



NANDHA ENGINEERING COLLEGE

(Autonomous)

Approved By AICTE, New Delhi and
Affiliated to Anna University, Chennai



CRITERION- VII

7.3 Institutional Distinctiveness



7.3. Institutional Distinctiveness

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Institution Distinctiveness- Introduction

Acceleration in the technological advancement in recent times urges the students to be industry-primed by acquiring eclectic skills while graduating from the institutes of higher education. The advancements will encourage, inspire and nurture young students by exposing them to new ideas and processes resulting in innovative activities. In line with the above, Technical Institutions started to establish forums to enable students to employ their novel and creative ideas originating from fundamental concepts learnt in the classroom and to perpetuate the hands-on knowledge gained in the laboratory into a new product.

To ensure Innovation as a prime kingpin, Nandha Engineering College has introduced the following platforms to build the culture of innovation and to transform dream ideas into reality.

- Institution's Innovation Council (IIC)
- Centre for Innovation and Product Development (CiPD)
- Business Incubator (BI)

The afore mentioned wings at Nandha Engineering College aim to develop new products that will have a societal impact by leveraging exhaustive technology.

Institution's Innovation Council (IIC)

Nandha Engineering College, as per the guidelines of Ministry of Human Resource Development Innovation Cell (MIC), has constituted Institution's Innovation Council in the year 2018. IIC mainly focuses in encouraging, inspiring and nurturing young students by exposing them to new ideas and processes resulting in innovative activities in their formative years.

The major focus of IIC is

- To encourage the creative energy of student population to work on new ideas and innovation and promote them to develop products.
- To develop better cognitive ability for Engineering/technology students and to create complete ecosystem which inculcate the culture of Innovation.

- To conduct various innovative and entrepreneurship-related activities prescribed by MIC in time bound fashion.
- To identify and reward innovations and share success stories.
- To organize periodic workshops/ seminars/ interactions with innovators/startups/entrepreneurs, professionals and create a mentor pool for students' innovations.
- To network with peers and national entrepreneurship development organizations.

Centre for Innovation and Product Development (CiPD)

CiPD was promoted in Nandha Engineering College in 2015 with the aim of creating spark of innovation in the students' mind and to expose them to the existing problems that need to be solved. It encourages the students to come up with ideas which have innovation, Intellectual Property Right (IPR) component and potential commercial value. It connects the students with experts for mentoring. Project making, project exhibition& presentation, hackathon and participation in competitions are part of our yearly event (Innovation Day) schedule. The CiPD plays a vital role in inviting innovators, researchers, successful startups/entrepreneurs from varied fields to share their experience for problem solving and success scenarios which may benefit students/faculty members of the Institution. Further, the centre aims to build an interdisciplinary networks and teams for students and facilitate understanding of subtle aspects of innovation, IPR, startups and entrepreneurship.

PROGRESS OF CiPD

Objectives

- Motivating the students to think laterally and out-of-the-box to generate innovative ideas
- Transforming innovative ideas into products of societal needs
- Providing required technical guidance by mentoring the students to carry out the project effectively.

- Filing patents and commercialization of the products in the long run Work Flow of CiPD.

Business Incubator (BI)

NEC Business Incubator (BI) is an Institutional mechanism providing a conducive ecosystem to promote the innovation, product development, startups and entrepreneurship. Nandha Engineering College was officially approved by MSME (Govt. of India, Delhi) as a Host Institution (HI) for idea incubation from 2018.

It aims to encourage students with innovative ideas & entrepreneurial spirit to become entrepreneurs by imparting skills via training Programmes. Besides students, general public with inclination for novel idea-based business ventures and existing companies interested in incubating unique spin of ideas towards commercialization can also avail the BI platform. MSME is providing funding support up to INR 15 Lakh per approved idea through the business incubators.

Ranking

IIC of Nandha Engineering College has been awarded five star and four star rating by the Ministry of Education (MoE) for innovation and startups for the year 2019-2020 & 2020-2021 respectively.

Grants

BI of NEC has been funded with Rs.15 lakh for the idea Roll and Pull Uprooting Machine which is helpful to the small and marginal farmers to harvest Tapioca with less manpower. The product development is in the verge of completion and is expected to be completed in July 2022.

Patents and Copy rights

3 Design Patents are obtained and 18 patents are filed by faculty and students for their invention and 30 copyrights have been granted for the creative work of faculty and students.

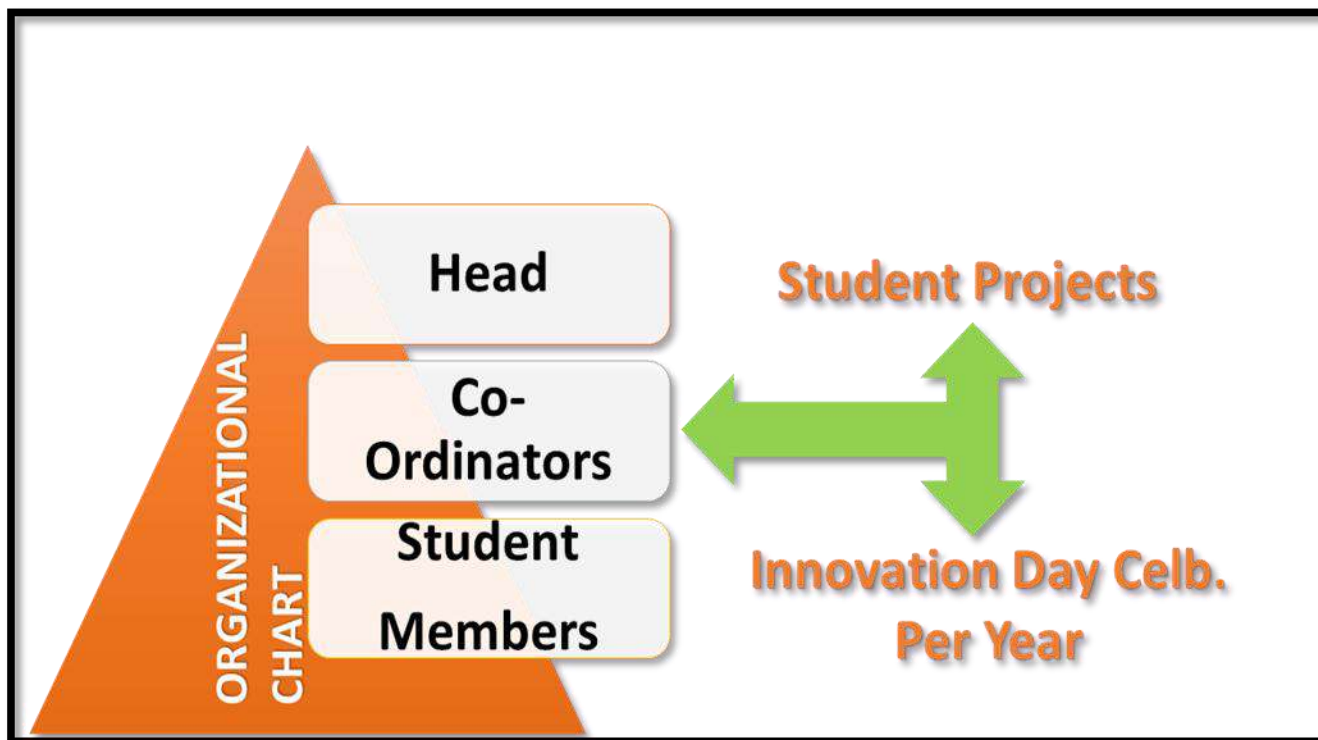
Product Launch - Automatic Sanitizer Dispenser and Automatic Hand Sanitizer developed by Mr.M.Seenivasan, AP/ ECE and Mr.R.K.Boopesh of second year ECE were launched.

- A project titled Automatic Alert for Sleepy Drivers was done by Mr.S.Premnath, Ms.R.Dhivyarani and Mr.L.Mohanasundaram of Second year EEE through CiPD. It alerts the drowsy driver to avert accidents.
- Automatic Seed Sowing Farobot Using Arduino was developed by Jobin Joseph, A.J.Arsha, C.M. Drishya and P.Nayana of second year Agriculture Engineering students to overcome the problem of labour shortage.
- Solar Inverter developed by Mr. M.Arunprasath, Mr. P.S.KarthickhRaghunath, Mr. S.Kavin Kumar and Mr. K.C.Santhosh of III year EEE with the guidance of faculty members Mr.S.Prabhakaran, AP/EEE and Mr.P.Krishnagandhi, AP/EEE.

Programmes Organized

In order to nurture innovation culture, entrepreneurship and Intellectual Property Rights among the students, CiPD of NEC organizes various awareness programmes, workshops and seminars by inviting experts and officials as resource persons.

CENTRE FOR INNOVATION & PRODUCT DEVELOPMENT (CiPD)



CiPd Workspace



PROJECT EXPO IN ENGINEERING INNOVATION INNOVATION DAY SINCE 2015



MILESTONES SMART INDIA HACKATHON



6-TH EDITION OF GO KART DESIGN CHALLENGE



Participation in 6th edition of Go Kart Design Challenge at Buddh International Circuit, Gr. Noida.

INSTITUTION'S INNOVATION COUNCIL (IIC)

IIC of Nandha Engineering College was started during 2018 as a unit of IIC network of Ministry of Education's (MoE's) Innovation Cell'. The major focus of IIC is

- To encourage the creative energy of student population to work on new ideas and innovation and promote them to develop products.
- To develop better cognitive ability for Engineering/technology students and create complete ecosystem which will foster the culture of Innovation.
- To conduct various innovation, startup and entrepreneurship-related activities prescribed by MIC in time bound fashion.
- To identify and reward innovations and share success stories.
- To organize periodic workshops/ seminars/ interactions with innovators/startups/entrepreneurs, professionals and create a mentor pool for students' innovations.
- To network with peers and Industries.

Certificate for Establishment of IIC at NEC



RECOGNITION TO IIC OF NEC



Ranking by IIC 2018-19



Ranking by IIC 2019-20



Ranking by IIC 2020-21

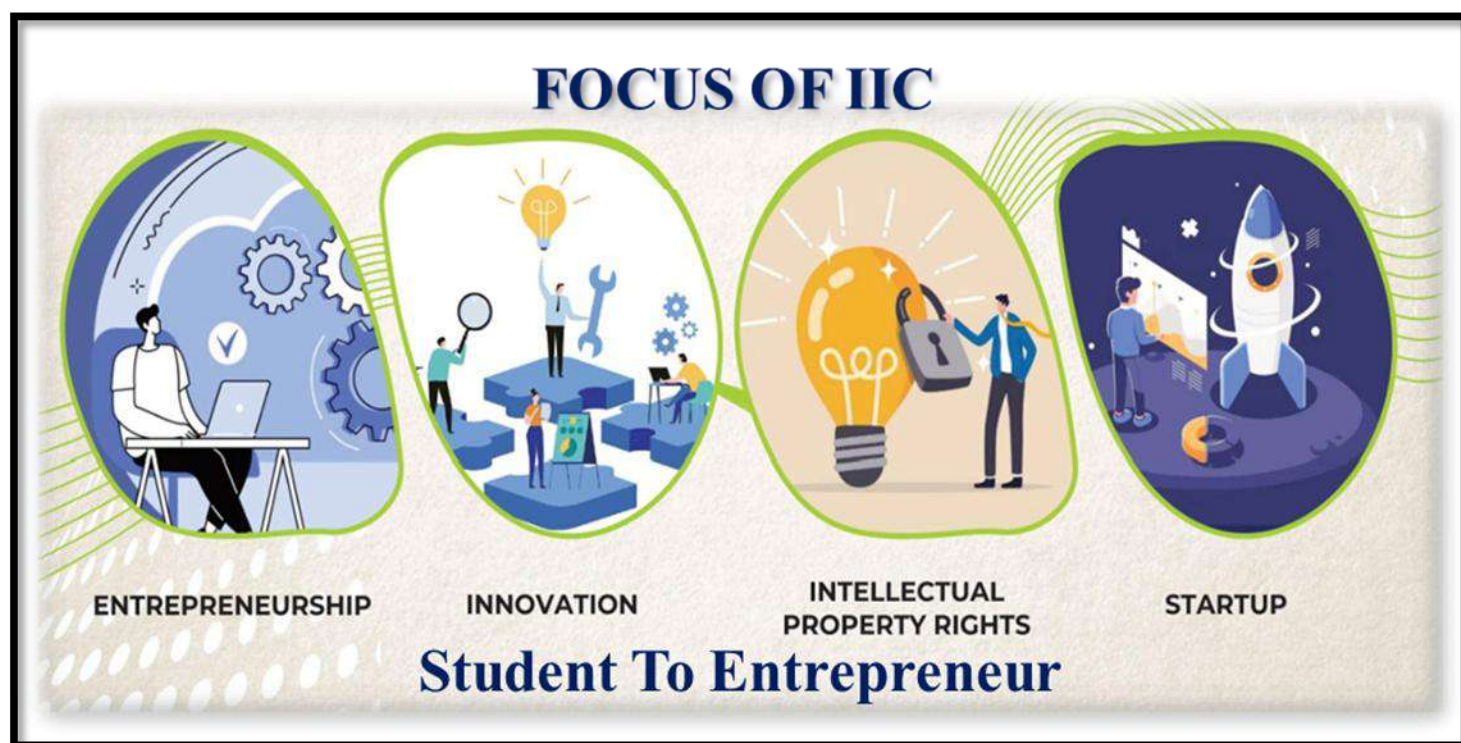
ACTIVITIES OF IIC

- 2016 Business Incubator
- 2018 MSME - BI
- 2021 MSME - Sanctioned 15 Lakh Rupees for "Roll And Pull Type Uprooting Machine"
- 2022 MSME Sanctioned 14.75 Lakh Rupees for "Smart Solar Waste Segregation And Waste Management Using IoT"

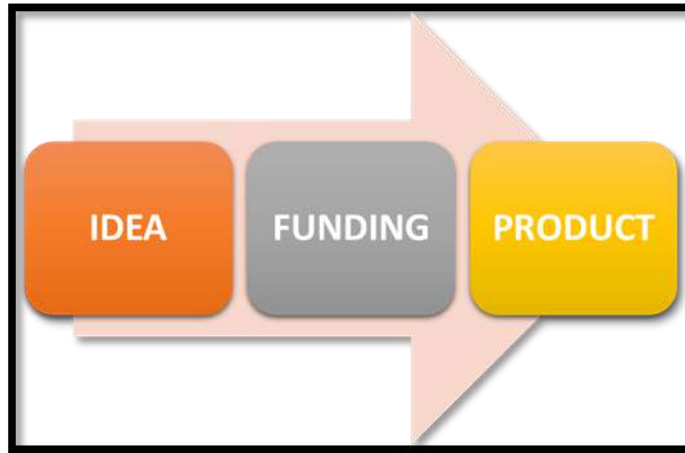
Innovation Ambassador

Basic Level – 8

Advanced Level – 4



Business Incubator (BI)



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- Nandha Engineering College was officially approved by MSME (Govt. of India, Delhi) as a Host Institution (HI) for idea incubation from 2018. It aims to encourage students with innovative ideas & entrepreneurial spirit to become entrepreneurs by imparting skills via training Programmes.
- Besides students, general public with inclination for novel idea-based business ventures and existing companies interested in incubating unique spin of ideas towards commercialization can also avail the BI platform.



First Incubate of Nandha Engineering College-BI



Name of the Incubate

D. Subramanian

Project Title

Roll and Pull Type Uprooting Machine

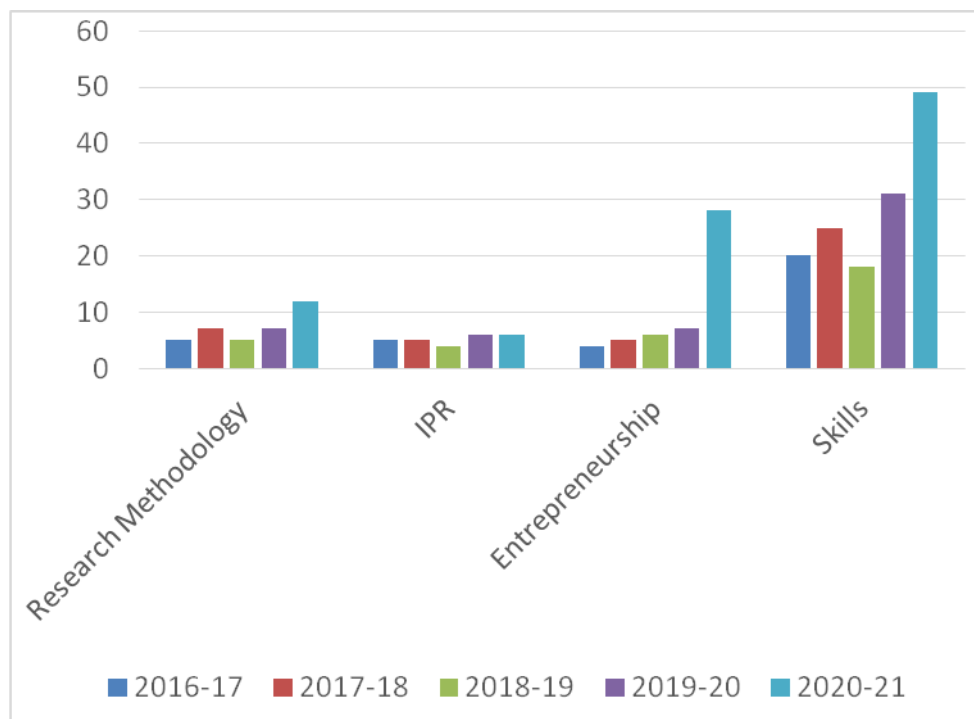
Mentors

Dr. M. Easwaramoorthi, Head-CiPD

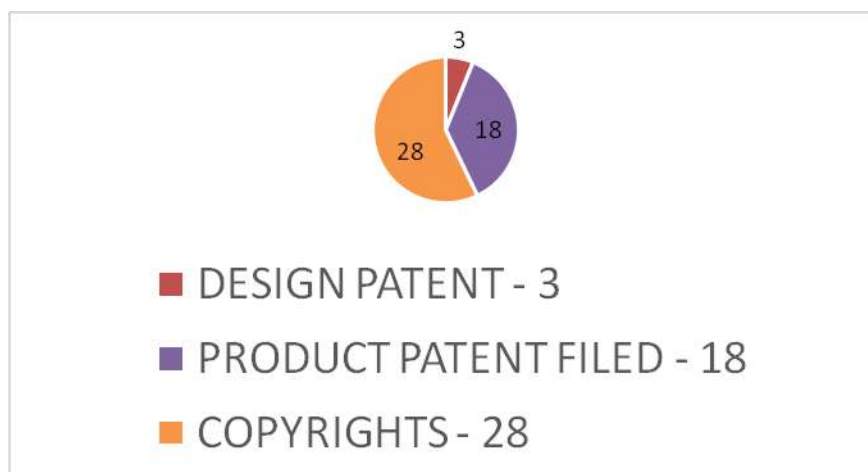
Mr. M. Sengottaiyan, ASP-Mech

Amount – 15 Lakh Rupees

Number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship and skill development from the establishment of IIC



PATENT DETAILS



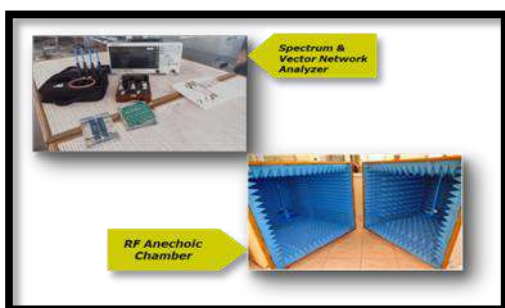
FUNDED LABORATORIES

Antenna Research Laboratory

The Antenna research lab is enriched by fund about 15 lakhs that sanctioned by AICTE to enhance the research activities such as Antenna design and analysis by using advanced Spectrum & Vector Network Analyzer and RF Anechoic Chamber.

Funding Agency	: AICTE-Research Promotion Scheme
Funding Amount	: Rs. 15,04,500/- (Rs.15.045 Lakhs)
Project Sanction Number	: 8-33/FDC/RPS/POLICY-1/2021-22 dated 18.02.2022
Project Title	: Designing a Fully Textile Fractal Monopole Wearable Antenna for Medical Imaging Applications
Project Period	: 2021-2024
Principal Investigator	: Dr.C.N.Marimuthu Professor (ECE) & Dean (R&D), NEC
Co- Principal Investigator	: Dr.R.Murugasami , Associate Professor/ECE, NEC

Major Equipments empowering the Antennas Research lab...



Nano Research Laboratory

Funding Agency	: AICTE-Research Promotion Scheme
Funding Amount	: Rs. 5,45,098.00/- (Rs.5.45 Lakhs)
Project Sanction Number	: 8-222/RIDF/RPS (POLICY-1)/2018-19 DATED 22.11.2019
Project Title	: Experimental Investigation and modeling of WO_3 , ZnO and Graphene Nano particles in the field of Bio Medical applications
Project Period	: 2019-2022
Principal Investigator	: Dr. S. Kavitha Professor & Dean/ECE, NEC

Major Equipments empowering the Nano Research lab...

- *UV Visible Spectrophotometer*
- *Muffle Furnace*
- *Digital Ultrasonic Cleaner*
- *Portable EEG Machine*
- *Portable ECG Machine*



Portable ECG Machine



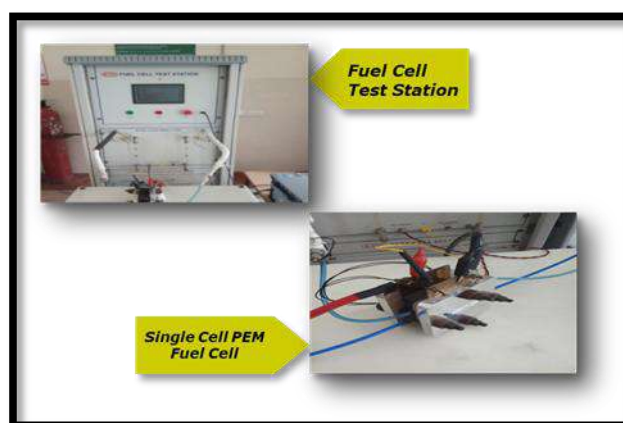
Hot Air Oven

Fuel Cell Research Laboratory

The Fuel Cell research lab is enriched by fund about 24.7 lakhs that sanctioned by AICTE to enhance the research activities such as Design and Development of Proton Exchange Membrane Fuel Cell with Novel Cathode Flow Field for Better Water Management and High Performance.

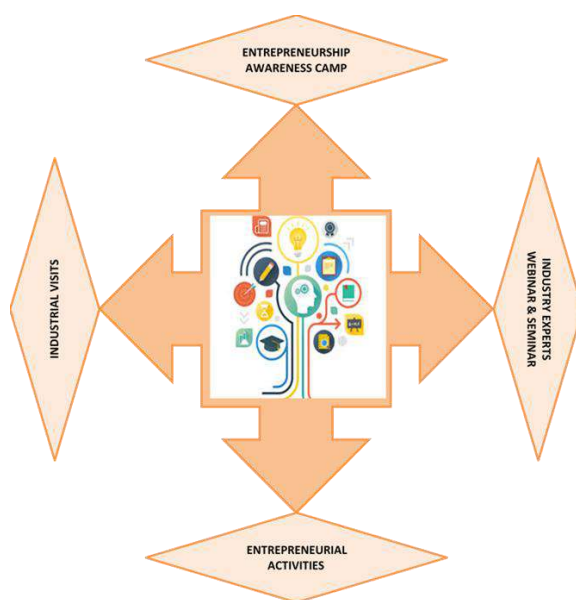
Funding Agency	: AICTE-Research Promotion Scheme
Funding Amount	: Rs. 24,70,588/- (Rs.24.7 Lakhs)
Project Sanction Number	: 8-33/RIFD/RPS/ POLICY-1/2016-17
Project Title	: Design and Development of Proton Exchange Membrane Fuel Cell with Novel Cathode Flow Field for Better Water Management and High Performance
Project Period	: 2017-2020 (3 years)
Principal Investigator	: Dr. N. Rengarajan Professor and Principal, NEC.
Co- Principal Investigator	: Dr. M. Muthukumar Professor-Mechanical Engineering, NEC.

Major Equipments empowering the Fuel Cell Research lab...



ENTREPRENEURSHIP DEVELOPMENT CELL

- The Entrepreneur Development Cell of Nandha Engineering College was established in the year 2013.
- Entrepreneurship development cell strives to inspire and integrate a culture of innovation through a conducive entrepreneurial ecosystem to help budding entrepreneurs realize their dream to start up their own enterprises.
- It refines the entrepreneurial skills like idea generation, opportunity evaluation, business modelling, cash flow, forecasting, negotiation and sales skills through hands on training, programs, mentoring and campus start-ups.
- Further, it facilitates incubating innovations through various schemes.
- It is working towards building the leadership skills among the students to enhance their entrepreneurial competencies.
- It is functioning to motivate the students to become entrepreneurs and thus to make them job providers rather than job seekers.



ENTREPRENEURSHIP DEVELOPMENT CELL ACTIVITIES ENTREPRENEURSHIP AWARENESS CAMP

Nandha Engineering College (Autonomous)
Erode, Tamilnadu

Department of Management Studies & Entrepreneur Development Cell
Organizes

Entrepreneurship Awareness Camp

Sponsored by

National Science and Technology Entrepreneurship Development Board (NSTEDB)
Entrepreneurship Development Institute of India, Ahmedabad

Department of Science and Technology
Government of India, New Delhi
DST-NIMAT Project 2018-2019

Guest Speakers

 Mr. V. P. S. Radha Krishnan Chairman, CII Erode Zonal Council & MD, Angel Starch & Food Pvt Ltd, Erode	 Jc B. Madhavakrishnan Proprietor NMK Online Service, Erode	 Mr. K. Kaveen kumar Managing partner TipTop Groups, Erode & Karur	 Dr. D. Ravichandran Director Hayman Environmental Engg Pvt Ltd, Erode
 Mr. Sivakumar Venkatachalam Founder Konga Goshala, Kangeyam	 Mr. S. Ravishankar CEO Bright Digi World, Tiruppur	 Mr. Logesh Kumar Managing Partner Sri Thindal Punjabi Family Restaurant, Erode	 Mr. Mohan Executive Director Skybays, Erode

Venue : Conference Hall.
Date : 21, 22 & 23 February 2019.



Mr. V. Raja, Proprietor,
Sri Bannari Amman Home Care, Salem



Mrs. T. Jansirani,
Assistant Engineer (Industries), District Industrial Centre Erode



Mr. Odanthurai Shanmugam,
Social Entrepreneur and Former President, Odanthurai Panchayat



Ms. Tamil Selvi,
Agro Entrepreneurship, Gohichettipalayam.

INDUSTRY EXPERTS SEMINAR “CORPORATE SPEAK”



Er.D.Shanmugan,
CEO, Yes and Yes Constructions
On “Corporate Speak”



Er.R.Mohan Raj, President,
Federation of All Civil Engineers Association of Tamilnadu and Pondicherry
On “Corporate Speak”



Mr.P.Nandha Kumar,
Partner, Maya Bazaar Restaurant & Bubbles kids & Women, Erode
On “Corporate Speak”



Dr.V.Rajasekaran,
Assistant Director-Students Welfare VIT University - Chennai Campus
On “Corporate Speak”

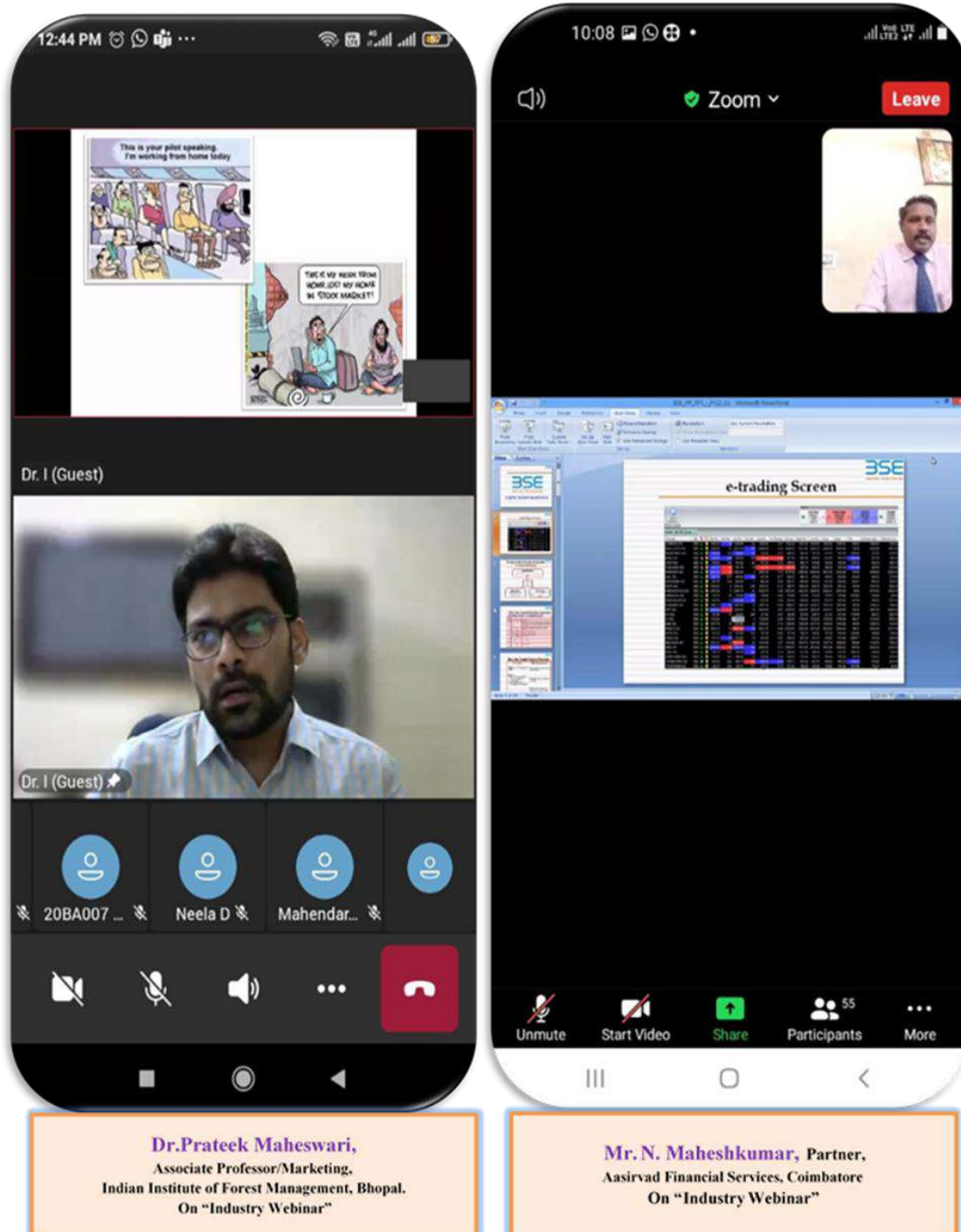


Mr.Jc.L.Sampath Kumar,
Managing Director, Nallakadai & South India Organic Farms, Erode
On “Corporate Speak”



Mr.K.Kaveen Kumar,
Managing Partner -TipTop Groups
On “Corporate Speak”

INDUSTRY EXPERTS WEBINAR



ENTREPRENEURIAL ACTIVITIES - Experiential Learning on Entrepreneurship



INDUSTRIAL VISITS



Industrial Visit @ Erode Textile Mall, Chithode-Erode.



Industrial Visit @ Jubilant Life Sciences, Mysore

MILESTONES IN THE ACTIVITIES OF EDC

Grants Received Till Date

S.No	Details of EDC programme for which sanction has been made	Year	Sponsored By	Amount
1	Personal Effectiveness Programme - I	2012 - 13	AICTE, New Delhi	4,00,000/-
2	Personal Effectiveness Programme - II			
3	Entrepreneurship Awareness Camp	2012-13	DST	20,000/-
4	Entrepreneurship Awareness Camp	2014-15	DST	20,000/-
5	Entrepreneurship Awareness Camp	2016-17	DST	20,000/-
6	Entrepreneurship Awareness Camp	2018-19	DST	40,000/-
7	Entrepreneurship Awareness Camp	2019-20	DST	40,000/-



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