Driving Systems

Autonomous driving technology is rapidly evolving, with cars now capable of sensing their environment and navigating without human input. This technology promises to increase road safety, reduce congestion, and transform urban mobility.

## 3. Lightweight Materials and Manufacturing

Advances in materials science have led to the development of lighter and stronger materials for vehicles. This has significant implications for fuel efficiency, performance, and the overall environmental impact of automobiles.

## 4. Connected Car Technology

Connected car technology integrates vehicles with the internet, allowing for real-time data exchange. This includes enhancements in navigation, vehicle diagnostics, safety features, and entertainment options.

## 5. Hydrogen Fuel Cell Vehicles

Hydrogen fuel cell vehicles represent a potential future for sustainable transportation. These vehicles use hydrogen gas to power an electric motor, emitting only water vapor and warm air.

## Conclusion:

These automotive engineering breakthroughs are not just technological feats; they are stepping stones towards a more sustainable, efficient, and safe mobility future. As these technologies continue to evolve, they will play a crucial role in shaping the future of transportation.

Mr. V. Karthikeyan

## The Future of Renewable Energy Systems

## Introduction

Renewable energy has become a critical part of the global strategy to reduce greenhouse gas emissions and combat climate change. The future of renewable energy systems is marked by technological innovation, policy developments, and shifts in public and corporate behavior.

## 1. Solar Power Innovations:

Solar power has seen significant advancements in efficiency and cost-effectiveness. Future innovations may include new materials for higher efficiency solar cells and the integration of solar energy into building materials like solar roof tiles.

## 2. Wind Energy Developments

Wind energy continues to grow, with larger, more efficient turbine designs and the expansion of offshore wind farms. Technological advancements are making wind energy more viable in a wider range of geographic locations.

## 3. Energy Storage and Battery Technology

As renewable energy sources are intermittent, the development of energy storage technologies is vital. Future systems may include advanced battery technologies, pumped hydro storage, and even hydrogen storage solutions.

## 4. Smart Grids and Energy Distribution

Smart grid technology is set to revolutionize how energy is distributed and managed. These grids will be more efficient, resilient, and capable of integrating various renewable energy sources seamlessly.

## 5. Emerging Renewable Technologies

The future will likely see the emergence of new renewable energy technologies. Areas like tidal energy, geothermal power, and even space-based solar power are potential frontiers.

## Conclusion:

The future of renewable energy systems is not only about technological advancements but also about creating a sustainable and eco-friendly energy landscape. The integration of these technologies into the global energy grid will be crucial for achieving a greener future.

Mr. Palanivel.G

# Advancements in Sustainable Engineering Practices A Path Towards a Greener Future

In an era defined by environmental concerns and the pressing need to mitigate climate change, sustainable engineering practices have emerged as a critical force driving positive change. This essay explores the advancements in sustainable engineering practices and their pivotal role in paving the way towards a greener and more environmentally responsible future.

#### **Defining Sustainable Engineering**

Sustainable engineering entails the integration of environmental, social, and economic factors into the design, construction, and operation of systems and products. It aims to minimise negative environmental impacts while ensuring economic viability and societal well-being.

#### Renewable energy Technology

Sustainable engineering has witnessed significant progress in the development and deployment of renewable energy sources such as solar, wind, and hydropower. These technologies reduce our reliance on fossil fuels, cut greenhouse gas emissions, and promote cleaner energy generation.

#### **Green Building Practices**

Sustainable engineering practices have transformed the construction industry with the adoption of green building standards like LEED (Leadership in Energy and Environmental Design). These standards emphasize energy efficiency, water conservation, and eco-friendly materials, resulting in buildings that are kinder to the environment and occupants.

#### **Waste Reduction and Resource Optimization**

Engineers have developed innovative techniques for waste reduction and resource optimization in industries. This includes recycling and reusing materials, reducing energy consumption, and minimising water usage, which not only reduce environmental impact but also cut operational costs.

#### **Transportation and Electric Vehicles:**

Sustainable engineering plays a pivotal role in revolutionising transportation through electric vehicles (EVs) and advanced public transit systems. EVs reduce emissions and dependence on fossil fuels, contributing to cleaner air quality and reduced carbon footprints.

#### **Water Management and Conservation**

Sustainable engineering practices extend to water management, including efficient wastewater treatment, rainwater harvesting, and desalination technologies. These advancements ensure the sustainable use and conservation of this precious resource.

#### **Circular Economy Principles**

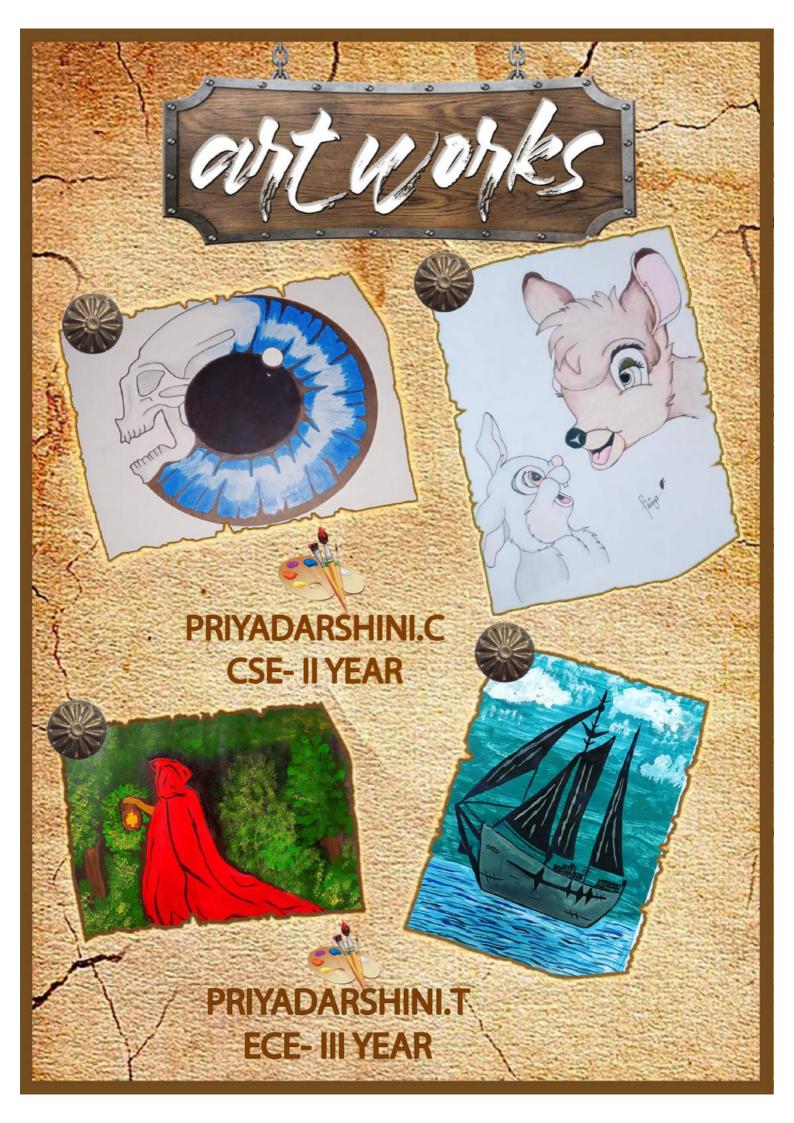
The adoption of circular economy principles in engineering involves designing products for durability, repairability, and recyclability. This approach reduces waste generation and promotes a closed-loop system for resources.

#### **Challenges and Future Directions**

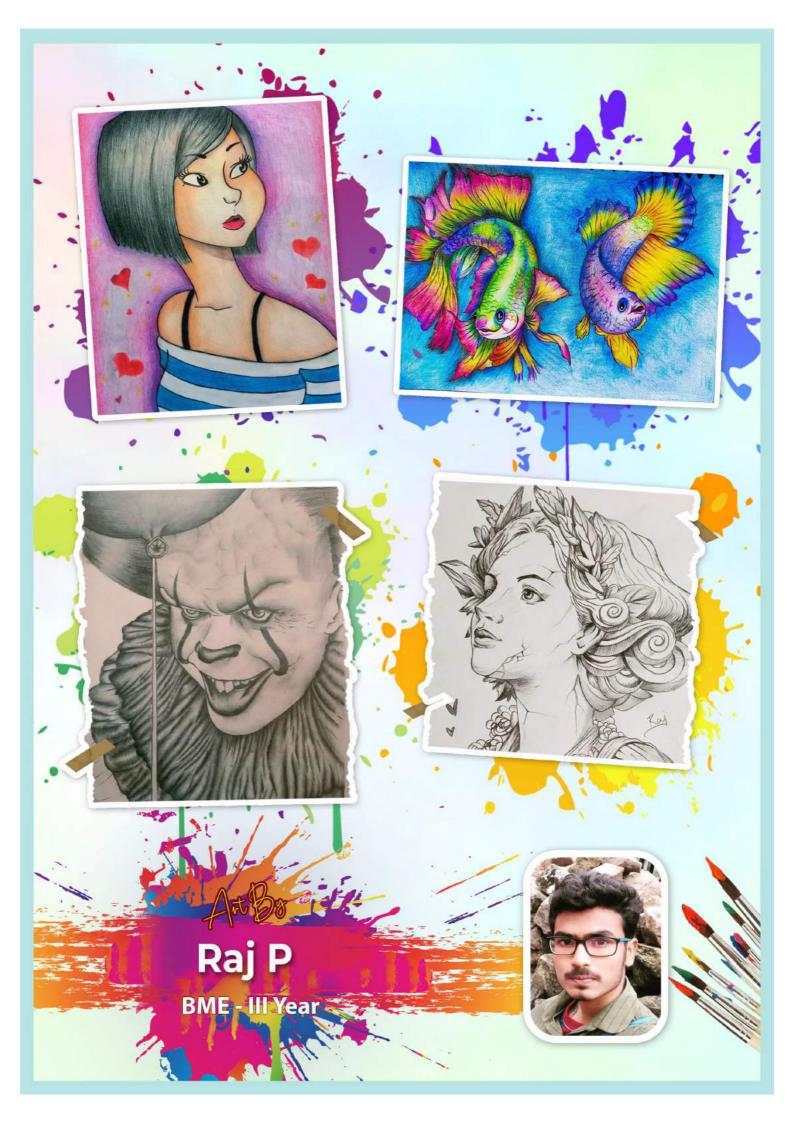
While sustainable engineering has made significant strides, it faces challenges such as scalability, cost-effectiveness, and regulatory barriers. Future directions may include further research into emerging technologies and policy support for sustainable practices.

Advancements in sustainable engineering practices offer hope for a greener future by addressing environmental challenges and promoting responsible resource management. These practices are not only essential for mitigating climate change but also for ensuring a sustainable and prosperous world for future generations. Engineers have a pivotal role to play in shaping this path towards a more sustainable and eco-friendly future.

BY S.Janani BME - I Year













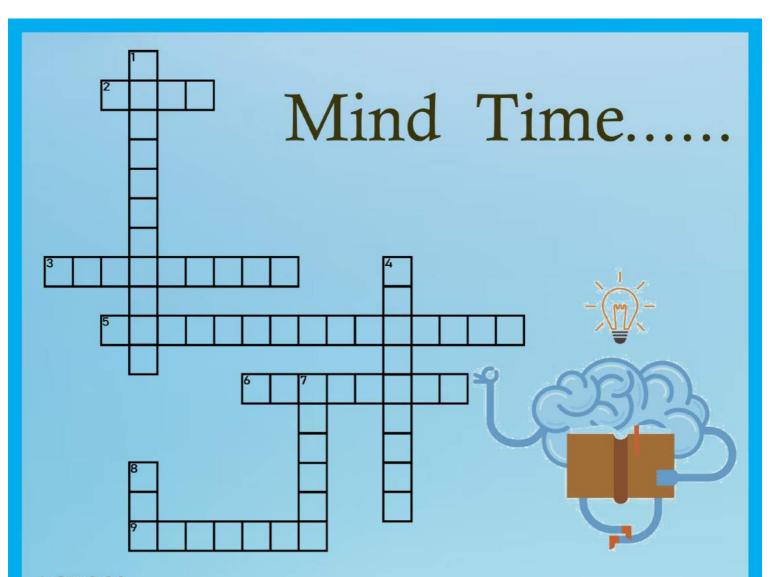












#### **ACROSS**

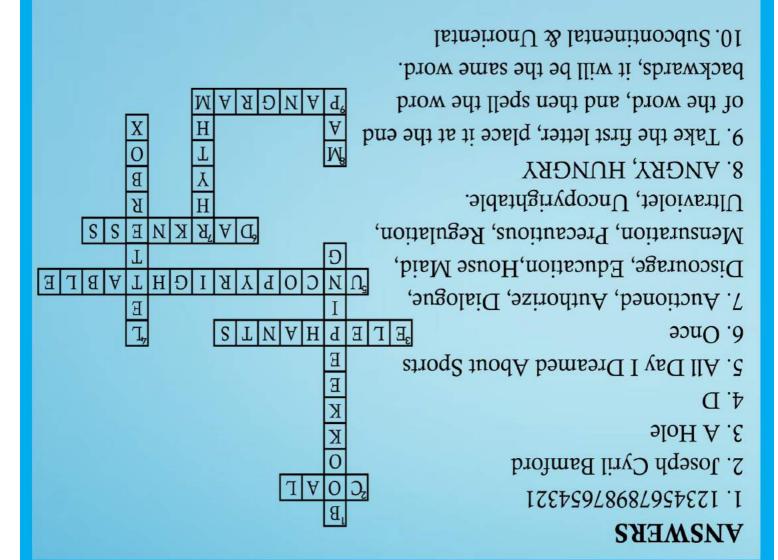
- 2. What is Black when you BUY it, Red when u Fire it, Grey when you throw it away...
- 3. Only animal that cannot jump...
- 5. An English word which contains no letter more than once..
- 6. THOMAS EDISON was afraid of...
- 9. The Sentence which contains all the 26 alphabets is known as...

#### **DOWN**

- 1. A word, where 2 consecutive letters that comes in 3 times...
- 4. If you are taking a letter from it, it's meaning will not be changed...
- 7. The longest word without a vowel...
- 8. I have roads, but no cars, I have oceans, but no water.... Who am I...?

## Do You Know...?

- 1. What is  $111,111,111 \times 111,111,111 =$
- 2. What is an Expansion of JCB machine?
- 3. What gets bigger the more you take out?
- 4. What is the Middle of the Middle & What is the End of the End?
- 5. What is the Expansion of ADIDAS?
- 6. How many times can you take 5 from 25?
- 7. Words that uses all 5 vowels.
- 8. Do you know, the only 2 words in English, that ends with "gry"?
- 9. What these seven words all have in common?
  (Banana ,Dresser ,Grammar ,Potato ,Revive ,Uneven ,Assess )
- 10. Name the words whose vowels are in Reverse order?







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