KUMARAGURU
college of technology
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DEPARTMENT OF MECHANICAL ENGINEERING
MECHANICAL ENGINEERING ASSOCIATION

MEXPRESS

Mechanical Engineering Department's Official Newsletter

VOLUME 05 - Issue 08

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APRIL 2022

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SNAKE ROBOTS

Mr. Nithesh S V
20BME080
2nd Mech.- B

Introduction:

These are the new types of robots, which are also called as "Serpentine Robots". They possess multiple actuated joints with multiple degrees of freedom. So that, they have very good ability to flex and move anywhere. Hence It can be given a technical name as "Hyper Redundant Robots". Finally, it comes as a Snake Robot. The future snake robot will come with Roll, Pitch, Extension degrees of freedom. And the stages are sometimes named as "Bays".

Design:

The main challenge in designing the robots deals with the actuated joints in a tight volume to minimize the length and the cross-sectional areas. This will be followed for the next design iteration by avoiding the extension degree of freedom to have a shorter bay length. The final main concept is to have a robot with only two degrees of freedom. Different kinds of design schools are Actuated Universal Joints, Angular Swivel joints, Angular Bevel joint.

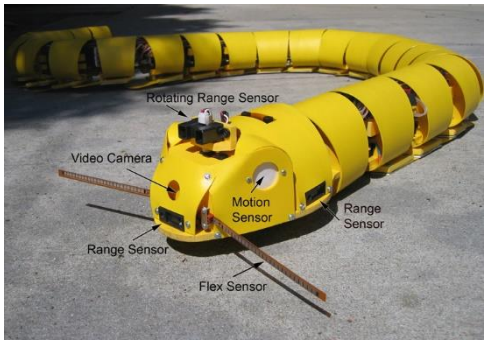
Design Sequences:

First design was the simplest, which has revolute joints as close to each other and leads to universal joint design. These are bulky but not so appropriate.

The second design was evolved with Angular swivel joint. This design is simple which starts with a sphere and the snake paths are orthogonal to the sphere at the poles and the motors rotate these hemispheres. Still now this is the last design and future developments are being optimized.

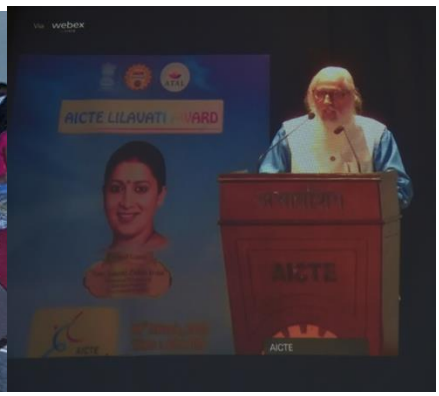
Applications:

Snake Robots can move inside pipes, like for surveillance, inspection of power plants and other industrial purposes. These robots are tested for the Archaeological Explorations.



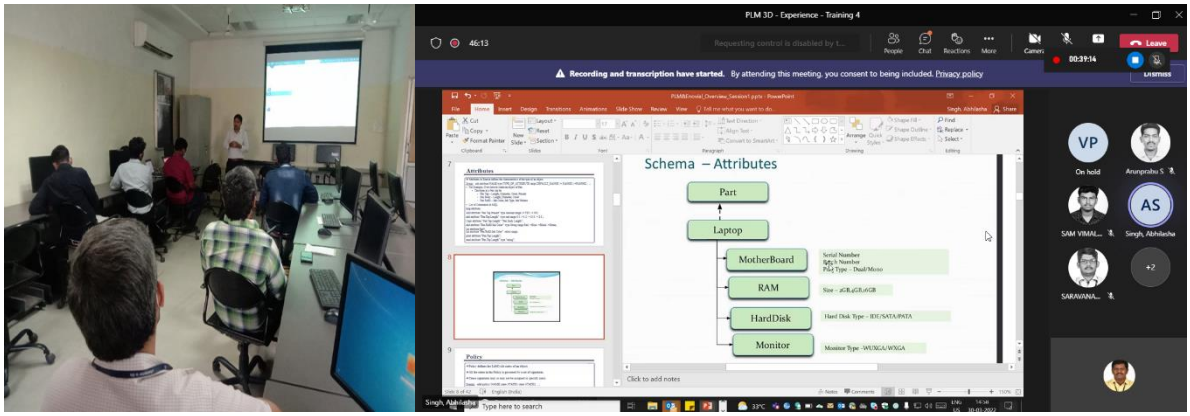
PROGRAMMES ORGANIZED

Department in association with Department Association conducted a “Spell and Bell” competition on 05-03-2022. The competition was coordinated by **Mr. M. A. Vinayaga Moorthi,** Assistant Professor – II.



Mr. B. Jeeva, Assistant Professor – I coordinated and arranged AICTE Lilavati Award ceremony- Online Live streaming" on 08-03-2022.

A Workshop on "IPR Awareness" was organized on 21-03-2022. **Dr. R. Manivel,** Professor. **Mr. Hariprasath,** Patent Officer, Chennai was the resource person.



Department organized a Shot Term Training Programme (STTP) on "PLM and 3D Experience Platform" was organized from 14-03-2022 to 23-03-2022. **Mr. Abinesh,** from Coimbatore CAD Solutions was the resource person. Another STTP on "3D Experience Platform from 23-03-2022 to 03-04-2022. **Ms. Swati, Mr. Irshad, Ms. Abhilasha, Mr. Rajeesh, Ms. Vipraja,** from Capgemini Engineering India were the resource persons. **Mr. R. S. Mohan Kumar,** Assistant Professor – I, coordinated both the STTP.

Guest Lecture on "Design Innovation for Successful career in the field of Aeronautical, Space and Defense for Mechanical Engineering" was organized by the department on 29-03-2022. **Mr. Dhanish Abdul Khader**, Space System Engineer, SS Technology, Bangalore was the resource person. **Dr. S. Thirumurugaveerakumar**, Associate Professor coordinated the guest lecture.

FACULTY AS RESOURCE PERSONS

Dr. M. Ramesh Kumar, Assistant Professor - I acted as visiting faculty and handled course for PG-DRAT students at CDAC-Kolkata from 11-03-2022 to 31-03-2022.

Dr. B. N. Sreeharan, Assistant Professor - II was the resource person in a workshop on "Exceling Excel" conducted at Pioneer Arts and Science College, Coimbatore on 21-03-2022. **Dr. Sreeharan** also provided training on "Basics of Excel" for the training officers of various Government ITI in and around Coimbatore on 23-03-2022.

Dr. V. Muthukumaran, Professor acted as DAB Subject expert in DAB meeting conducted at Dr. NGP IT on 30-03-2022.

PAPERS PRESENTED

Dr. B. N. Sreeharan, Assistant Professor – II presented a paper titled "A Systematic Way of using Preference Selection Index Algorithm for Selecting Suspension Coil Spring Material" in 4th International Conference on Advances in Mechanical Engineering (ICAME2022) conducted by SRM Institute of Science and Technology (SESI) from 24-03-2022 to 26-03-2022/

Dr. S. Balasubramanian, Associate Professor presented a paper entitled "Design and development of large scale FDM based 3D printer" in the International Conference on Design, Manufacturing & Materials Engineering conducted by, Dr NGPIT, Coimbatore from 10-03-2022 to 11-03-2022 "

Mr. B. Jeeva, Assistant Professor – I presented a paper titled on "Numerical Analysis: Cross-section Optimization of Printed Circuit Heat Exchanger using Supercritical CO2 for Low Temperature Regenerator of Brayton Cycle" in the 5th International Conference on Emerging Trends in Mechanical and Industrial Engineering – 2022 conducted by North Cap University, Gurugram, Haryana" from 04-03-2022 to 05-03-2022.

MANUSCRIPT SUBMISSION

Dr. V. Manivelmuralidharan, Assistant Professor – II, **Dr. K. Krishnamoorthi,** Assistant Professor – II and **Dr. A. P. Arun,** Assistant Professor - II submitted a technical manuscript in Scopus indexed journal for publication.

Dr. R. Manivel, Professor, submitted a manuscript in a Scopus indexed journal for publication.

PAPER PUBLICATION

Paper entitled “Lead time reduction and process enhancement for a low volume product” authored by **Dr. M. Balaji**, Associate Professor was accepted by a Scopus indexed international journal with impact factor 1.24.

PAPERS REVIEWED

Dr. C. Velmurugan, Professor and HoD reviewed a paper entitled "Effect of the input parameter on aluminium hybrid composites' dry sliding wear behaviour – A GRA coupled with PCA approach" for the International Journal of cast metal research.

Dr. S Thirumurugaveerakumar, Associate Professor reviewed a paper titled “Optimization of Proportional Solenoid for Flow Control Valve using Recursive Method in OCTAVE and FEMM” for the International Journal of Engineering Research and Science.

Dr. P. R. Ayyappan, Assistant Professor (SRG) reviewed a paper titled “Effect of intake air temperature, pressure and fuel injection pressure on LTC engine by using dual injection strategy for pollution reduction” for the International Journal Environmental Science and Pollution.

AWARDS RECEIVED

Following faculty members were awarded Employee Service Recognition by KCT on 25-03-2022 for the Milestone of Decennial (10 Years of Service).

Dr. P. R. Ayyappan, AP **(SRG)**
Mr. S. Sivakumar, AP – II
Dr. A. P. Arun, AP – II
Dr. S. Balaji, AP - I
Mr. S. Prabhu, AP - I

INDUSTRY LINKAGE

Dr. M. Thirumalaimuthukumaran, Assistant Professor - II arranged one week internship for third year students at M/s. Global Cast Solutions, Coimbatore.

Centre of Excellence (CoE) for Product Lifecyle Management (PLM) was inaugurated in collaboration with Capgemini Engineering India, on 14-03-2022, at Swami Vivekananda Seminar Hall, in the esteemed presence of **Mr. Rangaraj Saravanakumar**, Senior Director of Capgemini Engineering India.

CoE is being inaugurated by **Ms. Vipraja,** Coordinator Capgemini Engineering India.

PROGRAMMES ATTENDED / COURSES COMPLETED

Dr. V. Manivelmuralidaran, Assistant Professor - II participated in an FDP on "Design, Optimization and Manufacture of Materials" from 07-03-2022 to 12-03-2022, organized by SSN College of Engineering, Chennai.

Dr. S. Thirumurugaveerakumar, Associate Professor participated in a Workshop on "Winning Research Proposal" on 01-03-2022 organized by KLDA, KCT.

Dr. S. Rajesh, Assistant Professor - I participated in an FDP on "Design, Optimization and Manufacture of Materials" from 07-03-2022 to 12-03-2022, organized by SSN College of Engineering, Chennai.

Mr. P. D. Devan, Assistant Professor - II participated in an FDP on "Winning Research Proposal" from on 01-03-2022 organized by KLDA, KCT.

Mr. M. A. Vinayagamoorthi, Assistant Professor - II participated in a Workshop on "Winning Research Proposal" on 01-03-2022, organized by KLDA, KCT. He also participated in an FDP on "Digital Manufacturing" from 04-03-2022 to 08-03-2022, organized by Punjab Engineering College, Chandigarh.

Mr. B. Jeeva, Assistant Professor - I participated in an AICTE Training and Learning (ATAL) Academy Online Advanced FDP on "Basics of Electric Vehicles" from 25-02-2022 to 01-03-2022, organized by Thapar Institute of Engineering & Technology and AICTE, Punjab.

Dr. V. R. Muruganantham, Associate Professor participated in an FDP on "Winning Research Proposal" on 01-03-2022 organized by KLDA, KCT.

Dr. S. Bhaskar, Associate Professor participated in a Seminar on "National educational policy organised at Kumaraguru College of Technology, on 01-03-2022 organized by , KCT.

Dr. S. Balasubramanian, Associate Professor participated in an FDP on "Digital Manufacturing" from 04-03-2022 to 08-03-2022, organized by Punjab Engineering College, Chandigarh.

Dr. R. Manivel, Professor participated in a Webinar on "Respond Project Presentation" on 15-03-2022 organized by ISRO , Bangalore, Bangalore.

Dr. P. R. Ayyappan, Assistant Professor (SRG) participated in an FDP on "Research Publications" on 17-02-2022 organized by KLDA, KCT.

Dr. B. N. Sreeharan, Assistant Professor - II participated in a Webinar on "AI for Mechanical Engineering" on 03-03-2022 organized by JCT College of Engineering and Technology, Coimbatore. He also completed an online course on "Power BI for Beginners" through Simplilearn.

ALUMNI INTERACTION

Dr. S. Bhaskar, Associate Professor, took initiative to connect alumni Mr Prasanna 94ME batch working at Bosch - Bangalore to look at avenues for Kumaraguru College of technology and Bosch to work jointly on 25.03.2022.

First International Conference on Latest Trends in Management, Entrepreneurship, Engineering and Sciences ICMEES 2022, Acharya Institute of Graduate Studies, Bengaluru, Karnataka, India and RSP Research Hub, Coimbatore, International Conference, Bengaluru, Karnataka, 29th - 30th April 2022

Category	:	International Conference
Start Date	:	29th April 2022
End Date	:	30th April 2022
Event Mode	:	Online
Time	:	9.00 am to 5.00 pm
Paper submission last Date	:	24/04/2022
Open to All	:	Students (UG/PG), Research Scholars, Professors & Educators
Organiser	:	Acharya Institute of Graduate Studies, Bangalore, Karnataka, India and RSP Research Hub, Coimbatore
City	:	Bengaluru
State	:	Karnataka
Register	:	

https://docs.google.com/forms/d/e/1FAIpQLSeXc6XWuxhOLfUuAK0rLL6s-W6_5ezQMssguEWd7eZqJ-6dQg/viewform

EAI International Conference on Intelligent Technologies in Security and Privacy for Wireless Communication EAI ITSPWC 2022, Cheran College of Engineering, International Conference, Karur, Tamil Nadu, 14th - 15th May 2022

Category	:	International Conference
Start Date	:	14th May 2022
End Date	:	15th May 2022
Event Mode	:	Online
Organiser	:	Cheran College of Engineering
City	:	Karur
State	:	Tamil Nadu
Register	:	https://itspwc.eai-conferences.org/2022/

PUBLICATION:

All registered papers will be published in EAI CORE series as a proceedings book and made available through European Union Digital Library (EUDL). Proceedings will be submitted for inclusion in leading indexing services, such as Ei Compendex, Web of Science, Scopus, Google Scholar, DBLP, and EU Digital Library. Additional publication opportunities:

- EAI Transactions series (Open Access)
- EAI/Springer Innovations in Communications and Computing Book Series (titles in this series are indexed in Ei Compendex, Web of Science & Scopus)

Intelligent Technologies in Textile Materials [IITM 2022], Cheran College of Engineering, Summit, Karur, Tamil Nadu, 30th May 2022

Category	:	Summit
Start Date	:	30th May 2022
End Date	:	30th May 2022
Event Mode	:	Online
Register	:	https://forms.gle/J4TggCsap71jE21v9
Organiser	:	Cheran College of Engineering
City	:	Karur
State	:	Tamil Nadu

CONTACT DETAILS :

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Assistant Professor
Department of Electronics and Communication Engineering
Cheran College of Engineering, K.Paramathi
Karur, Tamilnadu-639111
Ph: 9677565511 (Whatsapp), 8838586305
https://sites.google.com/view/kannadhasansuriyan-ece/

LAST DATES FOR REGISTRATION

Full Paper Submission Details	:	30 April 2022
Paper Acceptance Notification	:	30 May 2022
Camera Ready Submission	:	10 June 2022
Paper Submitted to Publisher	:	20 June 2022
Tentative Publication	:	August 2022

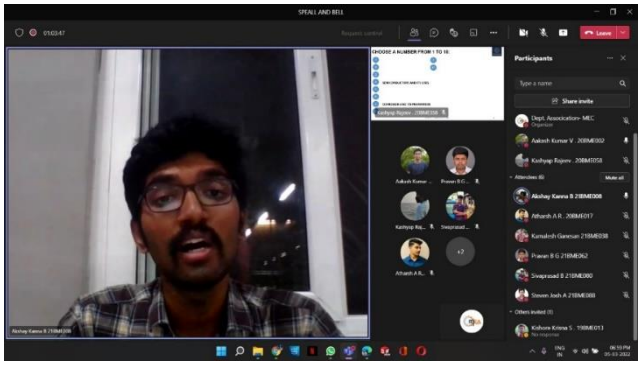
CERTIFICATIONS

The following students got certified by M/s. Dassault Systems as Certified SolidWorks Associate (CSWA) through Centre of Exemplary Learning (COEL). COEL trained the students in SolidWorks to get the certifications.

S. No.	Roll Number	Name
1	20BME120	Mr. Vaseekaran S L
2	20BME076	Mr. Nandeesh M
3	20BME098	Mr. Sam Tirshath J
4	20BME227	Mr. Lalith Kishore M
5	20BME038	Mr. Gowtham S
6	20BME101	Mr. Sanjai S
7	20BME001	Mr. Aakash B
8	20BME012	Mr. Ananthu Krishna G V
9	20BME109	Mr. Steve Leo J
10	20BME080	Mr. Nithesh S V
11	20BME105	Mr. Shakthieswaran M
12	20BME241	Mr. Prajeeth P
13	20BME045	Mr. Imayan K T
14	20BME064	Mr. Kirthik Sivasubramanian
15	20BME215	Mr. Dinesh Kumar D

SPELL AND BELL

To learn new emerging terms in the field of Mechanical Engineering and to improve their public speaking skills and their managing skills in a situation, MEA has planned to conduct an event named as SPELL AND BELL.



SPELL AND BELL was conducted on 5th February 2022 in virtual mode especially for the first year of Mechanical Engineering Students. This event was consisting of two rounds,

A word puzzle which is about reconstructing the jumbled letters into a meaningful word. Open talk for a minute about a random topic with a minute of preparation.

The word puzzle was framed based on the curriculum of mechanical course. Thirty questions and 15 minutes were provided to the participant through MS Forms for the first round. In this round, participants are asked to Re-arrange the Jumble words where the technical Words are misarranged. Person with maximum score at the end of the first round will be allowed to attend the 2nd round. In round two, participant was chosen a random number where the technical topics were hidden. Then they have a minute of time to prepare for the JAM Session as an open talk. Once a minute of time was over, they must deliver a content about the topics that what they have choose. Marks for the Round 2 was consider based on their performance by the panel members from 3rd year Mechanical Engineering.

This Event was coordinated by **Mr. Kishore Krisna S** from 3rd year Mechanical Engineering. The Event was Successfully Executed by **Mr. Kashyap Rajeev** from 2nd year Mechanical Engineering and Mr. Akash Kumar from 2nd year Mechanical Engineering. More than fifteen students were participated in this event. **Mr. Pravan B G** from 1st year Mechanical Engineering was announced as Winner of this event, **Mr. Akshyay Kanna B** from 1st year Mechanical Engineering Was announced as 1st Runner of this event and **Mr. Kamalesh Ganesan** from 1st year Mechanical Engineering Was announced as 2nd Runner of this event. The Winner and the Runner was awarded with the Amount of Rs. 2500.

This Event was organized by MEA under the guidance **of Dr. V R Muruganantham**, Associate Professor and Mr. M A Vinayagamoorthi, AP (II).

- **Mr. Vaseekaran S L** – (20BME120) of second year Mechanical Engineering C section attended a national level Event named as "CADATHON" organized by TATHVA NIT CALICUT from 10/02/2022 to 05/03/2022.

- **Mr. Gokulakrishnan M** – (21BME024) of first year Mechanical Engineering A section attended an Event named as "World Water Day slogan writing and e poster designing" organized by our College - Department of Chemistry from 22/03/2022 to 28/03/2022.

- **Mr. Kamalesh Ganesan** – (21BME038) of first year Mechanical Engineering attended an Event named as "Spell and Bell" organized by our college – Mechanical Engineering Association on 05/03/2022.

- **Mr. Barath Nithish K** – (21BME015) of first year Mechanical Engineering attended a workshop named as "Build your own EV" organized by our college – KCT Garage from 19/03/2022 to 26/03/2022.

Mahatma Gandhi Merit Scholarship Award

Mahatma Gandhi Merit Scholarship Award ceremony was organized as part of Kumaraguru Founder's Day 2022 on 27 March 2022 which also marked the commencement of the centenary celebrations of our Founder Chairman Arutchelvar Dr. N. Mahalingam Ayya. Dr. K. Velraj, Vice Chancellor, Anna University distributed scholarships worth 1.2 crores to 1186 deserving students. In this Award ceremony, 129 students from Mechanical Department have received Mahatma Gandhi Merit Scholarship Award

The Awardees:

Roll No.	Name
17BME004	Mr. KARAN RAM S
17BME016	Mr. SATHISH K
17BME022	Mr. ALEX E
17BME023	Mr. VIGNESH B
17BME027	Mr. ANTHONY STEEBAN A
17BME033	Mr. SUBRAMANIYAN G
17BME034	Mr. RAJESWARAN K S
17BME044	Mr. MANISH KUMAR N V
17BME050	Mr. NITIN D
17BME052	Mr. HARI PRASAD R
17BME053	Mr. SCARIA N JOY

Roll No.	Name
17BME056	Mr. ARVINDHAN S
17BME059	Mr. INDIRAJITHU V
17BME067	Mr. SACHINJITH K R
17BME076	Mr. SETHU Y
17BME080	Mr. RUSHETHRA P N
17BME082	Mr. MOHAMED JAKABAR B
17BME085	Mr. SIDHARTH K
17BME094	Mr. SABAREESH KARTHICK S
17BME104	Mr. RAMESHKUMAR R
17BME107	Mr. RAAGHUL V
17BME109	Mr. GOWTHAM S

Roll No.	Name
17BME124	Mr. JEYA KARTHICK M
17BME133	Mr. SAIRAM V
17BME148	Mr. GANESH PRAKASH K
17BME153	Mr. MOHAN KUMAR S
17BME154	Mr. KARUPPIAH S B
17BME159	Mr. KARTHIK KUMARAN M
17BME163	Mr. KISHOR KANNA S
17BME164	Mr. RUBAKUMAR K
17BME170	Mr. RAGHUL K C K
17BME208	Mr. THADCHAN M
17BME223	Mr. KUMARAN B
17BME228	Mr. KANNATHASAN K
17BME302	Mr. RAGULKANTH V
18BME015	Mr. KRITIKESH M P
18BME045	Mr. AVINASH ROSHAN V R V
18BME050	Mr. DEEPAN ISSAC T
18BME055	Mr. SHREERAM A M
18BME061	Mr. KAVIYAN D
18BME062	Mr. NITHISH KUMARAN B
18BME063	Mr. JESHANTH J D
18BME064	Mr. MADHUMITTA P
18BME066	Mr. HEMANT KUMAR P
18BME068	Mr. NANDHINI V
18BME069	Mr. RAM KUMAR L
18BME072	Mr. SANKAR VIGNESH M
18BME078	Mr. ADITYA S
18BME079	Mr. REVANTH M
18BME084	Mr. JOSHUA PETER A
18BME092	Mr. PRAVEEN B
18BME095	Mr. IBRAHIM BASHA B
18BME096	Mr. SARAN T
18BME099	Mr. DHAYANITHI T
18BME100	Mr. PRASANTH M

Roll No.	Name
18BME103	Mr. SAMEER AHAMED KHAN A
18BME105	Mr. KRISHNAPRASAD L
18BME106	Mr. PAVITHRA R
18BME109	Mr. HARSHIT S
18BME122	Mr. MAHESH KUMAR U
18BME151	Mr. KARTHICK KUMAR K
18BME156	Mr. SIVADASAN V K
18BME159	Mr. GOKUL G
18BME177	Mr. PRABHUJITH ESHWAR A
18BME201	Mr. KARUTTHU VINAAYAGA IYYAPPAN I N
18BME221	Mr. SUGANESH K
18BME224	Mr. BALA MURUGAN M
18BME227	Mr. DIVAKAR J
18BME230	Mr. SURIYA G
19BME006	Mr. MANAV R SAMANT
19BME008	Mr. LALITH H N
19BME009	Mr. VIVIEN WILFRED S
19BME012	Mr. RAAJ KHISHORRE K R
19BME013	Mr. KISHORE KRISNA S
19BME027	Mr. MOHAMED RISWAN U
19BME031	Mr. KAMALESH S
19BME033	Mr. SIVAPRASAD M K
19BME045	Mr. SABARISHKUMAR R K
19BME054	Mr. RAMKUMAR M S
19BME069	Mr. ASWIN BAALAJE R
19BME088	Mr. AMMAR HUSAIN M F
19BME093	Mr. ENIYAN C S
19BME095	Mr. ANANTH S
19BME100	Mr. SUVANRAJ R
19BME103	Mr. BHUVANESH D
19BME104	Mr. ALDEN BINOY C
19BME114	Mr. MANIMARAN B

Roll No.	Name
19BME118	Mr. ABDUL ANAS S
19BME126	Mr. KAVI ARASU L
19BME135	Mr. KISHORE C
19BME136	Mr. KISSAN U
19BME139	Mr. ANBARASU K
19BME150	Mr. GOPALAKRISHNAN V
19BME151	Mr. SATHYA RAGAVENDAR S
19BME204	Mr. AKIL R
19BME205	Mr. AKILESH M
19BME210	Mr. BARATH KUMAR S
19BME211	Mr. BAVIN KUMAR S
19BME213	Mr. DHARNIDHAR G
19BME219	Mr. JAYABALU S
19BME226	Mr. NALAN M
19BME233	Mr. RAJ KUMAR R
19BME239	Mr. SURENTHER M
19MCC002	Mr. SEETHARAMAN S
19MIE002	Mr. MANOJ KUMAR J
20BME005	Mr. ABHINAV R
20BME011	Mr. ANANTHA KUMAAR S
20BME012	Mr. ANANTHU KRISHNA G V

Roll No.	Name
20BME013	Mr. ANJANA PRASAD
20BME015	Mr. ARUNVASAN S D
20BME017	Mr. ATHARSH A R
20BME023	Mr. BRAVIN S D
20BME026	Mr. DEVAPRASATH A
20BME030	Mr. GLINZ GODVIN ROCHA
20BME044	Mr. HARSHAVARDDHAN P V
20BME045	Mr. IMAYAN K T
20BME050	Mr. JEYASURIYAA K P
20BME062	Mr. KIRAN VASISTHA M
20BME063	Mr. KISHORE A
20BME070	Mr. MANOJ KUMAR T
20BME072	Mr. MONISH P
20BME075	Mr. MURUGA SHRI V
20BME077	Mr. NAVINKARTHIK G
20BME080	Mr. NITHESH S V
20BME083	Mr. PRADEEPKANNAN R
20BME098	Mr. SAM TIRSHATH J
20BME105	Mr. SHAKTHIESWARAN M
20BME127	Mr. VISHNU SHANKHAR
20MIE003	Mr. JANARTHANAN R

YAMAHA NEO

Mr. Nithesh S V
20BME080
2nd Mech.- B

Introduction:

Yamaha has introduced their new Electric scooter named as "NEO." It comes with a removeable battery technology with the aim of promoting the travel of both short distance and long distances. They are in the plan to first release in Europe and in the plan to spread the supply of vehicles in all areas. In Europe, there are a set of peoples who are migrating from four wheeled to a two-wheeler based on their real-life problems like traffic, fuel costs, etc.

It is in the aim of providing all the required needs for the Europe scooter market and this scooter will be manufactured by Yamaha Motors, Vietnam Co. Ltd.(YMVN).

NEO:

The Yamaha Neo is an all-New electric scooter, which comes with a simple, stylish body and has many numbers of amazing features. Its smooth performance stands Unique among the EV's. This scooter equals a 125 cc ICE powered scooter.

This scooter comes will all the advanced features based on the trending period. It has the Yamaha integrated power unit II (YIPU II) with long-lasting acceleration, has the battery, which provides a range of 37 km of cruising range with full charge, it has a specific design for frame and with its new Low-loss tires for an extremely comfortable, good energy efficient power ride, and finally the most stunning exterior appearance.

Yamaha words:

This company's Environmental Plan 2050 sets the goal for reducing the CO2 emissions (i.e.) by using the sold products by 90% by 2050 when compared to 2010. The NEO's is a strategic electric vehicle that is to be introduced in the market by Yamaha in the strong aim of achieving the goal.

KUMARAGURU college of technology

COIMBATORE – 641 049

Department of Mechanical Engineering

INSTITUTE VISION:

The vision of the college is to become a technical university of International Standards through continuous improvement.

INSTITUTE MISSION:

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic, and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

DEPARTMENT VISION:

To emerge as a centre, that imparts quality higher education through the programme in the field of Mechanical Engineering and to meet the changing needs of the society.

DEPARTMENT MISSION:

The department involves in sustained curricular and co-curricular activities with competent faculty through teaching and research that generates technically capable Mechanical Engineering professionals to serve the society with delight and gratification.

B. E. MECHANICAL ENGINEERING

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

PEO 1 : Graduates will take up career in manufacturing and design related disciplines.
PEO 2 : Graduates will be involved in the execution of Mechanical Engineering projects.
PEO 3 : Graduates will take up educational programme in mastering Mechanical sciences and management studies.

PROGRAM OUTCOMES (PO's):

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

6. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

7. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

8. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

9. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.

2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.

M. E. INDUSTRIAL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

PEO 1 : Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.

PEO 2 : Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.

PEO3 : Graduates would function as educators or researchers in academic institutions.

PROGRAM OUTCOMES (PO's):

PO1 : An ability to independently carry out research /investigation and development work to solve practical problems.

PO2 : An ability to write and present a substantial technical report/document.

PO3 : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

PROGRAM SPECIFIC OUTCOMES (PSO's):

PSO1 : Graduates able to apply the engineering management and data management concepts in industrial engineering areas.

PSO2 : Graduates able to apply industrial engineering skills and knowledge to manage the functions of production and supply chain management.