

Activities till date by Research and Development Division

1. Our college students had submitted **23 project proposals** (as per the list below) to **Tamil Nadu State Council for Science and Technology (TNSCST)** under the Student Project Proposal Scheme - 2018-19 on 31/08/2018 (**Civil 14, Mechanical 3 ECE-2,EEE- 2,CSE- 2**).
2. Our college staff of about 81 faculty members belonging to various disciplines had registered in **NPTEL Courses** conducted by all IITs for Jun- APR 2018 semester. The initiative and guidance by our Principal Dr. K.V. Narayanan. Out of 81 registered staff, 14 staff members appeared for the exams and 67 staff members audited the courses. 13 staff cleared these NPTEL exams out of the 14 appeared and 2 staff had come out with **Gold medals** (Ms. Sindu from Civil Engg. and Dr. Janarthanan from Mechanical Engg.).
3. Our college had recently **registered under the Institution Innovative Council (IIC) program** an initiative by MHRD New Delhi for which the MHRD's Institution Innovation Council conducted an Inaugural ceremony on 21st November 2018 at the Auditorium of AICTE HQ, New Delhi. Our R&D Head Dr. N.K.Rajan participated in the program. With us more than 1000 engineering and other colleges have currently registered under this IIC program from various states of India. The main objective of this program is to hand hold institutions for developing innovations at the institute level by the students community and provide feasible solutions for local **problems Major Programs planned under this IIC are** 1.Network of Innovation Clubs (NIC) 2.Atal Ranking of Institutions on Innovation Achievements (ARIIA)3.Smart India Hackathon (SIH) 2019 and 4. National Student Startup Policy (NSSP).
4. Our college has **registered under the 2018 Elsevier Research Connect Seminar for AICTE colleges** held on Wednesday, 28th November 2018 at Courtyard By Marriott, Chennai. Our R&D Head Dr. N.K.Rajan attended this seminar program and received the certificate for participation. The theme of this year's Forum is: The Roadmap to institutional Ranking. This forum aims to bring together professionals from India's AICTE community and education system to foster dialogue on the evolving research landscape, including addressing common challenges and opportunities, identifying areas of collaboration and cooperation to bring research excellence to the forefront. These activities are aimed to focus more on research and foster our commitment towards advancing science and innovation.
5. Our College has **reinstated the Infosys Campus Connect Program** with a new faculty team comprising of Dr. IndraPriya Faculty, CSE Department as the SPOC, Mr. Nivas, Placement officer as the Back -up SPOC and one coordinators were identified from each department. Dr. N.K.Rajan R & D, Head and Dr. IndraPriya, SPOC had a first meeting with Mr. Roy Arnold, In-charge officer Infosys Campus Connect Program with at Infosys Ltd. Office at Mahindra City,

Chengalpattu by 3.00 PM on 13th November 2018 and discussed the activities to be carried out in the upcoming semester - Dec 2018 - April 2019. As an immediate step we have started planning to conduct the Learning Experience (*Lex*) Technical Program for our Infosys placed 33 Students from various disciplines with the help of the trainer faculties identified by us who would be trained by Infosys Faculty training program scheduled in the month of December 2018. Successful implementation of **Lex** program would result in improving our Institution ranking status in Infosys recruitments in the future. Additionally we are planning to roll out the FP-Technical Training program for our current final year and pre-final year students as per the curriculum designed by Infosys. This will have a direct impact on the employability status of our college students in various top IT companies through On-campus and Off-campus placement drive, irrespective of departments.

6. As a **research initiative to give solutions to industrial problems**, our College Team comprising of 6 Faculty members - 3 from Electronic and Communication Engineering and 2 from Mechanical engineering viz. Dr. Jai Shankar, HOD.ECE, Prof. Selavakumar, Prof. Pradeep Raja, Prof. Srinivasan K.S. and Prof. Ramasamy R. headed by Dr. N.K.Rajan, Head, R&D Division visited the company '**Way Cool Foods and Products Pvt Ltd.**' at Virugambakkam to meet Mr. Thirumalai, A.L., General Manger of the company on October 23, 2018. We visited the factory to understand the food processing process carried out by them so as to address their specific problem due to pigeons. Pigeons sitting at the top of the trussed roof of the factory spoil the processed fruits and vegetables by spitting their waste. They need a drone which could fly at the roof level, making a frightening eagle sound and emitting lights above for 24 hours x 7 days x 365 days continuously to keep away the pigeons away from their roof truss are and hence prevent the food products from being spoiled at the processing location and ware house shed where it is stored for delivery. Mimicking the sound of an Eagle is preferable. They need an economical and feasible solution. We had a preliminary discussion and got the inputs from the client and the above mentioned team is working on providing a feasible solution.
7. To inculcate innovation and research in the minds of our students our college R&D division had registered with **L&T Technology TECHgium open-innovation initiative** and had given an opportunity for our students to participate in the innovation competition which starts by 9th December 2019.
8. Our college R&D division had registered with **AMAZON web services** - AWS Educate to avail free access to Cloud Computing Technologies and other latest computing softwares by our students and faculty for their final year and other research projects.
9. Our College had registered under the **3i Innovation Cell of Ashok Leyland** for the benefit of our students and our faculty. A Team 1.Dr. Rajan N.K. which comprises of 4 Faculty

members. Dr. Jai Shankar, Prof. Selavakumar, Prof. Srinivasan KS and Prof. Shankar Lal attended a meeting with Ashok Leyland officials at their premises - Ashok Leyland Factory at Ennore on October 25, 2018. After the visit to the various manufacturing Divisions of the factor, we had a meeting with the AL officials and identified the scope of of feasible projects that can be carried out by the Faculty and students of Misrimal Navajee Munoth Jain Engineering College. Some of the feasible projects identified are

- Reuse of Paint sludge into paint for low end applications
- Recharging technique for Ground water to prevent Sea water intrusion
- Guidance for construction of plastic bituminous roads
- Generating power from the speed breaker and also from the mess region
- Low cost Automation in material handling
- Heat recovery from heat treatment section
- Intelligent Signals
- Optimal temperature maintaining body suit/jackets for shop floor workers.



10. An initiative had been taken by the R&D division to get funding from 'The Institution of Engineers (IE) (India)' for all the departments in our institution to conduct one day and three days national level seminars & workshops. We as an institution already have an institutional membership for having students' chapter with the IE (India) and efforts are taken to get interested staff members registered as members of IE (Fellow member-FIE, and Member-MIE). This would enable us to get funding from IE for research projects executed by our students guided by the staff members with IE membership. A research funding of Rs.50000/- for undergraduate students and Rs. 100000/ - for Post graduate students is provided by 'The Institution of Engineers (India)' headquartered at Calcutta.

11. Our Faculty from various departments had recently applied for possible funding to AICTE under the following programs funded by AICTE. Short term Technical Training Program (STTP) – 6 nos. (By all departments)., National Conference -1 (By CSE Department) Research Promotion Scheme (RPS) – 1no.(By ECE Department).
12. An Entrepreneurship Orientation Program was conducted by R& D Division for our first year Engineering students in our college campus on 24th October 2018 Mr. Shiva Subramaniam, Chief Innovative Officer, Gopalakrishnan Deshpande Centre for Innovation & Entrepreneurship, IIT Madras delivered the key note address along with Dr. Balu Ranganathan, Technology Director, Palms Connect, USA to our first year engineering students belonging to various disciplines viz. Civil, Mechanical, EEE, ECE, CSE and IT on the topic Innovation and Entrepreneurship.
13. India's First Leadership Talk series, a live webinar session by Shri. Anand Mahindra, Chairman, Mahindra Group was organized on 8th January, 2019 between 2.00 PM to 3.00 PM by MHRD Innovation Cell. The Institution's Innovation Council of Misrimal Navajee Munoth Jain Engineering College hosted this webinar session in the AC Seminar hall, Main building, First floor inside the campus. About 300 students belonging to different branches and years and around 50 faculties from all the departments attended this session. Our Principal Dr. K.V Narayanan motivated the students to volunteer and attend more such webinar sessions and online interactive sessions organized by MHRD innovation Cell in the future. This would enhance their communication skills, out of the box thinking, learning beyond class room and so on. Dr N.K.Rajan, President, Institution Innovation Council, Misrimal Navajee Munoth Jain Engineering college thanked the Principal and requested all the students to stay calm during the webinar session and listen the talk carefully.
14. Also a webinars session was arranged by MHRD on 20th January, 2019 under First Leadership Talk Series” by Dr. Anand Deshpande , Founder & Chairman & MD, Persistent Systems Ltd.,





15. The MHRD Innovation Cell organized the 2nd talk of the series presented by Ms. Shwetasree Majumdar, Principal, Fidus law Chamber on the topic 'IPR for Students and Faculty Members' live on Face book on 10/01/2019 between 1.30 PM to 3.30 PM. The Institution's Innovation Council of Misrimal Navajee Munoth Jain Engineering College hosted this live session in the AC Seminar hall, Main building, First floor inside the campus. About 300 students belonging to different branches and years and around 50 faculties from all the departments attended this session. Our Principal Dr. K.V Narayanan motivated the students to volunteer and attend more such webinar sessions and online interactive sessions organized by MHRD innovation Cell in the future. Dr N.K.Rajan, President, Institution Innovation Council, Misrimal Navajee Munoth Jain Engineering college invited all the participants - Students & Faculty members and requested to post their doubts as questions and feedback to the speaker during the face book live session. The speaker covered a wide range of topics on IPR and Patents which include Introduction to IPR ,Innovations and Patents, Copy rights and Related rights, Branding & Trade marks, Industrial designs, Other IPs-geographical indications, Semi Conductor Integrated Circuit Layout design, Plant Variety, Trade Secrets ,Importance & Protection of IP, Entrepreneurship and Digital Age. The session was very interesting and was an eye opener for all the participants – i.e. our students and Faculty. The procedure for patenting one's Product/Project Idea was clearly explained by the speaker. Awareness had been created to the young innovators about the importance of patenting their ideas and to understand the difference between Patent and copy rights. Students posted a number of questions in the face book live session to the speaker but it could not be addressed by the speaker due to time constraints.

16. As per the schedule given by MHRD Innovation Cell an offline session was arranged on the topic 'IPR for Students and Faculty Members' on 12/01/2019 between 10.30 AM to 12.30 PM. The Institution's Innovation Council of Misrimal Navajee Munoth Jain Engineering College organized this offline session in the AC Seminar hall, Main building, First floor inside the campus. The speaker was M/s I. Prem Charles, Managing Director from Allinov R&D. (P) Ltd., India. M/s Allinov R & D have 80 patents registered till date in India out of which 50 patents are owned by Mr. Prem Charles the Managing Director of Allinov R & D.

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The speaker covered a wide range of topics on IPR and Patents which include Introduction to IPR ,Innovations and Patents, Difference between Copy rights and Patents, Branding & Trade marks, Other IPs-geographical indications, ,Importance & Protection of IP. Very importantly he emphasized to the participants on how to make money out of patents and shared his own interesting experiences.The session was very interesting and imparted a good understanding and awareness about filing patents of one's unique ideas. The procedure for patenting one's Product/Project Idea was clearly explained by the speaker. Awareness had been created to the young innovators about the importance of patenting their ideas and to understand the difference between Patent and Copy rights. Students posted a number of questions to the speaker and he addressed all the questions posted by the participants. A feedback was also collected from the participants.



17. Smart India Hackathon-2019

Proud to announce 31 Students Teams had registered their 'IDEAS' addressing more than 50 Problem statements given by 'Leading Private Sector Organizations' through MHRD Innovation Cell, New Delhi. Our Students had given Cost-effective & Innovative Solutions with the mentorship of our faculty members.

18. 81 faculty members had registered during 2018 in NPTEL Courses conducted by IITs
2 staff had received Gold medals.

Our librarian Dr. V. Viswanathan as SPOC got the NPTEL Certification for effectively conducting this program. More than 281 students & 81 Faculty have been registering currently for this year 2019-20



Dr. N.K.RAJAN,
Head R&D