

RESEARCH

FORUM

Volume 2, Issue 2



OFFICIAL NEWSLETTER

**RESEARCH & DEVELOPMENT CELL,
ST. MARTIN'S ENGINEERING COLLEGE**

Editor in Chief

Dr. P. Santosh Kumar Patra



St. Martin's Engineering College

UGC Autonomous

NBA & NAAC A+ Accredited

Dhulapally, Secunderabad-500 100

www.smec.ac.in



St. Martin's Engineering College

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Dhulapally, Secunderabad, Telangana -500 100

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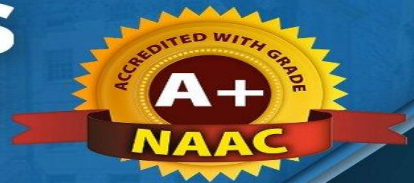
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Dhulapally, Near Kompally, Secunderabad - 500 100, T.S. www.smec.ac.in





RESEARCH FORUM

RESEARCH AND DEVELOPMENT CELL

The Newsletter



From July 2023 to December 2023

Editor-in-chief:

Dr. P. Santosh Kumar Patra
Group Director

Editors

Dr. Sanjay Kumar Suman
Dean R&D

Dr. M.Vadivukarassi
R&D Coordinator

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Discovery and Innovation



Research scientists make discoveries, which may be defined as ‘revealing a truth that was always there’. In contrast, an invention is a ‘product, technique, or service that has been brought to the market and changes the way people view or interact with the world and other people around them. This leads us to innovation. Innovation is a process that brings together novel concepts and ideas and molds them into new products, techniques, and services. An innovation may also be defined as an improvement to someone else’s invention. Innovation adds value that appeals to existing users and also attracts new users. There is a constant feedback loop between discoveries, inventions, and innovations. For instance, discoveries may lead to the development of new materials which make new inventions and innovations possible. New scientific disciplines and techniques are changing the way in which we think, learn, innovate and attempt to improve our quality of life.

BEST WISHES

FROM THE EDITORS

LET'S FEED OUR MIND WITH GOOD THOUGHTS

With the rise of digital technology, we are surrounded by endless sources of distraction. Giving in to distractions once in a while is normal, but if it becomes a habit, we lose the focus and drive to meet our goals. Knowing how to avoid distractions that are stopping you from being successful will set you apart from the crowd and put you on the path to mastery.

"FOCUS IS MORE IMPORTANT THAN GENIUS"

With best wishes
Editors

RESEARCH FORUM

Journal	Conference Proceeding and Book Chapter	Patents	Books
Discussions & Meetings	Seminar - Webinar	Workshop- FDP	Project Expo
MSME	Hackathon	Govt. Funding Project	IIC

**"You discover yourself through the research of your work."
— Carine Roitfeld**

+ Guidelines for Publications

- +** For Doctorate:
 - 2 SCIE
 - 1 SCIE and 2 Scopus
 - 4 Scopus
 - **and** 6 Patents or Copyright
 - Funded project submission is compulsory for Associate Professor and Professor.
- +** For PG (10 years and above)
 - 1 SCIE
 - 2 Scopus (journals)
 - **and** 3 Patents or Copyright
 - [The indexing conference will be counted in the external conference category.]
- +** PG (5 years and above)
 - 1 Scopus indexed journal (must)
 - 1 Indexed conference or Book Chapter
 - 2 Patent or copyright
- +** PG (less than 5 years)
 - 2 Indexed Conferences or 1 Scopus/WoS Journal
- +** Common to all faculties:
 - 1 Internal conference
 - 1 External conference
- +** Desirable:
 - Awards
 - NPTEL course
 - Invited lecture



Introduction to Research and Development Cell

Research and Development Cell (RDC) is an extension of the vision, mission and commitment of **Dr. P. Santosh Kumar Patra**, **Group Director**, St. Martin's Children's Education Society, Secunderabad, since 2016, to move forward towards excellence in academic, research and sports in all areas which are important in country's development. The RDC of SMEC facilitates and encourages research culture among the faculty and students. Its prime role is to establish a connection with the real world and promote research through a range of publications. It has six dedicated laboratories to solving problems in cutting edge technological issue to future applications of national relevance.

It enables a congenial environment for technological development and monitors the research activities of the college. It takes upon the responsibility of creating a work place to attract the best talent and strives continuously in pooling of skills and internal resources, creating strategy, overcoming limitations, and makes the institute proud to be amongst the best institutions around the country.

Under the visionary leadership of **Chairman of RDC** and Group Director of SMEC: **Dr. P. Santosh Kumar Patra**, the college is able to obtain the grant in excess of **Rs. 630 crores** from various agencies like GHMC, HWMSSB, MSME, DST, IIT BOMBAY, AICTE, foreign funding etc. The publication statistics including **journals: 9553+**, **patents: 314+**, **books: 148+**, **conference proceedings: 1055+**, **copy rights: 36** and citations are credit worthy. The number of publications from inception is reaching towards 10,000. In addition, RDC holds a credit of **138 innovative products** which are developed by students and faculty and 40000 international certification courses.



Vision, Mission and Objective

Vision

To implement, maintain and continually improve the research ecosystem of the Institute that contribute pragmatically towards the goal of a self-reliant nation.

Mission

- Provision of resource and favourable environment for enhancing the research productivity.
- To promote collaborative research, innovation, technology development, and enterprise activities with industry, government, non-government, state, national and international organisations and agencies.
- To identify and implement resource and funding mobilisation system for facilitating greater access to research to students, research scholars and faculty members.

Objectives

1. To develop an organisation structure for proper functioning of various role of the cell.
2. To formulate and implement the research policy across the institute.
3. Identify major research areas across disciplines institute-wide, and set up a consortium of researchers.
4. To set up human resource, procurement, and financial management system with adequate autonomy to the Principal Investigator(s)
5. To publish the outcomes of research at the global level.
6. To establish a unique vehicle for promotion of researchers, innovators and star-ups.
7. To develop a consultancy services within the cell for to identify
8. To establish domain based centre of excellence



Dr. P. Santosh Kumar Patra, Group Director of St. Martin's Engineering College and trust is the only person in Telangana to receive continuously **FOUR** times "GOVERNOR AWARD from Governor of Telangana, in addition to "Rashtriya Gaurav Award", "Rashtriya Vikas Ratan Award", "Dronacharya Award", Young leader

of the year & IBAE International Award, Dubai; The Engineering Educators' Award 2019; NIRDPR Award (Govt. of India); IDF Best Partner Award; Dewang Mehta Award; TCS ION Award; CSI Award (Students Chapter); Best Innovation by Federation of Gujarat Industries, Street Cause-Most Dedicated Division, Best college award from Education Matter, Best College in sports facility and achievement by Stumagz, Telangana, National Leadership Excellence Award- 2019 by ICCI. Best Engineering College by American College of Dubai, Dubai. He has maintained the highest amount of consultancy and industry sponsored projects in Telangana state amount of Rs. 444 crores from GHMC, Hyderabad & Rs.150 crores from HMWSSB, Hyderabad, Govt of Telangana. He has received Rs. 1.8 Crores funds from DST, IIT Bombay and AICTE. He is bestowed with Rs. 31 lakhs from UGC as a PARAMARSH (Advisor). He had facilitated 300 Aakash tablets from IIT, Bombay. Rs.1 crore approval from MSME for Business Incubation. NIRF Ranked and ARIIA ranked under excellent band, Careers 360 Certified as AA+; Competition Success Review Ranked in top 3; and Wikipedia Ranked 2nd in Telangana. Rs. 21.46 Lakhs received from SERB, Government of India, Rs. 30 lakhs from NIELIT, Chennai, Govt of India, Rs. 29 lakhs from MSME, Govt of India. Rs.31 lakhs from UGC. Recently Rs.18 lakhs funding from AICTE was also received. He has also received international award and funding (4000 USD) from George Mason University Virginia, USA.

In his crowning glory he has achievements like publishing 48 patents and his 30 patents are selected by different companies for commercialization. He has published 50 books and more than 108 international & national research papers, 28 magazine articles & 188 newspaper coverage. He is an active member of ISTE, CSI, IAENG (Canada), MASPRS (USA), Senior Member of IACSIT (Singapore), Senior Member of CSTA (USA), SDIWC (USA), Senior Member of SCIEI (Canada), Senior Member of IEDRC (Hongkong), Member of WASET (USA) & Technical Advisor for Alaxia, Japan. He also received the award titled “Outstanding Institute with best placements” by the world education summit on 3rd October 2023 in Malaysia. He has been honoured as an Advisor to NAAC, Bengaluru (Only person in India from private college), UGC-Paramarsh, National Cyber Safety & Security Standards, Govt. of India. He is on the editorial board of TATA MCGRAW HILL International Publication, Charulatha Publication, Hi Tech publication, Spectrum publication etc.

On 21st August 2022 he is the only one from Telangana to receive the most prestigious Award named “National Happiness Unicorn Award” from Chairman of AICTE and the Programme was attended by Smt.Kalvakuntla Kavitha garu, honourable M.L.C. of Nizamabad, Kamlesh D Patel, known as Daaji, Heartfulness Guide and other many icons from the globe. Under his excellency as a Principal, his innovative thinking, able leadership, meticulous planning, dynamism, dedication, diligence and commitment have achieved great laurels for St Martin’s Engineering College and few of them are like awarded with prestigious grade A+ from NAAC (only 27 colleges in India, awarded A+ grade by NAAC), 2(f) & 12(B) Recognized by UGC Act of 1956, all courses are NBA accredited, Received UGC-Paramarsh (only young college in Telangana to receive), ISO certified, DSIR Recognition, J-Hub certified (JNTUH), TASK certified (Govt. of Telangana), 5 star from Institute Innovation Council (MHRD-Govt. of India), Remote centre of IIT Bombay, Member of CII and MSME certified Institution. Honours and Minors from JNTUH (Only 10 colleges under JNTUH permitted for this), AICTE KARMA scheme approved. NCC girls and Boys wings approved. Students’ placement reached 100% along with high pay packages like 27 and 50 Lakhs which was witnessed across India and created a remarkable history in the glory of St. Martin’s.

+ Keynote Speech

Distraction and Success

Success is important for making your dreams a reality, but another factor that holds significance is to avoid distraction. Our lives are made of various seconds, minutes and hours. Most individuals, especially students, have this in mind. Therefore, they tend to waste a lot of time. Distraction is a factor, thing or aspect that diverts the attention of an individual or a group from desired focus area. Many things can lead to distractions such as losing interest in the main task, being unable to focus for a variety of



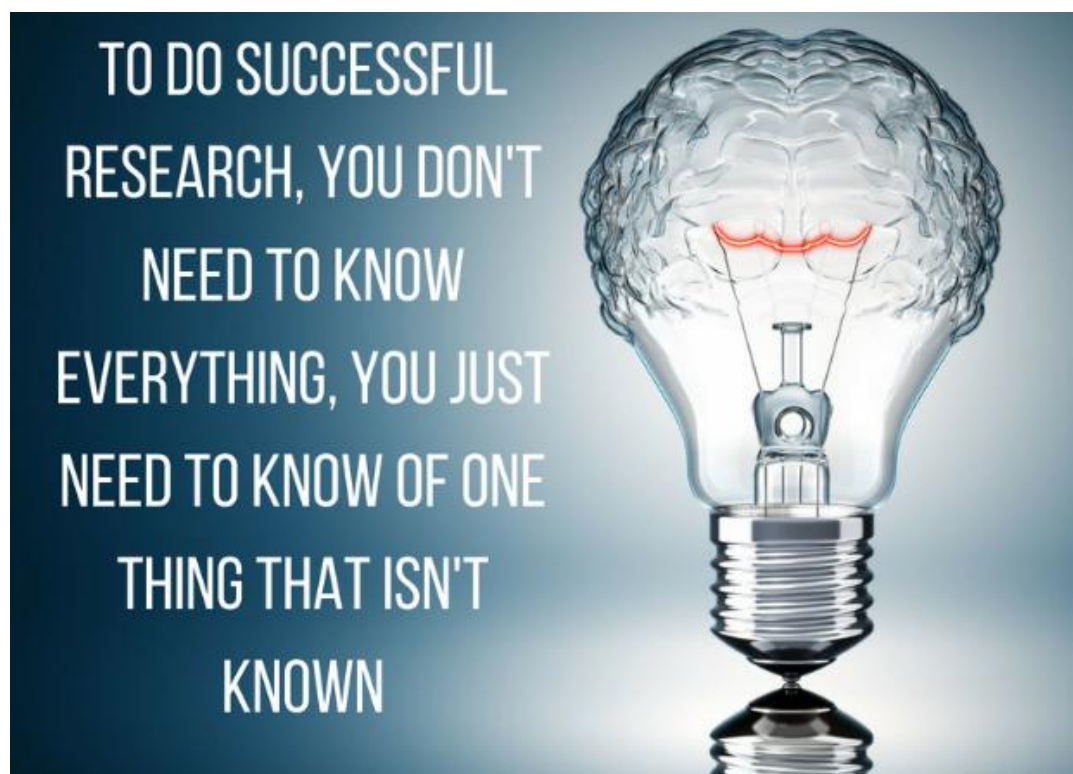
reasons or the seriousness of the distracter. We live in an era of information overload. We are bombarded with media, technology, entertainment, and notifications every day. Your time is valuable. Not being able to focus can have a negative effect on how successful we are at work and in our personal lives. Focus is a skill that we develop by training and practice. Productivity requires intention and strategy to help make your time work for you!

The vast majority of parents believe social media is a major distraction for students, according to a new nationwide study. Everything demands your attention. Cell phone usage and social media browsing is ingrained among school-age children. Today, devices, email and social media all vie for your heed at any given moment. The cost of these distractions to your personal and professional lives is well documented. Identifying distractions and eliminating them, practicing meditations and mindfulness, establishing a sleep pattern, taking short breaks, maintaining a healthy diet and exercising are some impactful techniques to get better at focusing on work. Distractions are considered as a bad thing, but they can be a good thing when they are conscious and healthy.



R&D PROGRESS OF JULY- DECEMBER 2023

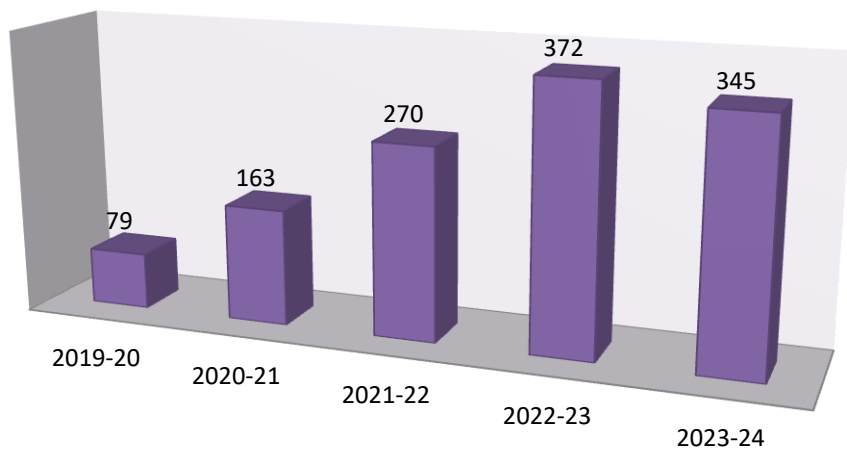
Progress from July 2023 to December 2023					
S. No.	Dept	Submitted/Accepted		Patents	Books
		Journals	Scopus_CP & BC		
1	CSE	40	44	40	5
2	CSE Allied	62	5	39	17
3	IT	20	37	17	4
4	ECE	37	20	20	3
5	EEE	5	4	5	6
6	Mech	37	2	11	1
7	Civil	12	2	11	5
8	FME	40	2	6	24
Total		255	116	149	65



+ PUBLICATION REPORT (July 2023 to December 2023)

Dept.	Journal	CP& BC	Internal & External Conference
CSE	4	9	49
CSE Allied	4	0	17
IT	2	2	34
ECE	5	2	38
EEE	0	0	13
Mech	16	2	19
Civil	8	0	11
FME	41	1	0
Total	140	16	189
345 articles are published in last six months			

Consolidated Publications of Journal, CP & BC

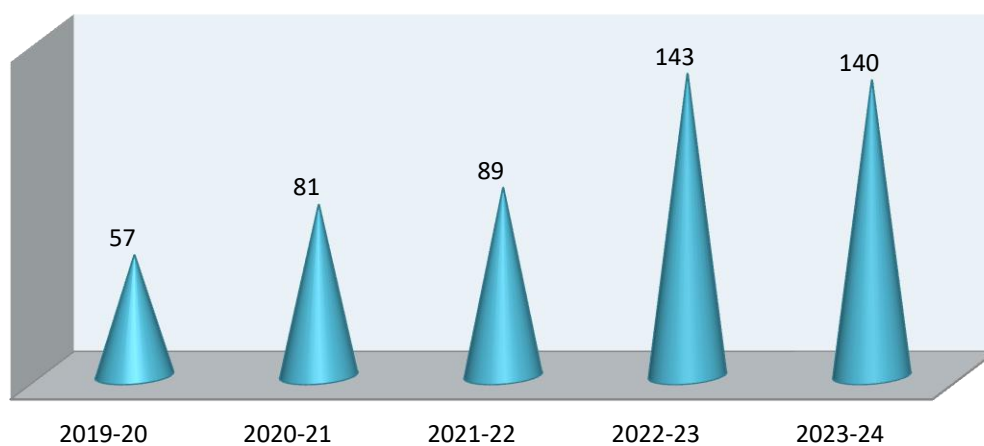


Patents

July 2023 to December 2023

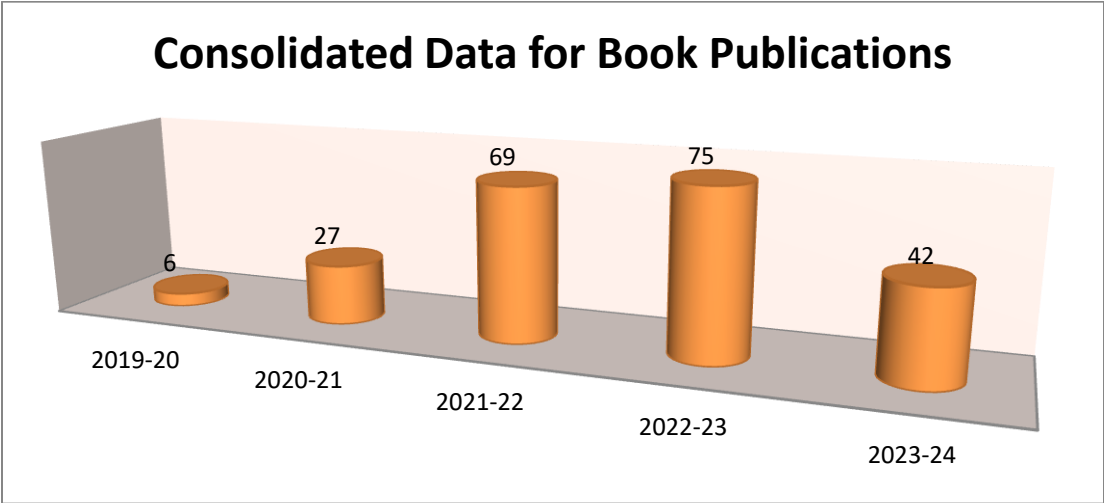
Dept.	Published
CSE	37
CSE Allied	39
IT	17
ECE	20
EEE	5
Mech	9
Civil	11
FME	2
Total	140

Consolidated Data for Patent Publications



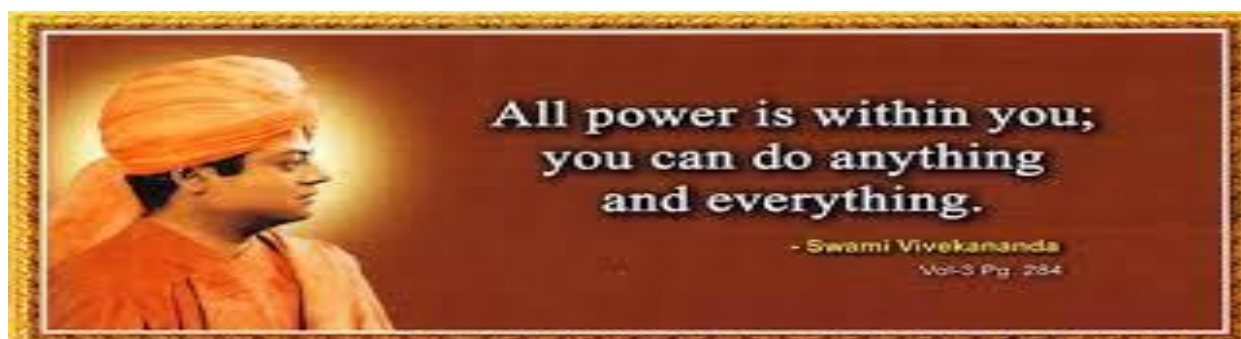
Publications: Books

July 2023 to December 2023	
Dept.	Published
CSE	5
CSE Allied	14
IT	4
ECE	3
EEE	6
Mechanical	0
Civil	5
FME	5
Total	42



GOVERNMENT FUNDED PROJECTS

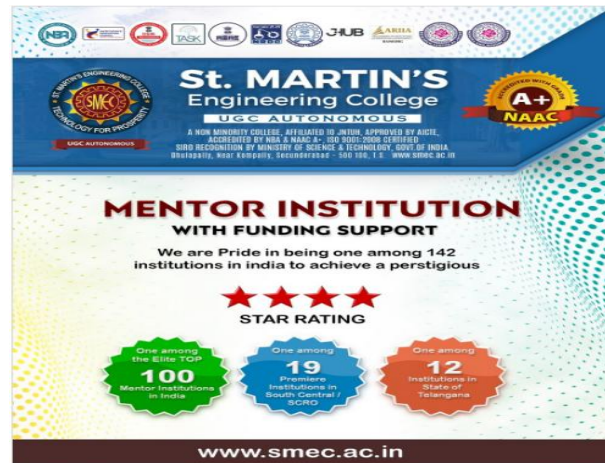
Name of the Project/ Endowments, Chairs	Name of the Principal Investigator/Co- investigator	Departme nt of Principal Investigat or	Amount Sanctioned	Duration of the project	Name of the Funding Agency
AY 2021-2022					
Comprehensive Road Maintenance plan (CRMP) GHMC	Mr. B Bhanu Prasad / Mr. V. Rajesh	Civil	344 crores	5 years	GHMC
GHMC - TPQC	Mr. B Bhanu Prasad/ Mr. V. Rajesh	Civil	100 crores	3 years	GHMC
HMWSSB	Mr. B Bhanu Prasad / Mr. V. Rajesh	Civil	50 crores	2 years	HMWSSB
Plastic Pavement Blocks	Mr. S. Naveen	Civil	8,75,000	1 year	MSME
Economic design of slabs using HDPE Balls	Mrs. K. Snehalatha	Civil	11,00,000	1 year	MSME
Development of Horticultural Manned Robot for Ripe Mango Fruit Plucking	Konga Bharathi	CSE	11,00,000	1 year	MSME
AY 2022-2023					
Artificial Intelligence Framework for Skin Cancer Detection and Classification	Parvathapuram Pavan Kumar	ECE	11,99,800	1 year	MSME
Waste Water Treatment by Electro-Coagulation using Iron Electrode	Dayapalle Naresh Kumar	Civil	12,00,000	1 year	MSME
NIELIT Academy	Dr. B. Hari Krishna	ECE	7,42,661	2 years	NIELIT
AY 2023-2024					
Mentor Institution	St. Martin's Engineering College		2,25,000	1 years	MHRD IIC



Glory

MENTOR INSTITUTION

Our St. Martin's Engineering College reveled in the glory of **MENTOR INSTITUTION WITH FUNDING SUPPORT**. We are pride in being one among 142 institutions in India to achieve a prestigious. We are honored with one among the Elite top 100 mentor institution in India. We are pleasure to say that Our St. Martin's Engineering College is one among 19 Premiere institutions in South Central of India. We delighted to inform that Our St. Martin's Engineering College is one among 12 institutions in state of Telangana in India.

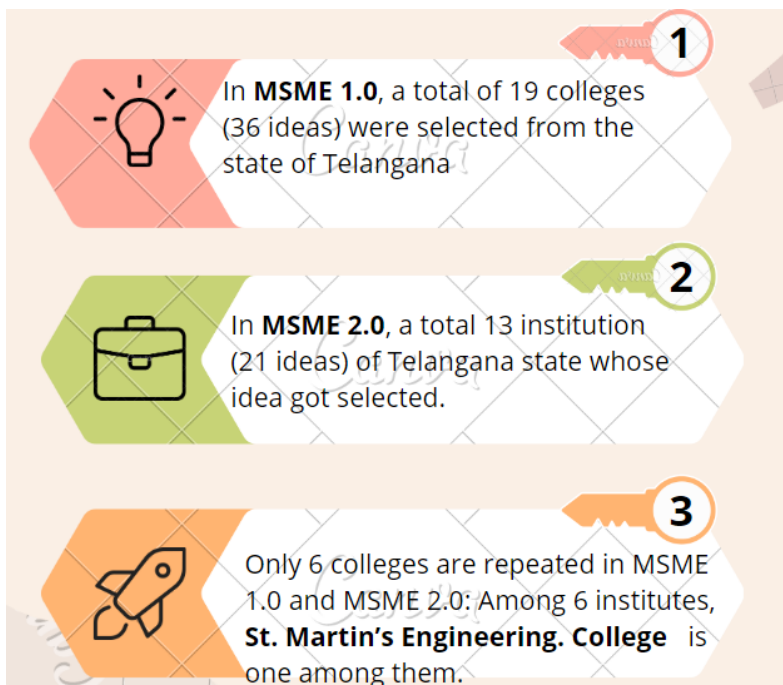


Leadership Symposium

A promotional poster for a Leadership Symposium. The host is ArdorComm Media. The roundtable theme is 'Redefining Higher Education for The Future of Work: Leveraging Alumni Expertise, Faculty Excellence, Competition Intelligence, and Next-Gen Curriculum Development'. The speaker is Dr. Santosh Kumar Patra, Group Director of St. Martin's Engineering College, Secunderabad, Telangana. The event is presented by LinkedIn and is titled 'EDUCATION LEADERSHIP SYMPOSIUM' with the tagline 'INNOVATION | DESIGN | CREATIVITY' on 3rd November 2023 in Hyderabad. The poster includes a photo of the speaker, an open book icon, and a sketch of a building. Social media handles for ArdorComm are listed at the bottom.

MSME Achievements in SMEC

Within the vibrant ecosystem of SMEC, the emphasis on encouraging budding entrepreneurs is not just a philosophy but a tangible commitment to shaping the future of business leadership. Students at SMEC are not only exposed to theoretical knowledge but are also actively trained in the practical aspects of this world. Some of the MSME achievements in SMEC are:



In recognition of SMEC's dedication to fostering entrepreneurship, the institution secured Rs. 1 crore seed capital from MSME Government of India and 55 lakhs for 5 projects from the Innovation Scheme Incubation Component.

MSME Version	Received	Uploaded	Approved	Project Cost	Sanctioned
MSME 1.0	44	28	3	30.75	29.438
MSME 2.0	33	31	2	23.998	20.398
MSME 3.0	121	103	Awaiting for Result		
Total				54.748	49.836

MSME 3.0 for women Innovators

The idea Hackathon 3.0 scheme for women innovators is launched on June 27, 2023, to promote and support untapped creativity and to promote adoption of latest technologies in MSMEs that seek the validation of their ideas at the proof-of-concept level. The women of SMEC has actively participated in idea Hackathon 3.0.

In the IDEA HACKATHON 3.0 which was exclusively for women:

- A total of 121 ideas were received AND
- Currently, 103 ideas have been uploaded as we eagerly await the approval process.

MSME 2.0

A total of 276 Proposals approved during 4th PMAC Meeting of MSME Innovative Scheme held on 26.06.2023 & Announced by Hon'ble Prime Minister on the occasion of International MSME Day at Vigyan Bhawan, New Delhi on 27th June, 2023.

In the IDEA HACKATHON 2.0:

33 ideas were received, 31 were uploaded, and two ideas were approved.

The two innovative ideas presented were:

1. Wastewater treatment by electro coagulation using iron electrodes
2. AI framework for skin cancer detection and classification



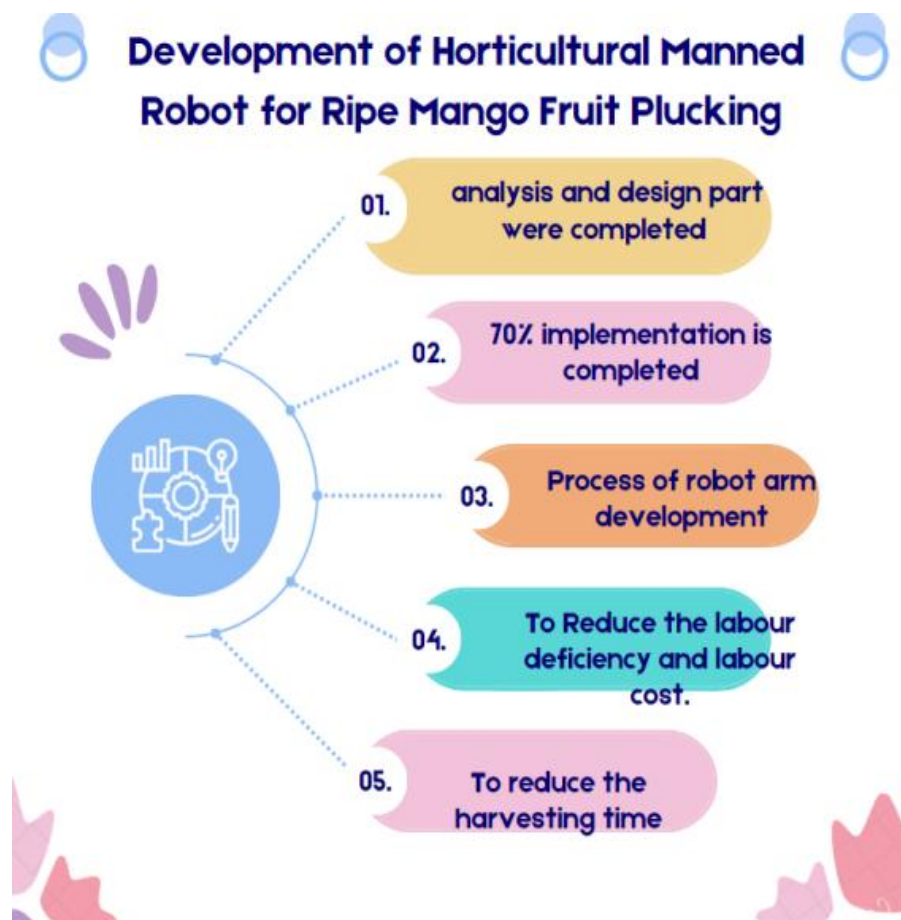
Academic Year 2021-2022

A total of 257 Proposals approved during 2nd PMAC Meeting of MSME Innovative Scheme held on 22.06.2022 & Announced by Hon'ble Prime Minister on the occasion of International MSME Day at Vigyan Bhawan on 30th June, 2022. Prototypes of these ideas are successfully completed.

IN IDEA HACKATHON 1.0 of the year 2022:

- 44 ideas were submitted, with 28 successfully uploaded.
- Excitingly, three of our ideas have gained approval in the MSME IDEA HACKATHON 1.0. The approved titles and cost of projects include:
 1. Economical design of a slab using HDPE balls
 2. Plastic pavement blocks
 3. Horticultural Manned Robot for Ripe Mango Fruit Plucking

Status of MSME Ideas-1





Status of MSME Ideas-2

PLASTIC PAVEMENT BLOCKS

01

To replace cement with plastic waste in paver block

02

To reduce the cost of paver block when compared to that of convention concrete paver blocks.

03

By using recycled plastic, the demand for traditional raw materials like sand and stone can be reduced

04

It makes installation straightforward, and maintenance is generally easier compared to traditional pavement options

05

Used to design patterns and add visual interest to plazas and squares.

Status of MSME Ideas-3

HDPE BALLS

- ◆ To practically use high density polyethylene balls in reinforced concrete slab
- ◆ Represents an innovative approach to building design and materials use.
- ◆ Helps in reducing heat absorption by the slab, especially in hot climates.
- ◆ Reducing the need for water-intensive cooling systems.
- ◆ Making the environment free from plastic waste.

Flash:



EVENTS:

HACKATHON 2023	1
WORKSHOP	2
INTERNATIONAL CONFERENCE	7
Doctorates Meet	8

EVENTS: HACKATHON 2023

September 21st and 22nd, 2023: Two Days Internal Hackathon for Smart India



Smart India Hackathon is a nationwide initiative to provide students with a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem-solving. As a part of SIH-2023,

St. Martin's Engineering College, Dhulapally, Secunderabad-500100 took an initiative to conduct Internal hackathon on 20th and 21st September, 2023 from 10:00 am to 6:00 pm at Swami Vivekananda Seminar Hall, MG Block. The event started with inspiring words from Dr. P. Santosh Kumar Patra, Group Director, St. Martin's Engineering College who addressed the students and insisted the importance of Smart India Hackathon - 2023.

Institute SPOC, Mr. G. Ramesh Reddy, Assistant Professor, Dept. of ECE gave the brief introduction about SIH-2023. He demonstrated various problem statements of SIH-2023 under different organizations and also explained the evaluation guidelines clearly. SPOC also pursued on how to reach grand finale of SIH-2023 and prize money. Dr. R. Santhoshkumar, Associate Professor and HoD of CSE motivated the students about the hackathon.



He discussed about different themes and inspired students to come up with innovative solutions. He also told that this is a right platform to improve their programming skills. Jury member Dr. D V Srikanth, Professor and HoD of Mechanical Engineering explained about the importance of SIH-2023 and also discussed three rounds of the evaluation along with evaluation parameters. The faculty coordinators of each department were the part of the orientation event. The winners of this hackathon were selected by the external jury members to represent the college at Nationals.



Smart India Internal Hackathon conducted for both Software Edition and Hardware Edition. The number of registrations are 40. Total number of teams participated to this event are 36 teams. Each team size is 6 and one girl mandatory. The total number of students participated in this event are 218.



The internal hackathon was a great success! We had a variety of attendees with a multidisciplinary and good mix of skills. We received a great feedback from the judges and student teams. Overall the event was a great way to get our team members thinking creatively and working together to solve problems.

EVENTS: WORKSHOP

July 19, 2023: Workshop on MSME Idea Hackathon 3.0

A one day workshop on “MSME Idea Hackathon 3.0” was organized by the R&D Cell on 19th of July, 2023 at St. Martin’s Engineering College, Dullapally, Secunderabad. MSME stands for Micro, Small and Medium Enterprises. The first session of the workshop will provide the opportunities for learning about the various schemes and programmes under the Government of India by offering individuals formal training, business plan development, guidance and follow-up during their own business idea implementation using the aids of MSME 3.0. The second session focuses on how to develop an idea to a viable project or a start-up, securing, procuring and funding options. The aim is to help enable the students and faculties of woman to understand the importance of self-sustenance and employability.

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**WORKSHOP ON MSME
IDEA HACKATHON 3.0**
(For All Women Faculty)
On
19th July 2023

Resource Persons
Dr. D.V. Sreekanth,
Prof. & HoD Dept. of ME and Dean Administration.
Dr. Sanjay Kumar Suman,
Prof. Dept. of ECE, and Dean R&D.

**Venue: Computer Centre
(1012), Beside Seminar Hall**
Time: 03:00 – 04:00 PM

Advisor
Sri Ch. Mallu Reddy, Minister, Labour & Employment, Factories,
Telangana State, India.

Chief Patrons
Sri. M. Laxman Reddy, Chairman
Sri. G. Narasimha Yadav, Treasurer
Sri. Ch. Mahender Reddy, Secretary & Correspondent
Sri. G. Chandra Sekhar Yadav, Executive Director
Sri. M. Rajasekhar Reddy, Director
Sri. G. Jai Krishan Yadav, Director
Sri. G. Raja Shekar Yadav, Director.

Patron & Program Chair
Dr. P. Santosh Kumar Patra,
Group Director,
St. Martin's Children's Education Society.

Convener
Dr. Sanjay Kumar Suman, Dean R&D

Program Coordinators
Dr. A. Uday Kumar, Asst. Professor,
Dept. of ME

Advisory Committee
Dr. S.V.S. Rama Krishnam Raju, Professor, Dept. of ECE, and Dean
Academics.
Dr. R. Senthoskumar, Associate Professor & HoD, Dept. of CSE.
Dr. N. Ramchandra, Professor & HoD, Dept. of EEE.
Dr. V. K. Senthil Raghavan, Professor & HoD, Dept. of IT.
Dr. B. Hari Krishna, Professor & HoD, Dept. of ECE.
Dr. D. Ranadheer Reddy, Professor & HoD, Dept. of H&S.
Prof. Sandhya Kiran, HoD, Dept. of CIVIL.
Dr. K. Srinivas, HoD, Dept. of CSE (AI&ML).
Dr. B. Rajalingam, Professor & HoD, Dept. of AI&DS.
Dr. G. Govinda Rajulu, Professor & HoD, Dept. of CSD

MSME
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES

**INSTITUTION'S
INNOVATION
COUNCIL**
Ministry of Education, India

NBA
NATIONAL BOARD OF ACCREDITATION

ARIIA
ATAL RANKING OF INSTITUTIONS
FOR INNOVATION ACHIEVEMENTS

SEINDIA
Society of Automotive Engineers India

The resource persons Dr. D.V. Sreekanth, Professor, Dean Administration delivered about the importance of MSME 3.0 for woman. The other resource person Dr. Sanjay Kumar Suman, Professor, delivered idea to a practicable MSME project or a start-up, securing, procuring and funding options to all woman students and faculties.



After successful completion of the workshop, woman Students and faculties learnt how to launch high-tech start-ups to move their ideas to the market. To apply knowledge of computing and mathematics appropriate to the discipline into a viable business idea. To



reap the total benefit of the schemes and programmes under MSME-3.0 and how to correctly plan and procure the enterprise.

EVENTS: WORKSHOP 2

August 17, 2023: Workshop on MSME 3.0 Project Document Preparation

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Dhulapally, Secunderabad-500 100

Workshop on MSME 3.0 Project Document Preparation
On **17th Aug 2023**

Resource Persons
Dr. D.V. Sreekanth,
Prof. & HoD Dept. of ME and Dean Administration.
Dr. Sanjay Kumar Suman,
Prof. Dept. of ECE, and Dean R&D.

Adviser:
Sri Ch. Malli Reddy, Minister, Labour & Employment, Factories, Telangana State, India.

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Sri. M. Laaman Reddy, Chairman
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Dr. P. Santosh Kumar Patra, Group Director, St. Martin's Children's Education Society.

Convener
Dr. Sanjay Kumar Suman, Dean R&D

Program Coordinators
Dr. A. Uday Kumar, Asst. Professor, Dept. of ME

Advisory Committee
Dr. S.V.S. Rama Krishnam Raju, Professor, Dept. of ECE, and Dean Academics.
Dr. R. Santosh Kumar, Associate Professor & HoD, Dept. of CSE.
Dr. N. Ramchandra, Professor & HoD, Dept. of EEE.
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Government of India
MSME
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES

VENUE: Smart Classroom, Ground Floor, JC Block.
TIME: 12:00 PM - 12:40 PM

INSTITUTION'S INNOVATION COUNCIL
University of Education Hyderabad

NBA
NBA ACCREDITED

SEFINDIA
Society of Indian Engineers

ARIIA
AT&T RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

A one day workshop on “MSME 3.0 Project Document Preparation” was organized by the R&D Cell on 17th of August, 2023 at St. Martin’s Engineering College, Dullapally, Secunderabad. We encourage all women innovators (students/ MSMEs /others) to grab this opportunity to develop an innovative idea into a prototype by participating and winning **Rs. 15 lakhs!** It is indeed a great support being provided by the Ministry of Micro, Small & Medium Enterprises (MSME), Govt. of India.



The resource persons Dr. D.V. Sreekanth, Professor, Dean Administration delivered about the benefits and document preparation of MSME 3.0 for woman. The other resource person Dr. Sanjay Kumar Suman, Professor, delivered how to register in the MSME websites and also applying concepts to all woman students and faculties.



We have received 103 ideas so far, and we are thankful to all the applicants, and wish them the very best. If an applicant has already submitted one or more ideas, she may kindly make use of this extended time and submit more ideas.



In this workshop, all woman faculty and student advised to submit more ideas. If one hasn't submitted any ideas and we informed to utilize this golden opportunity. In either case, we suggested that all applicants might to submit the ideas after a quick review of department coordinator, before submitting it on the portal. There is no recommended format for submitting idea proposals.

EVENTS: International Conference-2023

The Research and Development Cell has coordinated seven International Conferences from 15-16 December 2023 on the corresponding department domain themes:

- **ICIRTCS – 2023 by the Dept. of CSE**
- **ICRICEIT – 2023 by the Dept. of IT**
- **ICSMEC – 2023 by the Dept. of ECE**
- **ICAEED – 2023 by the Dept. of EEE**
- **ICRAME – 2023 by the Dept. of ME**
- **ICRTCE – 2023 by the Dept. of CE**
- **ICIETAIML-2023 by the Dept. of CSM**

A total of **1000 papers** were received. Out of which **864 papers** were selected for presentation and **604 papers** were registered and presented. An inaugural ceremony was held at 10:00 A.M with a Prayer Song followed by the introductory note about the college. Participants, Faculty members, HoDs, Deans, Principal Sir, Director Sir and Chairman Sir were welcomed by **Dr. Sanjay Kumar Suman**, Dean R&D.



Our Group director **Dr. P. Santosh Kumar Patra** has delivered his presidential address. He addressed the dignitaries and delegates with his keynote speech on

Hyperloop technology, web3 technology, Cyber security, robotics and Quantum computing technology.



It was a phenomenal keynote speech on the application of future technology in transportations. Specifically Sir has explained the technology in each and every department inventions and their process of inventions. It has undoubtedly enhanced the knowledge of the researcher and academic leaders. After his keynote speech, Sir has officially released the Conference Proceedings of series of International Conferences of 7 Departments.

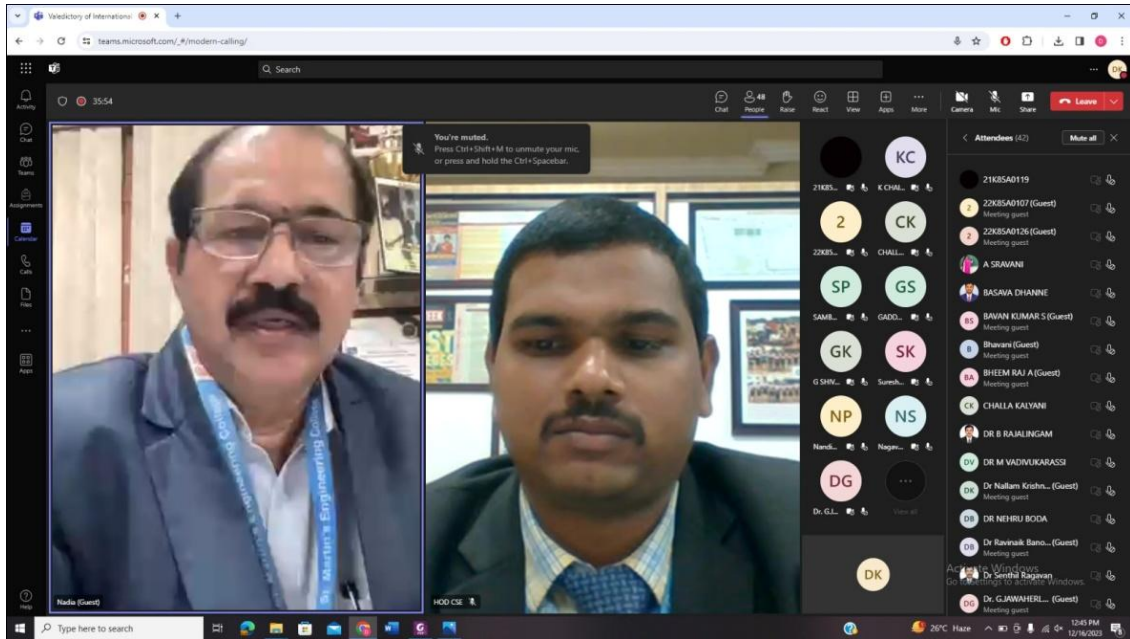


Finally the inauguration session was concluded by the vote of thanks which was proposed by **Dr. M. Vadivukarassi**. After vote of thanks the session was switched over to the departments for paper presentation.



The Paper presentation for both days, i.e., on **15.12.2023 & 16.12.2023**, by departments was scheduled in two sessions per day. Like common inauguration, a valedictory session also scheduled to start at 03:00 P.M. by invoking God for his blessing. **Dr. R.Santhoskumar** HOD-CSE delivered welcome address to the dignitaries and participants and also delivered briefly about the conference and research findings domains. **Dr. S.V.S. Ramakrishnam Raju**, Dean Academics has concluded the full event with his motivation talk on “**Importance of conference**”.





Finally HoD-Civil Engg **Prof. Sandhya Kiran J. K.**, delivered for formal Vote of Thanks. Session was ended with National Anthem. The overall response and feedback from the participants were fabulous and are interested to take part in further events. More than 1000 papers are received, after review 633 papers are presented in the conference. The department wise data is as follows:

S. No.	Department	Title of the Conference	Student Papers (6k)	Staff Papers (2.5k)	Outside Papers (3K)	Total
1	CSE	International Conference on Innovations and Recent Trends in Computer Science ICIRTCS - 2023	65	49	47	161
2	IT	International Conference on Recent Innovations in Computer Engineering and Information Technology ICRIEIT - 2023	51	34	29	114
3	ECE	International Conference on Smart Modernistic in Electronics and Communication ICSMEC-23	63	38	47	148
4	EEE	International Conference on Advances in Electrical and Electronics Engineering ICAEEE - 2023	16	13	10	39
5	Mech	International Conference on Recent Advances in Mechanical Engineering ICROME - 2023	35	19	3	57
6	Civil	International Conference on Revolutionary Technology in Civil Engineering ICRTCE-2023	44	11	15	70
7	CSM	Innovations and Emerging Trends in Artificial Intelligence and Machine Learning Applications ICITAIML-2023	17	17	10	44
Total			291	181	161	633

Doctorates Meet:

Fortnight Meeting and Monthly: There are two meeting for all doctorates and department coordinators are conducted in a month under the chairmanship of one department head or dean assigned by Group Director. Chairperson takes the progress update of all doctorates, invites doctorates to participate and discuss on cutting edge technological development in world and delivers his ideas/thought as a seminar presentation. The content of discussion is recorded in Research Forum News Letter which is published twice in an academic year.

October 17, 2023

In this academic year 2023-2024, Our Group Director Dr. P. Santosh Kumar Patra honored our doctorates meeting on **October 17th 2023** and delivered the speech about the importance of Research and Publication to Doctorates and Non Doctorates faculty members.



He said that, “Research Publications can help researchers to establish themselves as experts in their field, open doors to new opportunities, and contribute to the advancement of knowledge and understanding in a specific field. Publishing a research paper is often a requirement for academic promotions and tenure and it is one of the Career Advancement”.



Our Group Director said that, “Publishing papers allows other researchers to build upon the work and can lead to new discoveries and innovations. Writing a research paper is an ideal way to organize thoughts, craft narratives or make arguments based on research, and share your new found knowledge with the world”. All departments HOD, Doctorates and R&D coordinator are participated and made this meeting as grand success

July 15, 2023



On July 15, 2023, Our Principal Dr. M. Srinivas Rao welcomed as Chairman in the Doctorates review meeting. He suggested about the significance of citation of publication papers and also about the H-index of each and every faculties. He motivated

the doctorates to maintain good H-index value and informed to publish in good impact factor scopus and SCI journals.

On the occasion of releasing of this newsletter, Sir has given his wishes in the form of message: As we embark on a new year filled with promise and potential, I extend a warm welcome to the RDC Newsletter Research Forum. I am thrilled to witness the dedication and enthusiasm that team of RDC working hard to bring loraes to our institution.



August 16, 2023: Dr. Sanjay Kumar Suman, R&D Dean, has reviewed the progress of the doctorates and delivered a talk on research and development ATAL FDP proposal. He has also suggested to apply ATAL FDP to all departments and informed to concentrate more on various funding projects to improve faculty member's profile.



August 31, 2023: Dr. SVS RamaKrishnam Raju, Dean Academic and Dr. D. V. Sreekanth (Joint Session) have reviewed the progress of the doctorates. He explained about the editorial book chapter and also importance of reviewer of journals to all the doctorates faculties. He also motive about publication importance to all individual faculties of the institution. Special focus of Dean admin on MSME project. He has introduced various other schemes of MSME.



September 15, 2023: Dr. Sanjay Kumar Suman, R&D Dean has reviewed the progress of doctorates. On the occasion of Engineer's day, he announced the date of international conference and also instructed to prepare the Brochure, proceedings of conference. He has elaborated the process of new innovations, and use of various methods and technologies to improve the quality of publications.



September 30, 2023: Dr. Sreedhar Reddy, HoD-CSM has reviewed the progress of doctorates. He suggested the doctorates to add more details regarding the progress presentations. He had elaborated the process of new innovations, patent and use of technologies to improve the quality of publications.

October 17, 2023: Dr. P. Santosh Kumar Patra, Group Director has reviewed the progress of doctorates. He discussed about the research findings and its usefulness. He advised about the importance of publications which is very useful for our career.



November 24, 2023: Dr. SVS RamaKrishnam Raju, Dean Academic has reviewed the progress of the doctorates. He explained about the importance of research and publications for the faculties. He also discussed about Grant Patent and funding projects importance for the individual as well as the institution

December 29, 2023: Dr. V.K. Senthil Ragavan, HOD-IT has reviewed the progress of doctorates. He explained about research experience in his life and also discussing about the faculties achievement in our institution. He advised all doctorates to submit proposal to funding agencies.



December 29, 2023: Dr. SVS RamaKrishnam Raju, Dean Academic has reviewed the progress of doctorates. He explained about current ongoing funding scheme such as DST projects. He also motivated the faculties to complete their R&D contributions.



Special Session MSME 3.0: July 7, 2023: Dr. D.V. Sreekanth, Dean Administration, has encouraged all female faculties to submit ideas in MSME 3.0. He discussed about the instruction and procedure to upload the ideas in MSME website. He elaborated the way of submission of MSME and how to write proposal ideas to the female faculties and students.

Research is creating new knowledge."

- Neil Armstrong

HYPERLOOP TECHNOLOGY

Dr. P. Santosh Kumar Patra, Group Director of St. Martin's Engineering College



India is unlikely to go in for hyperloop technology for ultra high-speed trains in the near future as the technology is at a 'very low level' of maturity and may not be economically viable at the current juncture.

"Hyperloop technology as far as we are concerned, we found that

the offer which came from foreign countries are not very viable options. They are at a very low level of maturity of technology". Hyperloop is a high-speed train, running in vacuum in a tube. The technology is proposed by Elon Musk, who is behind electric car company Tesla and commercial space transport company SpaceX. The Virgin Hyperloop test run was conducted on November 9, 2020, on a 500-metre track in Las Vegas in the US with a pod, as the hyperloop vehicles are called, travelling with passengers, including an Indian, inside an enclosed tube at more than 161 km/hr.



Virgin Hyperloop is among a handful of companies which are trying to build such a system for passenger travel. Maharashtra has deemed hyperloop a public infrastructure exercise and approved the Virgin Hyperloop-DP World Consortium as the original project proponent for the Mumbai-Pune hyperloop project. India's reliance on lithium imports from China because production of lithium ion battery in India is very low, so the dependence is on the import of batteries from China and other sources. "But mostly it is

from China because competition wise the Chinese batteries are cheaper". Next year you will have couple of business houses going into production in a large scale for manufacturing of lithium-ion battery in the country."

CONTEMPORARY MATERIALS AND THEIR TRAILBLAZING UTILIZATION: SPENT COFFEE GROUNDS INFUSED WITH M-30 GRADE CONCRETE OPTIMAL STRENGTH DETERMINATION

Prof. Sandyakiran J.K, HoD, Dept. of CE

Recently, an increment of espresso drinks utilization has been seen from one side of the planet to the other; and its utilization expands the waste coffee beans which will turn into an ecological issues. Recycling of this waste to produce new materials like sand concrete (Biochar+ Fine Aggregate+ Cement) appears as one of the best solutions for reducing the problem of pollution. This work plans to concentrate on the chance of reusing waste coffee beans Spent Coffee beans also called Utilized Coffee waste (UCW) as a fine aggregate total by supplanting the sand in the assembling Coffee Biochar Cube. Two type of studies where carried out Type –I UWC: For this: sand substantial blends were ready with replacement of sand with the spent coffee beans squander at various rate (0%, 0.6%, 0.9%, 1.8%, 3% and 6% by volume of the sand) in order to study the influence of this wastes on physical (Workability, bulk density and porosity), mechanical (compressive and tensile strength) properties of dune sand concrete. Type –II Coffee Biochar Cube (CBC) produced specifically from used coffee grounds through the process of pyrolysis. The outcomes showed that the utilization of spent coffee beans squander as halfway substitution of normal sand adds to lessen usefulness, mass thickness and mechanical strength of sand concrete mixes with an increase on its porosity. On testing the cubes after 28 days of curing on an average of 25-30% of increase in compressive strength over conventional concrete was found using Biochar concrete cubes (CBC) subjected to 350⁰C temperature at 6% partial replacement of sand with Biochar. It was also found that at 450⁰C and above biochar concrete cube cannot offer the same compressive strength and the same was found declining. In this way, an optimal strength determination was carried out and it was feasible to get a protecting material which can be utilized in the different kinds of underlying parts. This study guarantees that reusing of waste coffee beans in hill sand substantial gives a positive way to deal with lessen the expense of materials and tackle a few natural issues.



Science and Technology : Gadgets

WIRELESS CHARGER: Ms. Naadia, III A CSE



A wireless charger works by creating a magnetic field that your smartphone or other device absorbs to gain energy. When you place your device on a wireless charging pad, a built-in coil in your device receives and “harvests” energy from the magnetic field, using it to power the

battery. It offers two specifications for charging mobile phones: Basic Power Profile (BPP) and Extended Power Profile (EPP). These profiles increase power transfer to 15 watts without wasting the extra electricity as heat. That means the built-in coil inside your devices gets a 300 percent power boost and can therefore recharge your phone faster without overheating. While the two profiles are technically different, EPP wireless charging is faster than BPP. And, because it is an open standard, EPP can be customized to support even faster charging.

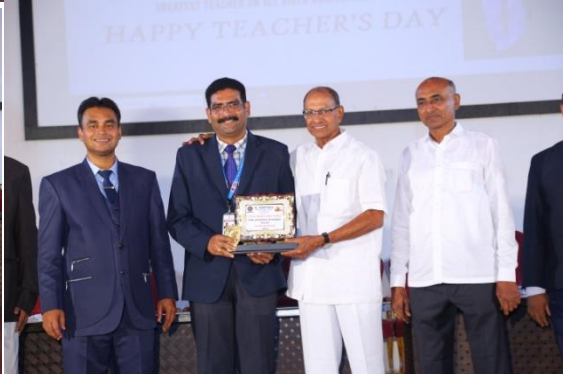
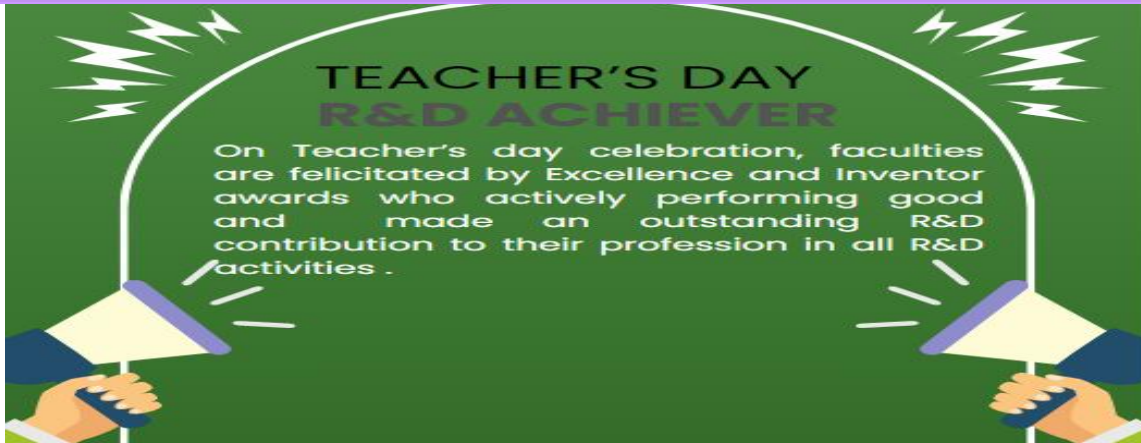
SMART AIR QUALITY MONITOR: Ms. Akshaya, III A IT



There are a lot of pollutants in the air that we can't see, which endanger our health. You need AVICHE air quality monitor to help you track the invisible in the air. It contains Multi-function air quality monitor which can be provided to fully control air quality, including HCHO / temperature / humidity / PM2.5 /

PM1.0 / to ensure the health of all aspects of your family. It is Portable & Rechargeable Battery: It has a built-in lithium battery, which can not only be used while charging, but can be used for 10 hours after being fully charged. The Advanced technology is laser PM2.5 sensor and hcho sensor are used. It is more accurate and reliable. Temperature and humidity sensor help maintain comfortable indoor life environment. The Application are home, office, car, hotel, bedroom, camping etc. The air quality monitor is very easy to store and carry.

R&D Achiever on Teacher's Day





DID YOU KNOW



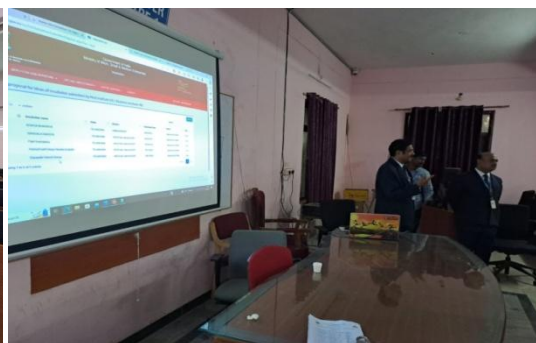
RDC has arranged Research Oriented internship visit on 20th November 2023. Our College Students and Faculties are visited to Air Force Station Hakimpet for Project Presentation and Discussions.

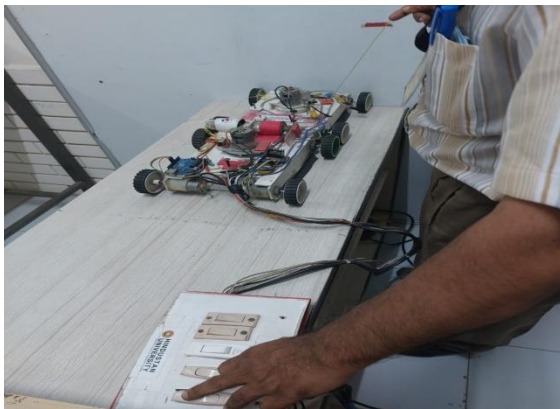
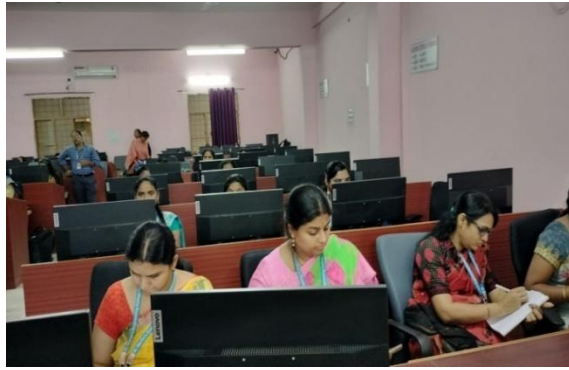
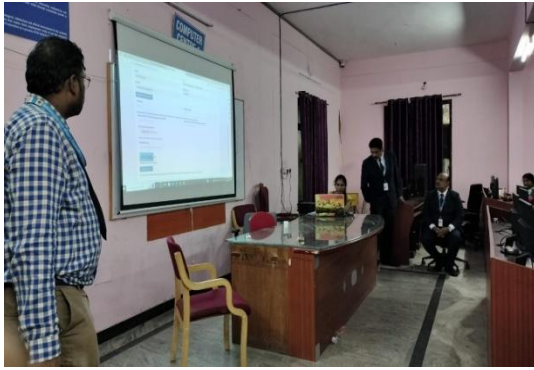


“No research without action, no action without research- *Kurt Lewin*”

Gallery









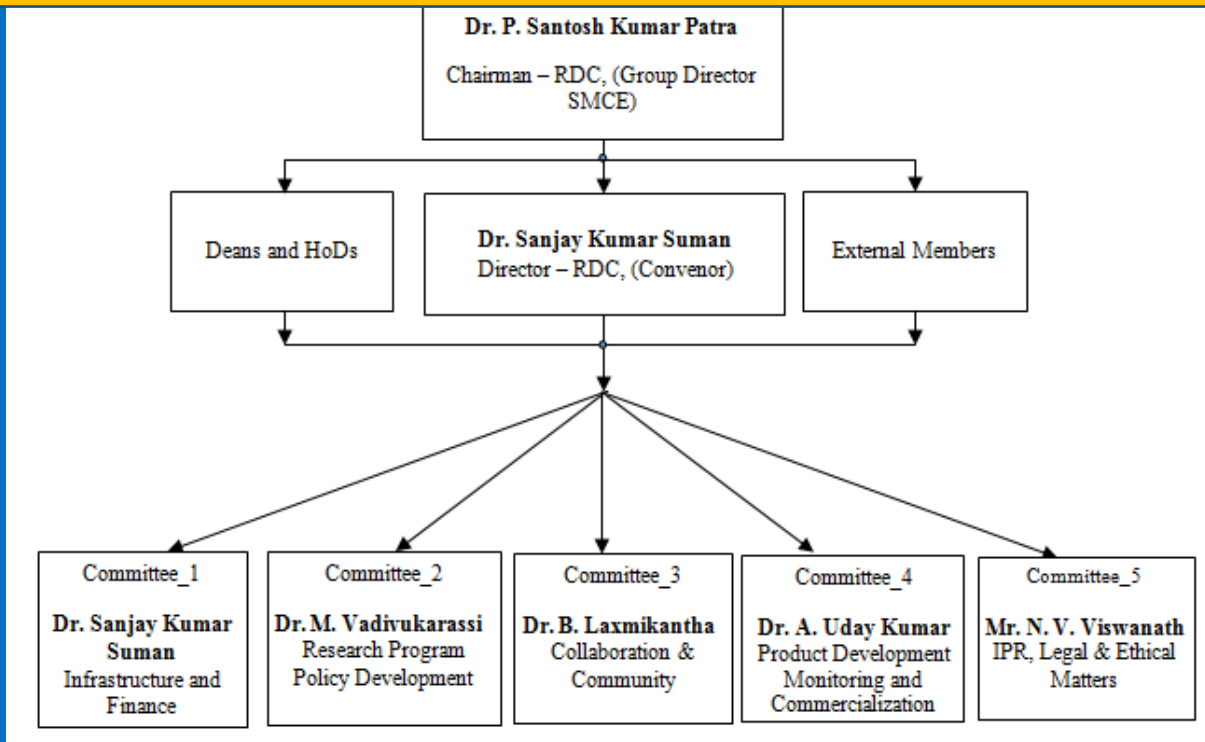








ORGANISATIONAL STRUCTURE OF RDC



Team RDC



Dr. Sanjay Kumar Suman
Dean R&D



Dr. M. Vadivukarassi
Coordinator: Dept. of CSE



Dr. B. Laxmikantha
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Dr. Saumyaprava Acharya
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Mrs. C. Ushapriya
Coordinator: Dept. of AIML



Mr. Noor Mahboob Subani
Coordinator: Dept. of AIDS



Mr. R. Karthikeyan
Coordinator: Dept. of CSM

**“Research is seeing what everybody else has seen
and thinking what nobody else has thought.”**

MAHATMA GANDHI BLOCK



**UPCOMING EVENT: EAP: Sponsored by MSME on 5th January 2024,
Funding workshop: March 2024 and FDP: April 2024.**



Flash: 7 Dept Proceedings of IC – 15th & 16th December 2023: More than 1000 papers received: 633 papers presented.

