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Department of Mechanical Engineering(Accredited by NBA)

	LIST OF EVENTS FOR THE YEAR 2020-21								
Sl no.	Date	Event	Topic	Resource Person					
1	06/07/2021	Technical Talk	Workplace Ethics	Mr. Pradeep Kumar B R Senior Assistant Professor in Department of Master of Business Administration, MITE					
2	03/07/2021	Technical Talk	Skill Certification & Job Opportunities for Mechanical Engineering Students in GCC Countries	Mr. Sinan Ismail, Sales and Logistics Lead in Skoda auto India (Mangalore division)					
3	30/06/2021	Technical Talk	Experimental approach of Heat Exchanger & Compressor in Industry	Mr S Veeresh Kumar, Sr. Project Engineer, JSW steels, Ltd, Bellary					
4	11/06/2021	Technical Talk	"Importance of GD&T in designing	Mrs. Namratha Ghar Regional Manager- Business Support CADD Centre Training Services Pvt. Ltd, Mumbai					
5	08/06/2021	Technical Talk	New Product Development & It's Optimization	Mr. Balachandra Shastri, : R&D Engineer and Asst . Technical Product Lead at Mukunda Foods Private Limited Banglore					
6	22/05/2021	Technical Talk	Advances in Metal forming	Mr. Manjunatha Gaviappa, Group Project Manager, HCL, Bangalore					



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7	21/05/2021	Technical Talk	Recent Advances in 3D Printing	Dr. L Jyothish Kumar, President - Additive Manufacturing Society of India & Founder & CEO - RAPITECH Solutions Inc. Bangalore, Karnataka
8	19/05/2021	Technical Talk	Low-Cost Model building to Train School students - AICTE Activity Point	Mr. Hoysala, Mr. Hari Prasad, Mr. Kiran Kumar, Mr. Praveen, and Ms. Hema Latha, Instructors, Agastya Foundation, Bangalore
9	18/05/2021	Technical Talk	Emerging areas of Mechanical Engineering	Mr Ashrith, Senior Manager, Engineering and Operations Rajamane Innovations, Bangalore
10	17/05/2021	Technical Talk	Challenges and opportunities in 3D printing	Mr. Praveen olekar, Co-founder &CEO, Nixbess
11	15/05/2021	Technical Talk	INTRODUCTION TO UNIGRAPHICS TOOL FOR BEGINNERS	Mr. Vivek L M PD Engineer, Wabtec Corporation, Mysore
12	14/05/2021	Technical Talk	Heat analysis in Lime calcination plant and Recent trends in Steel sector	Mr. Anil Kumar Gujjal, Assistant Manager, JSW steels ltd
13	14 th to 18 th Dec 2020	Faculty Development Program	Sustainable Solutions in Hybrid Vehicles	Dr Bhim Singh, Professor, IIT-Delhi
14	23 rd to 27 th Nov 2020	Faculty Development Program	Sustainable Energy Solutions In Solar Energy Applications"	Dr. J K Naik Professor Emeritus, IIT-Bombay
15	7 th to 11 th Sep 2020	Faculty Development Program	Emerging trends in Sustainable Technologies"	Mr.Deva P. Seetharam



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Department of Mechanical Engineering

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		Founder, Data Glen
		Technologies,
		Bangalore

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Department of Mechanical Engineering

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Date: 06.07.2021

Report of Technical talk

- 1. Title: Work Place Ethics
- 2. **Resource person name & Address**: **Mr. Pradeep Kumar B R** Senior Assistant Professor in Department of Master of Business Administration, MITE
- 3. **Brief Profile of Resource person: Mr. Pradeep Kumar B R** is working Senior Assistant Professor in Department of Master of Business Administration, MITE & worked in Morgan Advanced Materials, Dubai, UAE as Manager -Technical Sales for 8 Years.
- 4. **Date organized**: 06.07.2021
- 5. **Duration**: One hour
- 6. Topics Covered:
 - a) Ethics
 - b) Immoral issues
 - c) Areas of Work Ethics
 - d) Code of Conduct
 - e) Harassment
- 7. **Venue:** Online (meet.google.com/bws-vucp-viz)

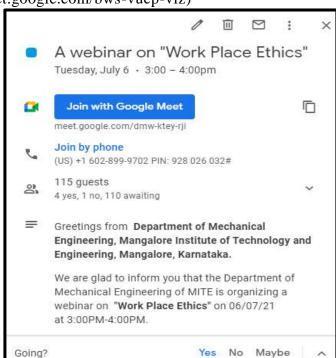


Figure 1 Google calendar Invitation

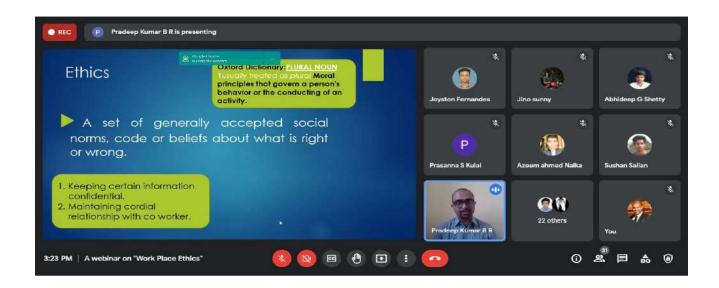
8. Event Brochure

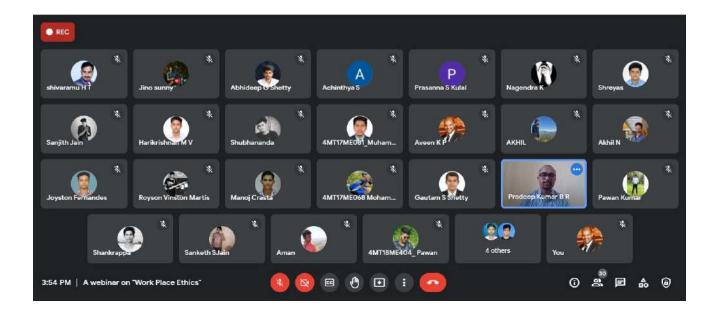


Figure 2 Event Brochure

- 9. Target Audience: Students of 8ME1 & 8ME2
- 10. Attendance Sheet: NA
- 11. **Outcome of the Talk:** Students were able to understand the rules, values, ethical principles and vision for an Organization.
- 12. Feedback: Attached
- 13. **Program Coordinator:** Mr. Aveen K P, Assistant Professor, Mech
- 14. Total Number of Students: 32
- 15. Program Photos.







FEEDBACK Questionaries'

Q1	How satisfied were you with the event?
Q2	How relevant and helpful do you think it was for your job?
Q3	Skill and responsiveness of the instructor [Instructor was an effective lecturer/demonstrator]
	Skill and responsiveness of the instructor [Instructor stimulated student interest]
Q5	Skill and responsiveness of the instructor [Instructor was available and helpful]
	How satisfied were you with the session content?

Timestamp	USN	Name	Q1	Q2	Q3	Q4	Q5	Q6	What were your key take away from this event?	Any overall feedback for the event?
7/6/2021 15:56:59	4MT17ME114	Ruthvika B	5	5	5	5	5	5	Work place Ethics	Thank you :)
7/6/2021 15:57:00	4MT17ME095	Pawan Kumar	5	5	5	5	5	5	Organizational ethics	
7/6/2021 15:57:48	4MT17ME124	Sanketh.S	4	4	2	2	2	4		
7/6/2021 15:58:34	4MT18ME409	Shubhananda	3	3	3	3	3	3	Workplace ethics	Session was good
7/6/2021 16:00:56	4MT17ME131	Shankrappa	4	5	4	4	4	4	Good	Good
7/6/2021 16:01:13	4MT17ME141	Shreyas	4	4	5	4	4	5	good event	no comments
7/6/2021 16:01:14	4MT17ME009	Achinthya S	5	5	5	5	5	5	Professional ethics in work places	Good
7/6/2021 16:01:26	4MT17ME101	Prasanna S Kulal	5	5	5	5	5	5	We should follow the code of conduct in any organisation	Good
7/6/2021 16:01:30	4MT17ME046	Jino Sunny	5	5	5	5	5	5	Informative	Good
7/6/2021 16:01:33	4MT17ME033	Chinmay N Naik	5	5	2	2	2	5	Work ethics	Good
7/6/2021 16:01:38	4MT17ME068	Mohammed Aqeeb D A	5	5	5	5	5	5	How to behave in company	Everything was good
7/6/2021 16:01:40	4MT17ME017	Akhil	4	5	2	2	2	4	About ethics	No
7/6/2021 16:01:41	4MT18ME404	Pawan	5	5	3	3	3	5	Job ethics	good

7/6/2021 16:01:44	4MT17ME086	Nagendra K	3	4	3	3	3	4	Learned few important ethics about organization nd life	No comments
7/6/2021 16:02:00	4MT17ME004	Abhideep G Shetty	5	5	5	5	5	5	We must have good work ethics	No
7/6/2021 16:02:11	4MT17ME112	Royson Martis	5	5	3	3	3	5	Working ethics, behaviour in corporate society	Session was very good
7/6/2021 16:03:23	4MT17ME063	Manoj Crasta	3	3	3	3	3	3	Work place ethics	Good
7/6/2021 16:03:35	4MT17ME090	Nishanth K S	3	3	2	2	2	3		
7/6/2021 16:03:55	4MT17ME021	Aman	4	4	5	5	5	4		
7/6/2021 16:03:55	4MT17ME029	B Sanjith Jain	5	5	5	5	5	5	Basic ethics required in a workplace. Do's and dont's explained by Pradeep sir	Very helpful points provided by sir to behave well in workplace
7/6/2021 16:04:10	4MT17ME110	Raveesh	1	1	2	2	2	3	NIL	
7/6/2021 16:04:19	4MT17ME038	Elbon Arvin D'souza	5	5	5	5	5	5	Good	Good
7/6/2021 16:04:29	4MT17ME062	Manisha S	3	3	3	3	3	3		
7/6/2021 16:05:56	4MT17ME154	Thufail Ahmed	5	4	1	2	1	4	Great	Best
7/6/2021 16:06:22	4MT17ME081	Muhammed Faisal	3	2	3	2	2	3		
7/6/2021 16:12:10	4MT18ME403	Nithin Kumar	5	5	5	5	5	5	Ethics, responsibility in a working place	Good
7/6/2021 16:12:23	4MT17ME094	Pavan	5	5	5	5	5	5	Lernt about ethics	Good
7/6/2021 16:14:13	4MT18ME406	Raghvendra U	5	5	5	5	5	5		Good
7/6/2021 16:19:21	4MT17ME042	Gopal Krishna B	5	5	5	5	5	5	Ethics does not depend on what education we we have , it's basic ingredient to discipline	

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Department of Mechanical Engineering

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Date: 03.07.2021

Report of Technical talk

- 1. **Title**: Skill Certification & Job Opportunities for Mechanical Engineering Students in GCC Countries
- 2. **Resource person name & Address**: Mr. Sinan Ismail Sales and Logistics Lead in Skoda auto India (Mangalore division)
- 3. **Brief Profile of Resource person**: **Mr. Sinan Ismail** is working in Skoda Auto India Mangalore Division as a Sales and Logistics Lead and Region Incharge of VW group Mlr sector. Previously he worked with MRPL as site engineer under Petracon Piping Engineers Pvt Ltd.
- 4. **Date organized**: 03.07.2021
- 5. **Duration**: One hour
- **6.** Topics Covered:
 - a) What is GCC Countries?
 - b) Job Opportunities in GCC Countries
 - c) Skill Certification in various software
- 7. Venue: Online (meet.google.com/bws-vucp-viz)

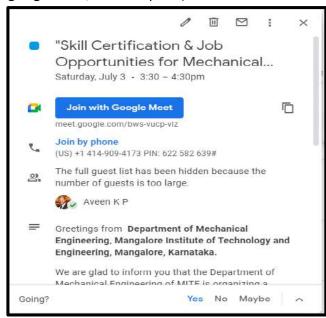


Figure 1 Google calendar Invitation

- **8. Target Audience:** Students of 8ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: FEM & DME
- **11. Outcome of the Talk:** Students were able to understand the information about high-end modern tools required to enter GCC Countries.
- 12. Feedback: Attached
- 13. Program Coordinator: Mr. Aveen K P, Assistant Professor, Mech
- 14. Total Number of Students: 51
- 15. Program Photos.



Department of Mechanical Engineering

Webinar

on

"Skill Certification & Job Opportunities for Mechanical Engineering Students in GCC Countries"

Mr. Sinan Ismail

Sales and Logistics Lead in Skoda auto India (Mangalore division)

Date: 03rd July 2021 Venue: Google Meet Time:3:30 PM

Figure 2 Event Brochure

FEEDBACK Questionaries'

How satisfied were you with the event?

How relevant and helpful do you think it was for your job?

Skill and responsiveness of the instructor [Instructor was an effective lecturer/demonstrator]

Skill and responsiveness of the instructor [Instructor stimulated student interest]

Skill and responsiveness of the instructor [Instructor was available and helpful]

How satisfied were you with the session content?

Timestamp	USN	Name	Q1	Q2	Q3	Q4	Q5	Q6	What were your key take away from this event?	Any overall feedback for the event?
7/3/2021 16:27:04	4mt17me138	Shetty Sanket Surendra	5	5	5	5	5	5	I have got many ideas	Awesome
7/3/2021 16:27:38	4MT17ME073	Mohammed Rilwan	4	4	5	5	5	4	Nil	Good
7/3/2021 16:27:54	4MT17ME095	Pawan Kumar	5	5	5	5	5	5	Automotive industry	
7/3/2021 16:28:09	4MT17ME045	Himaval Rakshak	5	5	2	2	2	5		
7/3/2021 16:28:25	4mt17me055	Karthik g y	4	4	5	5	5	5	About different courses	Good event
7/3/2021 16:29:11	4mt17me039	faheem rehman	4	4	3	3	3	3		
7/3/2021 16:29:33	4MT17ME090	Nishanth K S	3	4	2	2	2	3		
7/3/2021 16:29:37	4MT17ME063	Manoj Crasta	4	4	3	4	4	4	What skills should I have to apply job in petrochemical industry	It was informative
7/3/2021 16:30:14	4MT17ME161	Vikas Nayak	5	5	3	3	3	5	Got information about job opportunities in GCC countries	Good
7/3/2021 16:30:27	4MT17ME046	Jino Sunny	5	5	5	5	5	5	An idea on job opportunities	Informative
7/3/2021 16:32:24	4MT17ME021	Aman	3	4	2	2	2	3	Got know some extra things regarding the industries in the gulf.	

7/3/2021 16:33:11	4mt17me131	Shankrappa	4	4	4	3	4	4	Good	Good
7/3/2021 16:33:17	4MT17ME018	Akhilesh	4	4	4	4	4	4	Skill sets required to get a job in GCC countries	
7/3/2021 16:42:17	4mt14me072	Manishdinakar	4	3	2	2	2	4	Confidence	Good session
7/3/2021 16:44:17	4MT17ME031	Bhushan Alva	4	4	5	4	4	4	do projects, certification courses, update LinkedIn and resume	Good and informative
7/3/2021 16:45:43	4MT17ME125	Santhosh kumar	5	4	2	2	2	3	Lerant about GCC and course	Was good session practical skill required
7/3/2021 16:46:02	4MT17ME114	Ruthvika B	5	5	5	5	5	5	understood the job opportunity at GCC	Thank you
7/3/2021 16:47:45	4mt17me112	Royson martis	5	5	3	3	3	5	Opportunities in gcc countries, opportunities in india, types of softwares fr piping	The session was good
7/3/2021 16:47:45	4MT17ME086	Nagendra K	4	4	3	3	3	3	Informative session	No comments
7/3/2021 16:47:47	4MT17ME038	Elbon Arvn Dsouza	5	4	5	5	5	5	Good	Good
7/3/2021 16:48:42	4MT17ME124	Sanketh.S	5	5	1	2	2	4		
7/3/2021 16:51:32	4MT18ME400	AKHIL N	5	4	5	4	5	5	Very helpful and had a wide range of exploration of outer world workspace	Good webinar
7/6/2021 10:25:44	4mt16me144	SOHAIL	5	4	2	2	2	4	Various opportunities through online platforms and certification course that actually matters for mechanical engineering students to get a job.	Thank You
7/6/2021 10:23:44		Nischith U	4	4	4	4	4	4	Job opportunities in other countries	Good



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Department of Mechanical Engineering

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Date: 30.06.2021

Report of talk

- 1. Title: Experimental approach of Heat Exchanger & Compressor in Industry
- 2. **Resource person name & Address**: Mr S Veeresh Kumar, Sr. Project Engineer, JSW steels, Ltd, Bellary
- 3. **Brief Profile of Resource persons:** He worked as project engineer in JSW steels in Raw materials handling system department, which supplies nearly 10MT of iron ore and coke to internal departments which consists of machinery that needs periodic maintenance.
- 4. Date organized: 30.06.2021
- 5. **Duration**: One hour
- 6. Topics Covered:
 - a) Steel industry overview
 - b) Raw material handling systems
 - c) Machinery installation and maintenance
 - d)Heat exchangers maintenance
 - e) scope in Steel industry
- 7. Venue: Online

(Technical Talk: "Experimental approach of Heat Exchanger & Compressor in Industry"

<u>Wednesday, June 30 · 3:30 – 4:30pm</u>

Google Meet joining info Video call link: https://meet.google.com/bhq-fpit-xgp)

- **8. Target Audience:** Students of 6ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: HEAT TRANSFER
- **11. The outcome of the Talk:** Students were able to understand the concept of working, maintenance and installation of Heat exchangers in Industry.
- 13. Session recording Link:

https://drive.google.com/file/d/112Wr0-XvbRV0WfrEecBokY-w0I p7DIt/view?usp=sharing

- 14. Program Coordinator: Mr. Swaroop, Assistant Professor, Mechanical Engineering
- 15. Program Photos.







SPEAKER DETAILS





Speaker Name: Veeresh kumar.S BE, Mtech, MISTE, (Phd)

Designation: Sr. Project Engineer

Company: JSW Steels ltd

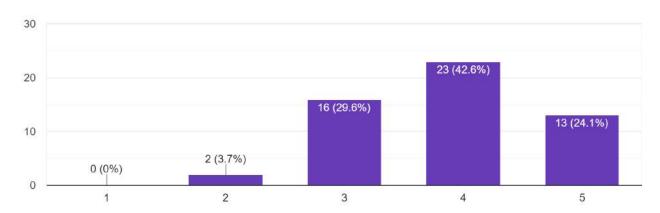


waroop Gannamani

Feedback Analysis

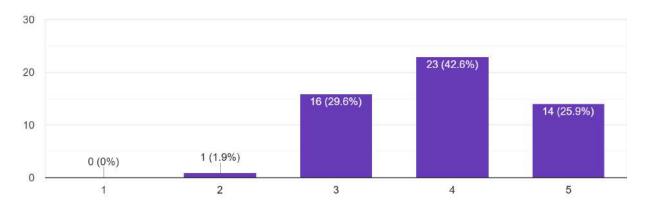
Doubts clarification

54 responses



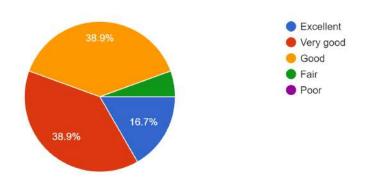
Technical Knowledge

54 responses



Overall Experience

54 responses



Attendance List

Sl no	USN	STUDENT NAME	SECTION
1	4MT17ME027	Avanish M Kumar	6ME1
2	4MT17ME106	Raihan K K	6ME1
3	4MT17ME126	Sarang	6ME1
4	4MT17ME145	Sourav Dinesh	6ME1
5	4MT17ME155	V Kishan Kumar	6ME1
6	4MT18ME003	Abhishek A Shetty	6ME1
7	4MT18ME007	Ajith S	6ME1
8	4MT18ME008	Akash S Adavibhavi	6ME1
9	4MT18ME009	Akash Shankar Poojari	6ME1
10	4MT18ME011	Akshay A	6ME1
11	4MT18ME016	Amin Manojkumar Sadashiva	6ME1
12	4MT18ME018	Anirudh V Puranik K	6ME1
13	4MT18ME019	Anish V	6ME1
14	4MT18ME022	Arjun M	6ME1
15	4MT18ME024	Ashwin K	6ME1
16	4MT18ME028	Chinthan Shetty	6ME1
17	4MT18ME031	D P Anish	6ME1
18	4MT18ME039	Harshith Poojary	6ME1
19	4MT18ME045	Jithesh	6ME1
20	4MT18ME046	Joswynrajat Menezes	6ME1

21	4MT18ME047	Karthik Prabhu	6ME1
22	4MT18ME049	Kaushik M Hegde	6ME1
23	4MT18ME050	Krishna N	6ME1
24	4MT18ME053	Mahammed Javid	6ME1
25	4MT18ME054	Mahee Husain Ismail	6ME1
26	4MT18ME062	Mohammed Furqan	6ME1
27	4MT18ME065	Mohammed Raiyan Khan	6ME1
28	4MT18ME066	Mohammed Salman Fakki	6ME1
29	4MT18ME070	Muhammed Badish	6ME1
30	4MT18ME072	Murugharajendra B Malagi	6ME1
31	4MT18ME073	Namrath R H	6ME1
32	4MT18ME077	Niranjan Kamath	6ME1
33	4MT18ME079	Nithesha Kumar	6ME1
34	4MT18ME080	Nithin Noronha	6ME1
35	4MT18ME082	Pavan Kumar J	6ME1
36	4MT18ME084	Prahallad A Chowta	6ME1
37	4MT18ME085	Prajwal G Nagmule	6ME1
38	4MT18ME086	Prajwal S Salian	6ME1
39	4MT18ME087	Prashant Lachyan	6ME1
40	4MT18ME089	Pruthvi	6ME1
41	4MT18ME094	Ranjan R Shetty	6ME1
42	4MT18ME101	Royston Corda	6ME1
43	4MT18ME111	Shashank Raju Poojary	6ME1

44	4MT18ME113	Shazeb Shafi	6ME1
45	4MT18ME115	Shetty Adarsh Seetaram	6ME1
46	4MT18ME119	Shobith	6ME1
47	4MT18ME124	Sreerag V	6ME1
48	4MT18ME133	Tarun D Shetty	6ME1
49	4MT18ME134	Vikas K H	6ME1
50	4MT18ME136	Vinith Shetty	6ME1
51	4MT18ME138	Vivek Shivanath Tamse	6ME1
52	4MT19ME400	Ashish Ajri	6ME1
53	4MT19ME401	Ather Hussain Ismail Upparkar	6ME1
54	4MT19ME402	Chandan P	6ME1

For website: Summary

The resource person introduced his industrial skills under planning, maintenance and operational activities that are carried in industry through his practical approach under maintenance of heat exchangers and compressors in industry through CBMS (central based maintenance system) an integrated system of monitoring machine health through online. Selection, installation, and operational overview of heat exchangers and compressors that are carried through periodical approach.

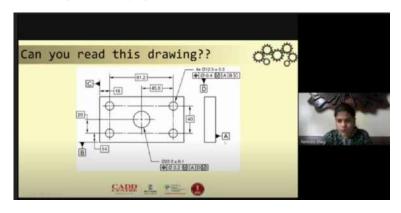


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Technical Talk on "Importance of GD&T in designing"

Friday, June 11:10:00 – 11:30am

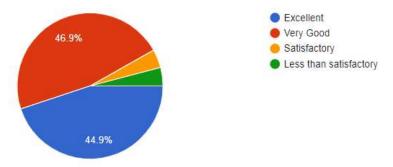
A session on "Importance of GD&T in designing was conducted for 4th semester students in association with CADD centre, Moodabidri on June 11. Mrs. Namratha Ghar Regional Manager- Business Support CADD Centre Training Services Pvt. Ltd, Mumbai was speaker for the day. The session started with welcoming the guest and students on behalf of Department of Mechanical Engineering, Moodabidri by Mr. Anudeep Rao, Assistant professor. As the session began speaker focused more the basics of GD&T and why it is useful in drawing and analysing the drawing. As the session progressed speaker gave some of the real time case study of GD&T. Overall the session was very useful to students and students gave very good feedback.



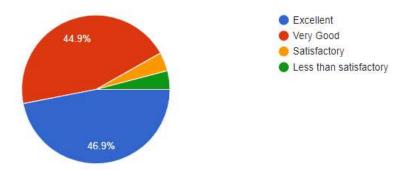
Mrs Namratha explaining how to read engineering drawing

Feedback report:

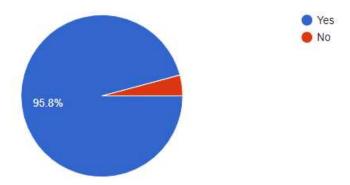
1. Question title: How was the session? Number of responses: 49 responses.



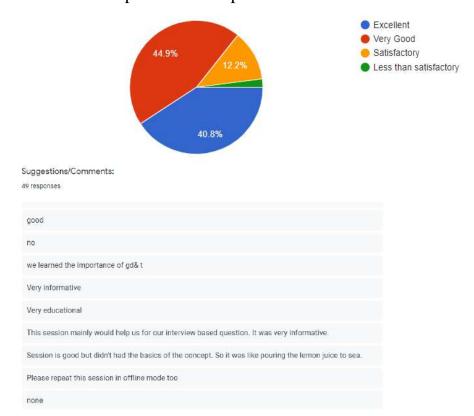
2. Question title: How is it throughout the session? Number of responses: 49 responses.



3. Question title: Is the session was informative? Number of responses: 48 responses.



4. Question title: Is the session reached your expectation? Number of responses: 49 responses.



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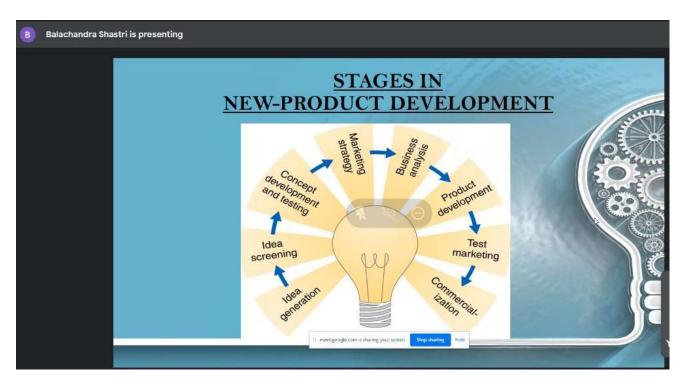
Date: 08.06.2021

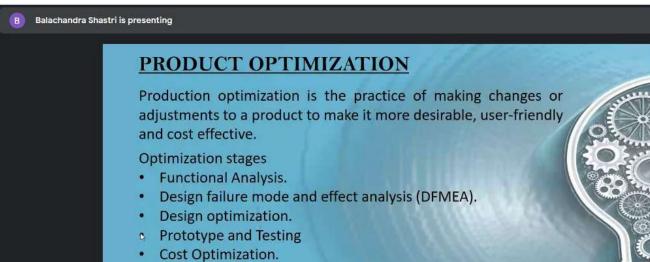
Report of talk

- 1. Title: New Product Development & It's Optimization
- 2. **Resource person name & Address**: Mr. Balachandra Shastri, : R&D Engineer and Asst. Technical Product Lead at Mukunda Foods Private Limited Banglore
- 3. **Brief Profile of Resource persons:** He worked as Design Engineer at Micrologic integrated Systems, Bangalore, Design Engineer at Krisa m Automation private limited, Bangalore and also as a Design Assistant at Defense Machinery Design Establishment (Indian Naval Services) Hyderabad.
- 4. **Date organized**: 08.06.2021
- 5. **Duration**: One hour
- 6. Topics Covered:
 - a) New product developmet
 - b) All 8 stages involved in new prooduct development with practical scenario
 - c) Production optimization tools
 - d) Product life cycle
 - e) Design thinking process
- 7. Venue: Online (https://meet.google.com/vgf-ychu-fzp)
- **8.** Target Audience: Students of 8ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: Operations Research
- 11. The outcome of the Talk: Students were able to understand the development of new product stages, what all necessary prior and later of product development studies, production optimization and design thinking.
- 12. Feedback: Attached
- 13. Session recording Link:

https://drive.google.com/file/d/1J42wGuLeBAe8n4VOHN4bzSxJKIVMUdk/view?usp=sharing

- 14. Program Coordinator: Mr. Shivaramu H T, Sr. Assistant Professor, Mechanical Engineering
- 15. Program Photos.







Mangalore Institute of Technology and Engineering

(An ISO 9001:2015 Certified Institution, Accredited by NAAC) (A Unit of Rajalaxmi Education Trust), Badaga Mijar, Moodbidri-574225

Department of Mechanical Engineering

(Accredited by NBA)

is organizing a webinar on





Mr. Balachandra Shastri R&D Engineer & Asst. Technical Product Lead

Mukunda Foods Pvt. Ltd. Bangalore "NEW PRODUCT DEVELOPMENT & IT'S OPTIMIZATION"

Google Meet Link:

https://meet.google.com/vgf-ychu-fzp



B Balachandra Shastri is presenting

Design Thinking

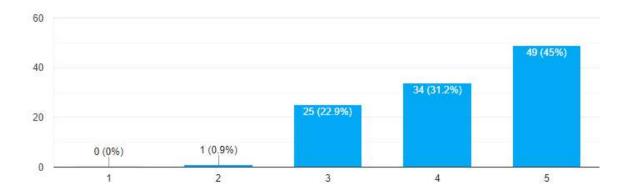
 Design thinking is a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test

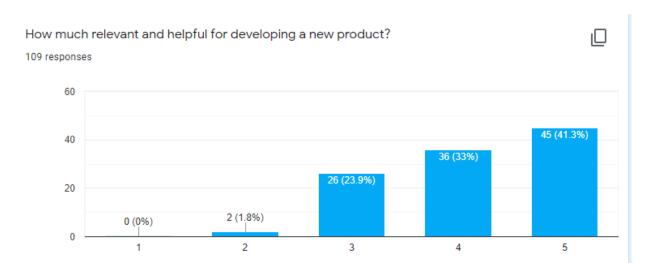
<u>Stages</u>

- 1. Empathize Research Your User's Needs.
- Define State Your User's Needs and Problems.
- 3. Ideate Challenge Assumptions and Create Ideas.
- 4. Prototype Start to Create Solutions.
- 5. Test Try Your Solutions Out.

Feedback Analysis

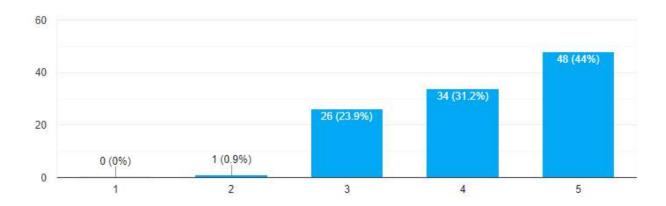
How satisfied are you with the content delivered in the webinar? 109 responses





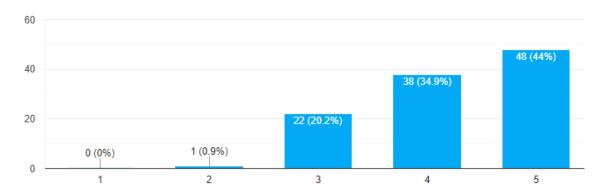
How many significant key takeaways were there in the event?

109 responses



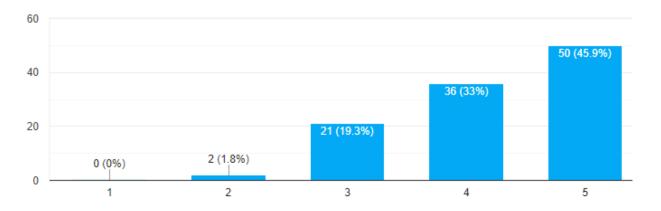
How do you feel about that, the Resource Person Knowledgeable to explain industrial applications

109 responses



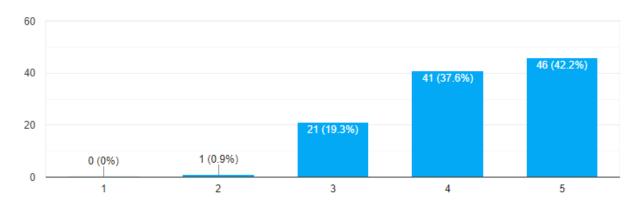
I gained new knowledge on stages involved in New Product Development

109 responses

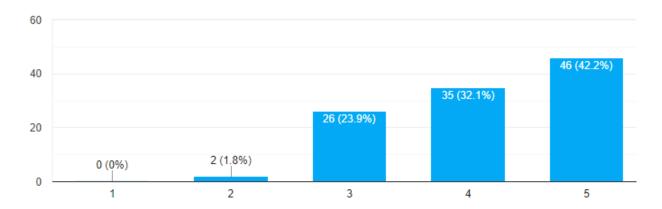


I gained new knowledge on Product optimization and Product life cycle Management

109 responses



109 responses



Attendance List

Sl. No.	Name	USN	Section
1.	Akshay Sujith	4MT16ME167	8ME1
2.	Sushan S Karkera	4mt17me149	8ME1
3.	Sunesh Chandra	4MT17ME148	8ME1
4.	Manisha S	4MT17ME062	8ME1
5.	Akash	4MT17ME014	8ME1
6.	AKHIL SHETTY	4MT18ME401	8ME1
7.	Prajwal M R	4MT18ME405	8ME1
8.	Bhushan Alva	4MT17ME031	8ME1
9.	Abhay Kumar	4MT17ME003	8ME1
10.	Muhammed Faisal	4MT17ME081	8ME1
11.	Ruthvika B	4MT17ME114	8ME1
12.	Nishanth K S	4MT17ME090	8ME1
13.	SIDHARTH K	4MT17ME143	8ME1
14.	Raveesh	4MT17ME110	8ME1
15.	K M Ansar	4MT17ME052	8ME1
16.	Nithin kumar	4mt18me403	8ME1
17.	Nagendra K	4MT17ME086	8ME1
18.	Akhilesh	4MT17ME018	8ME1
19.	Pawan	4MT18ME404	8ME1
20.	AKHIL N	4MT18ME400	8ME1
21.	Vinay Kishore Vora	4MT17ME162	8ME1
22.	Pradeep Kumar	4MT17ME097	8ME1
23.	Manoj Crasta	4MT17ME063	8ME1
24.	Kunjaru Sripathi	4MT18ME402	8ME1

25.	A	4MT17ME021	8ME1
26.	Aman	4MT17ME021	
27.	Shreyas	4MT17ME141	8ME1
28.	Raghavendra U	4mt18me406	8ME1
29.	Sanketh.S	4MT17ME123	8ME1
30.	Elbon Arvin Dsouza	4MT17ME038	8ME1
31.	Royson martis	4mt17me112	8ME1
32.	Shubhananda	4mt18me409	8ME1
	Gopal krishna B	4MT17ME042	8ME1
33.	Sanjay M	4MT17ME123	8ME1
34.	Ankith	4MT17ME024	8ME1
35.	Bharath N	4MT17ME030	8ME1
36.	Vaibhav V Gaonkar	4MT17ME156	8ME1
37.	JIno sunny	4MT17ME046	8ME1
38.	Nishanth Raj	4MT17ME091	8ME1
39.	Prakash Nayak	4MT16ME099	8ME1
40.	Joyston fernandes	4mt17me050	8ME1
41.	Muhammed Zamil	4MT17ME083	8ME1
42.	Sushanth v	4MT17ME151	8ME1
43.	Pradyumna K	4mt17me098	8ME1
44.	Royal Dsouza	4mt17me111	8ME1
45.	Shradha shetty	4mt18me408	8ME1
46.	Sampath	4MT17ME121	8ME1
47.	Akash K N	4MT17ME015	8ME1
48.	Sandesha	4mt18me407	8ME1
49.	Thufail Ahmed	4MT17ME154	8ME1
50.	Shravan H Shetty	4MT17ME140	8ME1
51.	Sharath K	4mt17me132	8ME2
52.	Prasanna S Kulal	4MT17ME101	8ME2
53.	Rakesh J Acharya	4MT17ME107	8ME2
54.	B Sanjith Jain	4mt17me029	8ME2
55.	Chinmay n naik	4MT17ME033	8ME2
56.	Pratheek S Shetty	4MT17ME102	8ME2
57.	Akhil	4MT17ME017	8ME2
58.	Mohammed Saleel	4MT17ME075	8ME2
59.	Rahul Rajesh Rao	4MT17ME105	8ME2
60.	Abhideep G Shetty	4MT17ME004	8ME2
61.	Ruthwik D Shettigar	4MT17ME115	8ME2
62.			
63.	· ·		
	Vikas Nayak Mohammed Rilwan	4MT17ME161 4MT17ME073	8ME2 8ME2

64.	Mohammad Agash D.A	4MT17ME069	OME)
65.	Mohammed Aqeeb D A	4MT17ME068	8ME2
66.	Harikrishnan M V	4MT17ME044	8ME2
67.	Achinthya S	4MT17ME009	8ME2
68.	Vivek Shetty	4MT17ME166	8ME2
69.	Mohammed Sahil	4MT17ME074	8ME2
70.	Mohammed Ifthikar	4MT17ME069	8ME2
70.	Sudheendra Prabhu RAQEEB MOHAMAD	4mt17me147	8ME2
	RAFEEK	4MT16ME116	8ME2
72.	P U Shodhan Shetty	4MT17ME093	8ME2
73.	Mohammad Nabil	4mt17me071	8ME2
74.	Darren Melroy Menezes	4mt17me034	8ME2
75.	Sachith	4mt17me119	8ME2
76.	Shashank Wagle	4mt17me134	8ME2
77.	Suhaib Mohammed Hussain	4MT17ME170	8ME2
78.	Gautam K	4MT17ME041	8ME2
79.	Pawan Kumar	4MT17ME095	8ME2
80.	Joel Fleming Mascarenhas	4MT17ME048	8ME3
81.	Sherif Ahamed Shibaz	4mt17me136	8ME3
82.	SHREYAS BY	4mt1	8ME3
83.	Shafreez hussain	4mt17me128	8ME3
84.	Yajnesh	4MT17ME167	8ME3
85.	Aakarsh pai	4mt17me001	8ME3
86.	Dipayan Dey	4MT17ME037	8ME3
87.	FAHEEM REHMAN	4mt17me039	8ME3
88.	Manish dinakara	4mt14me072	8ME3
89.	Abhishek Bhat G	4MT17ME008	8ME3
90.	Tajuddin	4MT17ME152	8ME3
91.	Himaval rakshak	4MT17ME045	8ME3
92.	Rakshith	4mt17me108	8ME3
93.	Varshin S U	4MT16ME157	8ME3
94.	Sathwik	4mt17me127	8ME3
95.	Raghavendra Kulkarni	4MT17ME104	8ME3
96.	Ajithesh Prasad K S	4MT17ME013	8ME3
97.	VEEKSHITH MP	4MT17ME159	8ME3
98.	Akash Shetty	4MT17ME016	8ME3
99.	Roystan veigas	4MT17ME113	8ME3
100.	Vinish S Shettigar	4MT17ME163	8ME3
101.	Viraj G Shetti	4mt17me164	8ME3
102.	Saurav p	4mt16me131	8ME3

103.	Rahul M Krishnan	4MT16ME109	8ME3
104.	Adharsh P v	4MT17ME010	8ME3
105.	Mishaal Dmello	4MT17ME067	8ME3
106.	Abhijith B	4MT17ME005	8ME3
107.	Mohammed Zohaib Kolkar	4MT17ME079	8ME3
108.	Aditya S Acharya	4MT17ME011	8ME3
109.	Jivitesh Sachin N	4MT17ME047	8ME3

For website: Summary

The resource person introduced new product development concepts and explained in detail the stages involved in the same. He explained how any product idea will be turned into a new product after validating all 8 stages of the new product development process. Also, he stressed about production optimization process and steps involved in that by taking kitchen utensils as an example. Further, he briefed about product life cycle management and design thinking. Speaker shared his experience on new product development based on customer requirements and suggested few books related to the product development process.

MITE Invent Solutions

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Department of Mechanical Engineering

(Accredited by NBA)

Date: 22/05/2021

Report of Technical talk

- 1. Title: Advances in Metal forming
- 2. **Resource person name & Address**: Mr. Manjunatha Gaviappa, Group Project Manager, HCL, Bangalore
- 3. Brief Profile of Resource person:
 - Mr. Manjunatha Gaviappa is been working as a Group Project Manager, HCL, Bangalore
 - He is done BE in Mechanical Engineering, ME in Manufacturing Engineering & Pursuing PHD in Manufacturing Science
 - He has 27 years of experience in field of Aerospace, Automotive and Manufacturing Engineering
 - He is Expertise in handling engineering design projects to domestic and international customers in Aerospace and Automotive domain
 - He has good experience in the Project Management and Quality process
 - He has Good Trainer in training young engineers in the field of design and Manufacturing
 - Currently holding a portfolio of Lab Manager in assisting all Mechanical Projects in the area of Teardown, should costing, testing and reverse engineering
- 4. **Date organized**: 22/05/2021
- 5. **Duration**: One hour (11:30 am to 12:30 pm)
- **6.** Topics Covered:
 - a) Introduction to Introduction to Metal Forming
 - b) Dies and its types, Sheet Metal Forming: Life cycle, Sheet Bending
 - c) Electro forming, Metal Injection molding (MIM), Hydro forming, Laser forming,
 - d) Sheet metal operation, Press operation
 - e) The speaker presented a video of How Sheet metal operation done in his Industry.
- 7. **Venue:** Online mode (https://meet.google.com/ygo-hcya-vyc)
- **8. Target Audience:** Mechanical Engineering 2nd Year students

9. Attendance Sheet:

SL No	USN	Name	Attendance (P/A)
1	4MT17ME100	Prakhyath J	Δ.
2	4MT17ME103	Praveen nair p	A P
3	4MT18ME001	ABDUL SAMI	A
4	4MT18ME005	Adithya Shetty	P
5	4MT18ME015	Amal pk	P
6	4MT18ME017	Amogh P Hegde	P
7	4MT18ME026	CHANDAN RAO P	A
8	4MT18ME029	CHIRAYU RAI	P
9	4MT18ME030	Cyril Vikas	P
10	4MT18ME032	Darshan Shetty	
11	4MT18ME057	Midhlaj kp	A
12	4MT18ME037	Mohammed Khallel	A
13	4MT18ME003	Narendra Nayak	A
14	4MT18ME073	Omar Zidan	A
15	4MT18ME081	Pratheek K C	A
16	4MT18ME088		Р
17	4MT18ME091 4MT18ME099	Rachan R Shetty Rithesh Kumar	P
	4MT18ME099 4MT18ME137		P
18		Vishnu Raj A	
19	4MT19ME001	ABDUL RAHEEM O T P	
20	4MT19ME002	AKASH P	
21	4MT19ME003	BHARATHESH	A
22	4MT19ME004	DEVDARSH C AJAY	A
23	4MT19ME005	HARSHITH	P
24	4MT19ME006	HASHIR SYED ADIL BAFAKYH	P
25	4MT19ME007	HAZIM ISMAIL K	P
26	4MT19ME008	K SRIJAN RAI	A
27	4MT19ME010	KISHAN KOTIAN	A
28	4MT19ME011	LUCKY SOMANNA M K	P
29	4MT19ME012	MALATESH L P	
30	4MT19ME014 4MT19ME015	MERWYN PINTO P	
32	4MT19ME013	MOHAMED KHALID P MOHAMMED MUNAWAR P	
33	4MT19ME017	MOHAN CHANDRA N MOOLYA P	
34	4MT19ME018	MOHOMED SHURAIH P	
35	4MT19ME019	NISHAN	A
36	4MT19ME020	NITHESH	P

37	4MT19ME021	NUMAAN NAVEED AHMED	P
38	4MT19ME022	PRADEEP SHETTY	P
39	4MT19ME023	PRAVEEN SURYAKANTH NAIK	P
40	4MT19ME024	RAEID	P
41	4MT19ME025	RAJPRASAD N ACHARYA	A
42	4MT19ME026	RAJATH S MADIVAL	P
43	4MT19ME027	RAKESH G M	P
44	4MT19ME028	RAMACHANDRA SHRIDHAR BHAT	P
45	4MT19ME029	RITHIC LOBO	P
46	4MT19ME030	SAYEED ANWAR P M	A
47	4MT19ME031	SHOHAN	P
48	4MT19ME032	SIDDESH B N	P
49	4MT19ME033	SOURAB SHETTY	A
50	4MT19ME034	SREENIVASAN	A
51	4MT19ME035	STEPHAN CLINTON SERRAO	P
52	4MT19ME036	SUJAN L	P
53	4MT19ME037	SUSHANTH	P
54	4MT19ME038	VAIBHAV PRAKASH NAIK	A
55	4MT19ME039	VARUN GUNAKAR	P
56	4MT19ME040	VIGNESH JNANESH	A
57	4MT19ME041	Mohammed Shamsheer	A
58	4MT19ME042	Manish Suvarna	P
59	4MT19ME043	Mohammed Shanid	A
60	4MT 20ME400	Anish Paul Pinto	P
61	4MT 20ME401	Chiranth Jain	A
62	4MT 20ME402	Darshan S Shetty	P
63	4MT 20ME403	KARTHIK MAHENDRA MENDON	P
64	4MT 20ME404	Marvin lance	P
65	4MT 20ME405	Nagendra Anant Mahale	P
66	4MT 20ME406	Nikhil	P
67	4MT 20ME407	Swaroop S Bhandary	P
68	4MT 20ME408	Wayne Godfrey Barboza	P

10. Courses Related to the topic of presentation:

METAL CUTTING AND FORMING (MCF) (18ME45A)

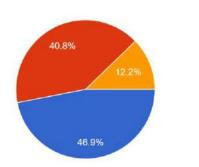
11. Outcome of the Talk:

Students got exposed to the various Advances in Metal Forming, Discussion related to Internship, even their confidence regarding the job opportunities were boosted as a result of the discussion related to job opportunities of mechanical Engineering students.

12. Feedback from the students:

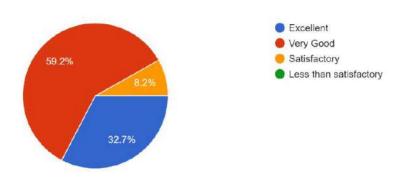


49 responses



How is it throughout the session?

49 responses



ExcellentVery Good

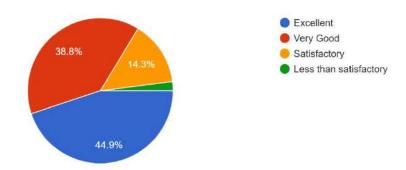
SatisfactoryLess than satisfactory

Is the session was informative?

49 responses



Is the session reached your expectation?
49 responses



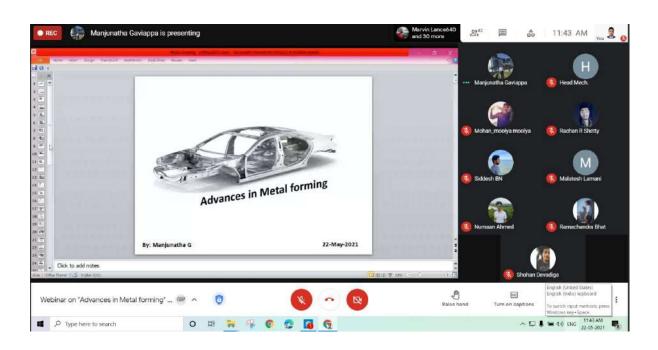
G1	<u> </u>	1	T
Sl. No.	USN	Name	Suggestions/Comments:
1	4MT19ME022	Pradeep shetty	Very good session
2	4MT18ME029	Chirayu.rai	No
3	4MT19ME021	Numaan Ahmed	No
4	4mt18me057	Midhlaj	-
5	4MT19ME008	K SRIJAN RAI	Nice session
6	4MT18ME099	Rithesh Kumar	NO COMMENTS
7	4MT18ME005	Adithya Shetty	No COMMENTS
8	4MT19ME040	Vignesh Jnanesh	Session was good helpful
9	4MT19ME035	stephan clinton serrao	GOOD
10	4MT19ME002	Akash	Nothing
11	4mt19me017	Mohan Chandra n moolya	Good
12	4MT19ME029	Rithic Lobo	Very Informative
13	4MT20ME408	Wayne barboza	Session was good and interactive
14	4MT19ME020	Nithesh	Good
15	4M119ME020 4mt19me001	Abdul Raheem	Good
16	4MT20ME404	Marvinlance	Ok
17	4MT19ME031	Shohan	I was a good session and very informative
18		Anish Pinto	
	4MT20ME400		The session was very informative about manufacturing process
19	4MT18ME030	CYRIL VIKAS	Good
20	4MT20ME406	Nikhil	We look forward more sessions like this
21	4MT19ME016	Mohammed munawar	Overall the session was very good informative But the session was also little boring, Thank you
22	4MT19ME007	Hazim Ismail K	Is online internship from private platforms considered as a normal internship?
23	4MT19ME005	harshithdevadiga	GOOD
24	4MT18ME017	Amogh p hegde	Good
25	4MT19ME024	RAEID	Nothing
26	4MT20ME403	KARTHIK MENDON	Very interesting and knowledgeable

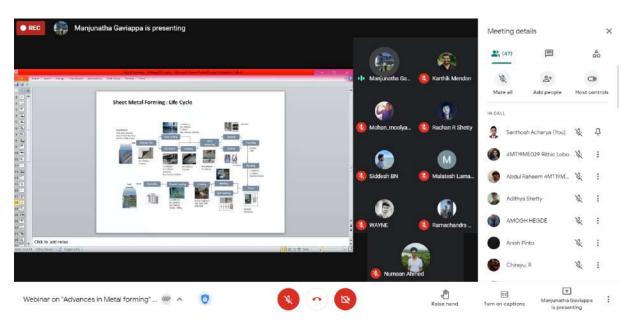
			The session was very educational interms of all aspects of mechanical engineering, we got to learn about how things actually
27	4MT19ME015	mohamed khalid	work practically.
28	4MT19ME011	Lucky Somanna M K	Quite informative
29	4MT19ME014	Merwyn Pinto	Resource person was very much knowledgeableit was great to hear him
30	4MT19ME012	Malatesh lamani	Session was very good and it was very helpful and informative
31	4MT19ME006	hashir syed adil bafakyh	
32	4MT19ME032	Siddesh BN	Good session and informative
33	4MT20ME402	Darshan S Shetty	Good session
34	4MT18ME091	RACHAN R SHETTY	Good
35	4mt18me088	Prathik k c	No comments
36	4MT20ME405	Nagendra Anant Mahale	Nil
37	4MT18ME137	Vishnuraj A	GOOD CLASS
38	4mt18me001	Abdul sami	No
39	4MT19ME025	RAJPRASAD N ACHARYA	
40	4MT19ME033	Sourab Shetty	
41	4MT18ME015	Amal pk	very good
42	4mt19me019	Nishan	Good
43	4MT19ME028	Ramachandra. S. Bhat	No
44	4MT19ME043	Mohammed shanid	Good
45	4MT19ME026	Rajath S Madival	Good session
46	4MT19ME037	Sushanth Shetty	Good session but didn't reached the level that I expected
47	4mt19me038	Vaibhav Naik	
48	4mt19me023	Praveen suryakanth	Good session
49	4MT19ME010	Kishan kotian	Nothing

13. Program Coordinator: Mr. Santhosh Acharya, Assistant professor, Department of Mechanical Engineering, MITE, Moodabidri

14. Program Photos.







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Department of Mechanical Engineering

(Accredited by NBA)

Date: 21.05.2021

Report of Technical talk

- 1. Title: Recent Advances in 3D Printing
- 2. Resource person name & Address: Dr. L Jyothish Kumar, President Additive Manufacturing Society of India & Founder & CEO RAPITECH Solutions Inc. Bangalore, Karnataka
- 3. **Brief Profile of Resource person**: Mr. Jyothish Kumar gained a Bachelor of Engineering in Mechanical Engineering from the National Institute of Engineering (NIE), Mysore and Master's degree in 'Rapid Product Development' from De Montfort University, United Kingdom and, completed his Ph.D. research in 'Aerospace applications of Additive Manufacturing Technologies and Advanced Metallic Materials.

Before that Mr. Jyothish Kumar has served in the mechanical engineering industry's different disciplines such as Quality Assurance, Marketing, Sales, and Product Development in India and abroad. Mr. Jyothish Kumar has specialized experience in Quality Management Systems and Rapid Product Development. Mr. Jyothish Kumar brings credible experience and knowledge from his project work at RPMG, UK, association with another high scale (€9M) European Union-funded projects with 33 other partners across Europe including Delcam Plc (UK), Materialise (Belgium), and Ducati (Italy), developing a new rapid prototyping process based on a combination of laser printing (electrophotography) and Infrared sintering polymers. He has been in the additive manufacturing industry associations for over 14 years.

4. **Date organized**: 20.5.2021

5. **Duration**: One hour

6. Topics Covered:

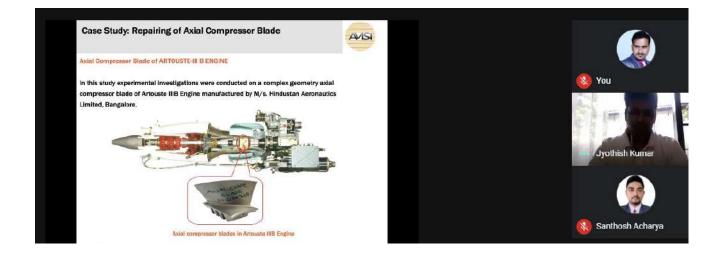
- a) Additive Manufacturing and its classifications
- b) 3D Printing Global Developments and Updates
- c) 3D printing applications in Jet Engine, Bio-Medical plant, Bionic ears, Kidney etc.
- d) Zero Gravity printer
- e) Case Study on Laser Metal deposition Process
- f) Airplane axial compress blade repairing by using additive manufacturing and their failure analysis
- 7. Venue: Online (https://meet.google.com/svh-mqky-pgz)

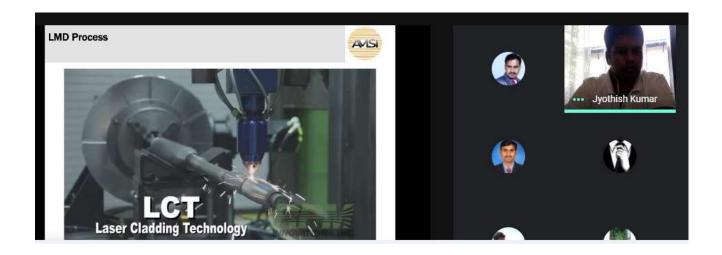
- **8.** Target Audience: Students of 8ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: Additive Manufacturing
- **11. The outcome of the Talk:** Students were able to understand the information and implementation of the Additive manufacturing process
- 12. Feedback: Attached
- 13. Session recording Link:

https://drive.google.com/file/d/1erytgcv3u2jEbOmijT6jXQjKzPsndFgE/view?usp=sharing

- 14. Program Coordinator: Mr. Shivaramu H T, Sr. Assistant Professor, Mechanical Engineering
- 15. Program Photos.



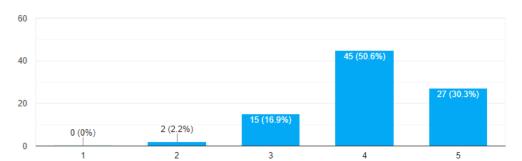






Feedback Analysis

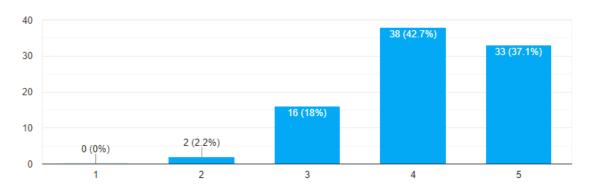
How satisfied are you with the content delivered in the webinar?
89 responses



 $\label{thm:continuous} \mbox{How much relevant and helpful for your Additive Manufacturing subject?}$

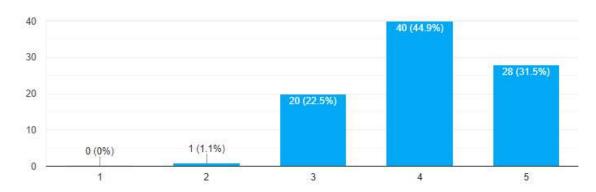
L

89 responses



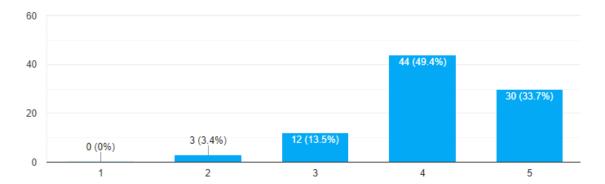
How many significant key takeaways were there in the event?

89 responses



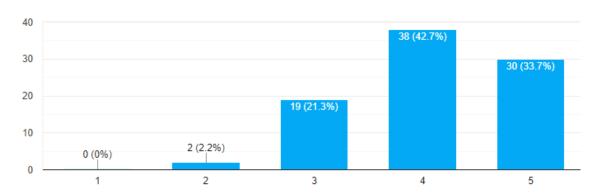
How do you feel about that, the Resource Person Knowledgeable to explain industrial applications

89 responses



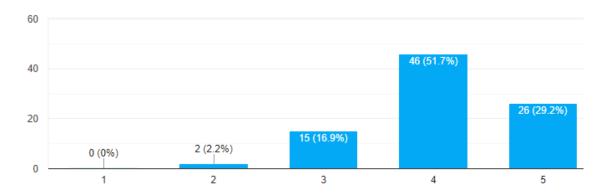
I gained new knowledge on 3D printing/Additive Manufacturing implementation in the Industrial applications

89 responses



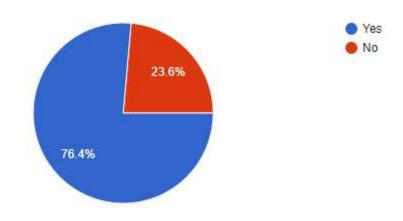
Rate your satisfaction with the webinar?

89 responses



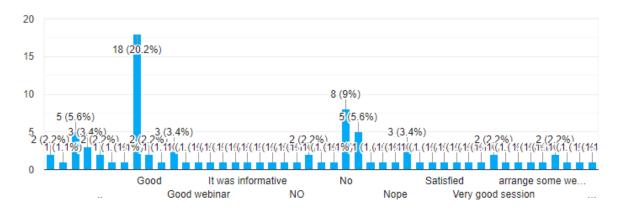
Do you like to attend workshop on the same topic in future?

89 responses





89 responses



Attendance List

SI. No.	Name	USN	Section	Signature
1.	Gopal krishna	4MT17ME042	8ME1	
2.	Thufail Ahmed	4MT17ME154	8ME1	
3.	Prakash Nayak	4MT16ME099	8ME1	
4.	Ruthvika B	4MT17ME114	8ME1	
5.	Akhilesh	4MT17ME018	8ME1	
6.	AKHIL N	4MT18ME400	8ME1	
7.	Pawan	4MT18ME404	8ME1	
8.	Sampath	4MT17ME121	8ME1	

9.	Manthan Shetty	4MT17ME064	8ME1
10.	Royson vinston martis	4mt17me112	8ME1
11.	hemanth kumar a	4mt16me043	8ME1
12.	Vinay Vora	4MT17ME162	8ME1
13.	Bhushan Alva	4MT17ME031	8ME1
14.	Ankith	4MT17ME024	8ME1
15.	Nishanth K S	4MT17ME090	8ME1
16.	Kunjaru Sripathi	4MT18ME402	8ME1
17.	Vaibhav V Gaonkar	4MT17ME156	8ME1
18.	Shreyas	4MT17ME141	8ME1
19.	Manoj Crasta	4MT17ME063	8ME1
20.	Sushanth v	4MT17ME151	8ME1
21.	Shankrappa	4mt17me131	8ME1
22.	K M Ansar	4MT17ME052	8ME1
23.	AKHIL SHETTY	4MT18ME401	8ME1
24.	Royal Dsouza	4mt17me111	8ME1
25.	SIDHARTH K	4MT17ME143	8ME1
26.	Manisha S	4MT17ME062	8ME1
27.	Nagendra K	4MT17ME086	8ME1
28.	Sushan s Karkera	4mt17me149	8ME1
29.	Pavan	4mt17me094	8ME1
30.	Pradeep Kumar	4MT17ME097	8ME1
31.	Sunesh Chandra	4MT17ME148	8ME1
32.	Sanketh.S	4MT17ME124	8ME1
33.	Muhammed Zamil	4MT17ME083	8ME1
34.	Bharath N	4MT17ME030	8ME1
35.	Prajwal M R	4MT18ME405	8ME1
36.	Raghavendra U	4MT18ME406	8ME1
37.	Raveesh	4MT17ME110	8ME1
38.	Akshay Sujith	4MT16ME167	8ME1
39.	Shubhananda	4mt18me409	8ME1
40.	Joyston fernandes	4mt17me050	8ME1
41.	Shradha shetty	4mt18me408	8ME1
42.	Soorya T C	4MT17ME144	8ME1
43.	Muhammed Faisal	4MT17ME081	8ME1
44.	Nishanth Raj	4mt17me091	8ME1
45.	Shravan H Shetty	4MT17ME140	8ME1
46.	Aman	4MT17ME021	8ME1
47.	Sandesha	4mt18me407	8ME1

48.			T T
	Elbon Arvin Dsouza	4MT17ME038	8ME1
49.	Mohammed Shammas Ettol	4MT17ME076	8ME1
50.	Akash	4MT17ME014	8ME1
51.	Mohammed Jabir	4MT17ME070	8ME1
52.	Pradyumna K	4mt17me098	8ME1
53.	Akash K N	4mt17me015	8ME1
54.	Jino sunny	4MT17ME046	8ME1
55.	Pratheek S Shetty	4MT17ME102	8ME2
56.	Sushanth Poojary	4MT17ME150	8ME2
57.	arjun pradeep	4mt16me018	8ME2
58.	Gautam K	4MT17ME041	8ME2
59.	B Sanjith Jain	4mt17me029	8ME2
60.	Shashank wagle	4mt17me134	8ME2
61.	Joyal Sunny	4MT17ME049	8ME2
62.	Achinthya S	4MT17ME009	8ME2
63.	Sudheendra Prabhu K	4mt17me147	8ME2
64.	Harikrishnan M V	4MT17ME044	8ME2
65.	Vikas Nayak	4MT17ME161	8ME2
66.	Chinmay Naik	4MT17NE033	8ME2
67.	SOHAIL	4MT16ME144	8ME2
68.	Gagan j	4mt17me040	8ME2
69.	Lanston pramith fernandes	4mt17me058	8ME2
70.	P U Shodhan Shetty	4MT17ME093	8ME2
71.	RAQEEB MOHAMAD	ANTACME 44C	OMEO
72.	RAFEEK	4MT16ME116	8ME2
73.	Mohammed Aqeeb D A	4MT17ME068	8ME2
74.	Akhil	4MT17ME017	8ME2
75.	Shetty Sanket Surendra	4mt17me138	8ME2
76.	Abhideep G Shetty	4mt17me004	8ME2
77.	Nehal M.K	4MT16ME095	8ME2
77.	Manish dinakara	4mt14me072	8ME3
79.	Joel Fleming Mascarenhas	4MT17ME048	8ME3
80.	Rakshith	4mt17me108	8ME3
	Aditya Acharya	4MT17ME011	8ME3
81.	Santhosh Kumar	4MT17ME125	8ME3
82.	VEEKSHITH MP	4MT17ME159	8ME3
83.	Sathwik	4mt17me127	8ME3
84.	Abhishek B Shetty	4MT17ME007	8ME3
85.	Nischith U	4MT17ME088	8ME3
86.	Roystan veigas	4MT17ME113	8ME3

87.	karthik g y	4mt17me055	8ME3	
88.	Manish D	4mt17me169	8ME3	
89.	Prasid P Hegde	4MT16ME103	8ME3	
90.	Shivaramu H T	Faculty		
91.		Faculty		
	Santhosh Acharya			
92.		Faculty		
	Praveen K Patil			
93.		Faculty		
	Mamatha	-		

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Department of Mechanical Engineering

(Accredited by NBA)

Date: 20.5.2021

Report of talk

- 1. Title: Low-Cost Model building to Train School students AICTE Activity Point
- 2. **Resource person name & Address**: Mr. Hoysala, Mr. Hari Prasad, Mr. Kiran Kumar, Mr. Praveen, and Ms. Hema Latha, Instructors, Agastya Foundation, Bangalore
- 3. **Brief Profile of Resource persons**: All resource persons are well experienced with training school students with the fabricated working model. They are involved with runs hands-on science & art education programs in rural, semi-urban, and urban regions across the state.
- 4. **Date organized**: 19.5.2021
- 5. **Duration**: One hour
- 6. Topics Covered:
 - a) Sound model
 - b) Centrifugal force model
 - c) Light model- Capture images
 - d) Air weight model
 - e) Diffraction of light model
 - f) Image merging model
 - g) The inertia of forces model
 - h) Plant and animal cell model
- 7. Venue: Online (https://meet.google.com/tct-ivuk-qwo)
- **8.** Target Audience: Students of 4ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: AICTE -Activity Point
- 11. The outcome of the Talk: Students were able to understand the developing different science models and demonstrating the same to school students.
- 12. Feedback: Attached
- **13. Session recording Link:** https://drive.google.com/file/d/1paGtX_zR6REGGS2hcFzEle5z3-3WngT6/view?usp=sharing
- 14. Program Coordinator: Mr. Shivaramu H T, Sr. Assistant Professor, Mechanical Engineering
- 15. Program Photos.



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Department of Mechanical Engineering

(Accredited by NBA)



Indian Society for Technical Education (ISTE)
&
Agastya International Foundation, Bangalore



is organizing a webinar on

"Low-Cost Model Building to Train School students"

Google Meet Link: https://meet.google.com/tct-ivuk-qwo















Feedback Analysis

How satisfied are you with the content delivered in the webinar?

56 responses

20

23 (41.1%)

14 (25%)

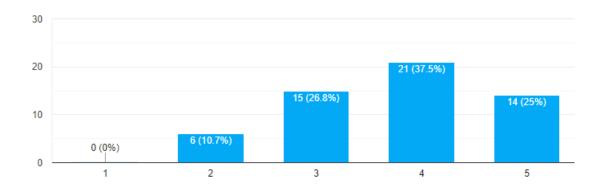
How much relevant and helpful for your ACTIVITY Point? 56 responses

5 (8.9%)

2

1 (1.8%)

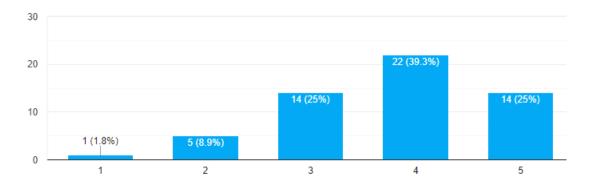
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5

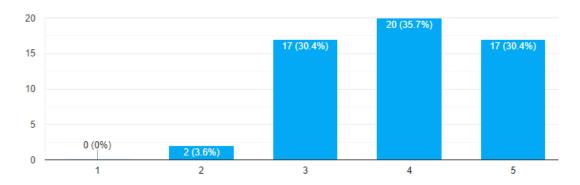
How many significant key takeaways were there in the event?

56 responses



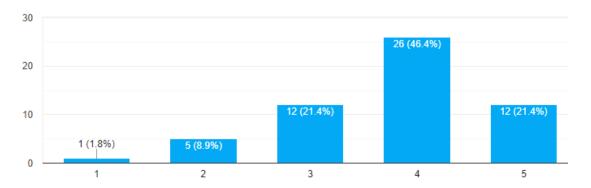
How do you feel about that, the Resource Persons are Knowledgeable to train in preparing working Model

56 responses

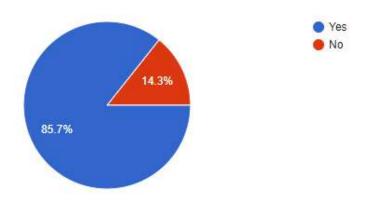


Rate your satisfaction with the webinar?

56 responses



Do you like to carry out Activity point on this category? 56 responses



Attendance List

SI. No.	Name	USN	Signature
1.	Rithesh Kumar	4MT18ME099	
2.	Shohan	4MT19ME031	
3.	Prathik k c	4mt18me088	
4.	Darshan S Shetty	4MT20ME402	
5.	nithesh	4MT19ME020	
6.	Abdul Raheem o t	4mt19me001	
7.	K SRIJAN RAI	4MT19ME008	
8.	Varun Gunakar	4MT19ME039	
9.	Mohan Chandra n moolya	4mt19me017	
10.	Vignesh Jnanesh	4MT19ME040	
11.	Cyril Vikas	4MT18ME030	
12.	KARTHIK MENDON	4MT20ME403	
13.	Rakesh G M	4MT19ME027	

14.	Muhammed Midhlaj	4mt18me057
15.	RAJPRASAD N ACHARYA	4mt19me025
16.	Merwyn pinto	4MT19ME014
17.	Sayeed anwar p m	4mt19me030
18.	Numaan Ahmed	4MT19ME021
19.	Rajath S Madival	4MT19ME026
20.	mohamed khalid	4MT19ME015
21.	Peadeep shetty	4mt19me022
22.	Kishankotian	4MT19ME010
23.	stephan clinton serrao	4MT19ME035
24.	Marvinlance	4MT20ME404
25.	Narendra nayak	4MT18ME075
26.	Sushanth	4MT19ME037
27.	RACHAN R SHETTY	4MT18ME091
28.	MOHAMMED SHAMSHEER	4MT19ME041
29.	Wayne barboza	4MT20ME408
30.	Hazim Ismail K	4MT19ME007
31.	Manish	4mt19me042
32.	Chirayu.rai	4MT18ME029
33.	Mohammed Khaleel	4MT18ME063
34.	Adithya Shetty	4MT18ME005
35.	Mohammed munawar	4MT19ME016
36.	Anish Pinto	4MT20ME400

37.	Nagendra Anant Mahale	4MT20ME405
38.	Rithic Lobo	4MT19ME029
39.	Praveen suryakanth	4mt19me023
40.	Siddesh BN	4MT19ME032
41.	Malatesh Lamani	4MT19ME012
42.	Amal pk	4MT18ME015
43.	hashir syed	4mt19me006
44.	Raeid	4MT19ME024
45.	Akash	4MT19ME002
46.	Lucky Somanna M K	4MT19ME011
47.	Sourab Shetty	4MT19ME033
48.	Vaibhav naik	4MT19ME038
49.	Devdarsh	4MT19ME004
50.	Nishan	4mt19me019
51.	Nikhil	4MT20ME406
52.	Ramachandra. S. Bhat	4MT19ME028
53.	Sujan L	4mt19me036
54.	Abdul sami	4Mt18me001
55.	Darshan shetty	4MT18ME032
56.	Mohammed shanid	4MT19ME043
57.	Shivaramu H T	Faculty
58.	Santhosh Acharya	Faculty
59.	Dr. Neelakantha V Londe	Faculty

The Department of Mechanical Engineering, MITE has arranged a technical Talk to

Mechanical Engineering Students of First Year and Second Years (Mech Engg) on Tuesday

18.5.2021 in the afternoon session.

Date: 18.05.2021 Tuesday Time: 2.00p.m - 3.30 p.m

Mode of Delivery: ONLINE- Google meet

Video call link: https://meet.google.com/bch-bcqc-pcs

Topic of presentation: Emerging areas of Mechanical Engineering

Speaker: Mr Ashrith,

Senior Manager, Engineering and Operations

Rajamane Innovations, Bangalore

Video call link: https://meet.google.com/bch-bcqc-pcs

The feedback link is as follows https://forms.gle/rCiubPch8g1dgitN9

No. of participants: 65

POs covered: PO3, PO4, PO9, PO10, PSO1

The session started with welcome note by Dr.Neelakantha V Londhe, Professor, Department of

Mechanical Engineering, MITE. The session was very informative and interactive. The speaker was

alumni of same department of MITE and focused on latest trends in mechanical engineering like

advanced technologies to assist the driver(ADAS), collaborative robot(COBOTS,) High speed machining,

Biomimetic and many more. He has also spoke about the latest trends of mechanical engineering such as

4 D printing, Driverless cars, Industrial IOT in mechanical engg etc. He has also highlighted that

students have to focus on the courses like BTD ,ATD,HMT which are the future areas of growth for

mechanical engineers. Then he said that India is changing into a "Manufacturing Hub" within a year and

there are tremendous opportunities for budding engineers. Finally he suggested the students to have

excellent knowledge about basics of mechanical engineering to thrive through the career and have a

bright future. Dr.Neelakantha V Londhe gave vote of thanks at the end of the online session.

Topic of presentation: Emerging areas of Mechanical Engineering

Date: 18.05.2021 Tuesday Time: 2.00p.m - 3.30 p.m

Speaker: Mr Ashrith,

Senior Manager, Engineering and Operations

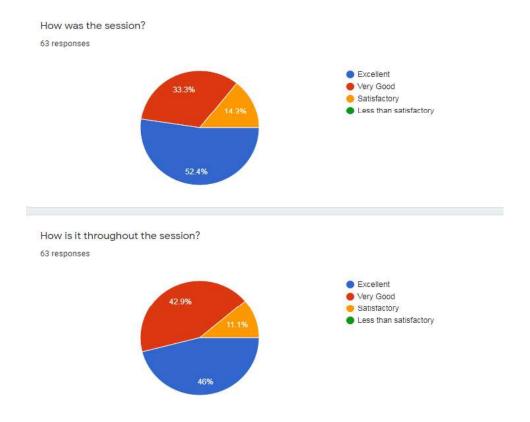
Rajamane Innovations, Bangalore

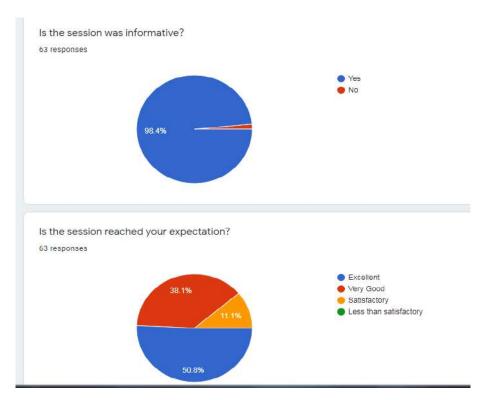
Video call link: https://meet.google.com/bch-bcqc-pcs

The feedback link is as follows

https://forms.gle/rCiubPch8g1dgitN9

No. of participants: 65





List of Students Attended The Technical Talk		
SL.NO	USN	NAME
1	4MT17ME100	Prakhyath J
2	4MT17ME103	Praveen nair p
3	4MT18ME001	ABDUL SAMI
4	4MT18ME005	Adithya Shetty
5	4MT18ME015	Amal pk
6	4MT18ME017	Amogh P Hegde
7	4MT18ME029	CHIRAYU RAI
8	4MT18ME030	Cyril Vikas
9	4MT18ME032	Darshan Shetty
10	4MT18ME057	Midhlaj kp
11	4MT18ME063	Mohammed Khallel
12	4MT18ME075	Narendra Nayak
13	4MT18ME081	Omar Zidan
14	4MT18ME088	Pratheek K C
15	4MT18ME091	Rachan R Shetty
16	4MT18ME099	Rithesh Kumar
17	4MT18ME137	Vishnu Raj
18	4MT19ME001	ABDUL RAHEEM O T
19	4MT19ME002	AKASH
20	4MT19ME004	DEVDARSH C AJAY
21	4MT19ME005	HARSHITH
22	4MT19ME006	HASHIR SYED ADIL BAFAKYH

23	4MT19ME007	HAZIM ISMAIL K
24	4MT19ME008	K SRIJAN RAI
25	4MT19ME010	KISHAN KOTIAN
26	4MT19ME011	LUCKY SOMANNA M K
27	4MT19ME012	MALATESH L
28	4MT19ME014	MERWYN PINTO
29	4MT19ME015	MOHAMED KHALID
30	4MT19ME016	MOHAMMED MUNAWAR
31	4MT19ME017	MOHAN CHANDRA N MOOLYA
32	4MT19ME018	MOHOMED SHURAIH
33	4MT19ME019	NISHAN
34	4MT19ME020	NITHESH
35	4MT19ME021	NUMAAN NAVEED AHMED
36	4MT19ME022	PRADEEP SHETTY
37	4MT19ME023	PRAVEEN SURYAKANTH NAIK
38	4MT19ME024	RAEID
39	4MT19ME025	RAJPRASAD N ACHARYA
40	4MT19ME026	RAJATH S MADIVAL
41	4MT19ME027	RAKESH G M
42	4MT19ME028	RAMACHANDRA SHRIDHAR BHAT
43	4MT19ME029	RITHIC LOBO
44	4MT19ME030	SAYEED ANWAR P M
45	4MT19ME031	SHOHAN
46	4MT19ME032	SIDDESH B N
47	4MT19ME033	SOURAB SHETTY
48	4MT19ME035	STEPHAN CLINTON SERRAO
49	4MT19ME036	SUJAN L
50	4MT19ME037	SUSHANTH
51	4MT19ME038	VAIBHAV PRAKASH NAIK
52	4MT19ME039	VARUN GUNAKAR
53	4MT19ME040	VIGNESH JNANESH
54	4MT19ME041	Mohammed Shamsheer
55	4MT19ME042	Manish Suvarna
56	4MT19ME043	Mohammed Shanid
57	4MT 20ME400	Anish Paul Pinto
58	4MT 20ME401	Chiranth Jain
59	4MT 20ME402	Darshan S Shetty
60	4MT 20ME403	KARTHIK MAHENDRA MENDON
61	4MT 20ME404	Marvin lance
62	4MT 20ME405	Nagendra Anant Mahale
63	4MT 20ME406	Nikhil
64	4MT 20ME407	Swaroop S Bhandary
65	4MT 20ME408	Wayne Godfrey Barboza

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Department of Mechanical Engineering

(Accredited by NBA)

Date: 17/05/2021

Report of Technical talk

1. **Title**: Challenges and opportunities in 3D printing

2. Resource person name & Address: Mr. Praveen olekar, Co-founder &CEO, Nixbess

- 3. **Brief Profile of Resource person**: Praveen Olekar B.E., M.Tech (VLSI) has more than 8 years of experience. He Co-founded a Start-up named Nixbees Technologies in Tumkur in the year 2015 which is working on their proprietary products in various domains such as IOT, 3D Printer, Blockchain, Android application development and many more with several clients in India and across the globe. Working as a Developer and Chief Executive Officer for the Nixbees Technologies. Executive with verifiable year-after-year success achieving revenue, profit, and business growth objectives within start-up, turnaround, and rapid-change environments. Extensive experience with highly engineered systems, which require deep understanding of critical business drivers in multiple markets and industries; highly successful in building relationships with upper-level decision makers, seizing control of critical problem areas, and delivering on customer commitments. Customer-focused and performance-driven. Led and motivated teams to achieve desirable result
- 4. **Date organized**: 17/05/2021
- 5. **Duration**: One hour
- 6. Topics Covered:
 - a) Introduction to Nixbees company
 - b) Working of 3D printing/ Additive Manufacturing in detail
 - c) Software used to develop and in detail steps of slicing and products manufactured
 - d) Applications of 3D printing in all aspects
 - e) Challenges and opportunities in 3D printing in future
- 7. **Venue:** Online (https://meet.google.com/qku-ivkr-dan)
- **8. Target Audience:** Mechanical Engineering 4th Year students

9. No of Attendees for the session :

Sl No	Name	Attendance
1	Praveen Patil	P
2	KARAN RAJ	P
3	Loyd D'souza	P
4	Santhosh Acharya	P
5	Shodhan Shetty	P
6	16ME144_SOHAIL	P
7	4MT15ME089_Muhammed Nasif	p
8	4MT16ME001_ ABHIJITH PRADEEP	P
9	4mt16me018 Arjun pradeep	P
10	4MT16ME043_ Hemanth kumar A	Р
11	4MT16ME131_SAURAV PALAT	P
12	4MT17ME030_ Bharath N	Р
13	4MT17ME044_Harikrishnan M V	P
14	4MT17ME069_Mohammed Ifthikar	P
15	4MT17ME070_MOHAMMED JABIR	P
16	4MT17ME073 MOHAMMED RILWAN	P
17	4MT17ME075 MohammedSaleel	Р
18	4MT17ME086 _ NAGENDRA K	P
19	4mt17me128_ Shafreez	P
20	4MT17ME137 Shetty Chetan Sadashiv	P
21	4mt17me147 Sudheendra Prabhu	Р
22	4MT17ME159 VEEKSHITH MP	Р
23	4MT18ME404_ Pawan	Р
24	aakarsh pai	Р
25	Abhijith b	Р
26	Abhishek B Shetty	P
27	Abhishek Bhat G	Р
	•	1

28	Achinthya S	P
29	Aditya Acharya	P
30	Akash K N	P
31	Akash Shetty	P
32	AKHIL	P
33	Akhil N	P
34	Akhilesh Sharma	P
35	Aman	Р
36	Ankith	Р
37	Bharath Rai	Р
38	Bhushan alva	Р
39	Darren Melroy Menezes	P
40	Deekshith Banger	P
41	DIPAYAN DEY	P
42	Elbon Dsouza	P
43	Gautam	P
44	Hafeez Akram	P
45	Head Mech.	P
46	Humanity	P
47	Humanity	P
48	Presentation	P
49	Jino sunny	P
50	Joel Fleming Mascarenhas	P
51	Joyal Sunny	P
52	karthik g y	P
53	Kiran Kumar	P
54	KM Ansar	P
55	Kunjaru Sripathi	P
56	Mamatha K M	P
57	manish Dinakar	P
58	Manisha Sanath	Р

59	Manoj Crasta	P
60	Mishaal Dmello	P
61	Mohammad Nabil	P
62	MOHAMMED SAHIL	P
63	Mohammed Zohaib Kolkar	P
64	Muhammed Zamil	P
65	PRADEEP KUMAR	P
66	Pradyumna Sindhe	P
67	Prasanna S Kulal	P
68	Raghavendra Kulkarni	P
69	RAKESH J Acharya	Р
70	Rakshith Kotian	Р
71	Ranson Fernandes	Р
72	RAQEEB MOHAMAD RAFEEK	Р
73	Raveesh Prabhu	Р
74	Royal Dsouza	Р
75	Royson Vinston Martis	Р
76	Roystan	Р
77	Ruthvika B	Р
78	Saleel PC	Р
79	sampath devadiga	Р
80	Sandesha Poojary	Р
81	Sanjith Jain	Р
82	Sanketh SJain	Р
83	Shameel C	P
84	Sharath K	Р
85	Sherif Ahamed Shibaz	Р
86	Shetty Sanket	Р
87	Shradha shetty	Р
88	Shreyas	Р
89	Shubhananda	Р

90	Soorya T C	Р
91	Sushanth Poojary	Р
92	Thufail Ahmed	Р
93	Vaibhav Gaonkar	Р
94	Vinish S Shettigar	Р
95	Yajnesh	Р
96	Sathwik	Р
97	Sunesh Chandra	Р
98	Sushanth V Poojary	P

10. Courses Related to the topic of presentation: Additive Manufacturing

11. Outcome of the Talk: Students got exposed to the practical knowledge of 3D printing/AM, steps involved from designing, slicing, materials, and the end products with their software used, Applications of it all fields and opportunities in it for mechanical stream students.

12. Feedback:

SI.			
No.	Name	USN	Suggestions/Comments:
1	Pawan	4MT18ME404	It was good
2	Akhilesh	4MT17ME018	-
3	Gopalkrishna	4MT17ME042	·
4	Prajwal M R	4MT18ME405	Good
5	Joyston fernandes	4mt17me050	Good
			Need more information regarding this
6	Sushan Karkera	4mt17me149	topic
7	Raghavendra U	4mt18me406	Good
8	Vinay Vora	4MT17ME162	No comments
9	Bhushan Alva	4MT17ME031	Good
10	Royson vinston martis	4MT17ME112	Session was good
11	Nithin kumar	4mt18me403	Good
12	Akhil shetty	4MT18ME401	Good

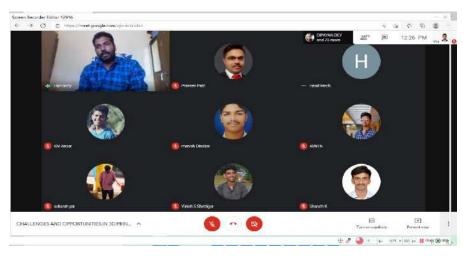
13	Raveesh Prabhu	4MT17ME110	
14	Thufail Ahmed	4MT17ME154	Good
15	Ruthvika B	4MT17ME114	Thank you
16	SIDHARTH K	4MT17ME143	Good.
17	Raveesh	4MT17ME110	·
18	Manisha S	4MT17ME062	No
19	Pradyumna K	4mt17me098	A
20	Nishanth Raj	4MT17ME091	
21	Hemanth Kumar A	4MT16ME043	Good
22	Jino Sunny	4MT17ME046	Informative
23	Sandesha	4mt18me407	Good
24	Akash	4MT17ME014	·
25	Manoj Crasta	4MT17ME063	It was good
26	Pradeep Kumar	4MT17ME097	Very good presentation
27	Nishanth Raj	4MT17ME091	
28	Pavan	4mt17me094	Good
29	Kunjaru Sripathi	4MT18ME402	Good
30	K M Ansar	4MT17ME052	ı
31	Sampath	4MT17ME121	·
32	Shradha shetty	4mt18me408	Good
33	Muhammed Faisal	4MT17ME081	·
34	Prakash Nayak	4MT16ME099	The session was good
35	Mohammed Shammas Ettol	4Mt17ME076	very good
36	Shubhananda	4mt18me409	No comments
37	Bharath N	4MT17ME030	Informative
38	Muhammed Zamil	4MT17ME083	Good
39	Soorya T C	4MT17ME144	Very good
40	AKHIL N	4MT18ME400	Much outer world knowledge was introduced

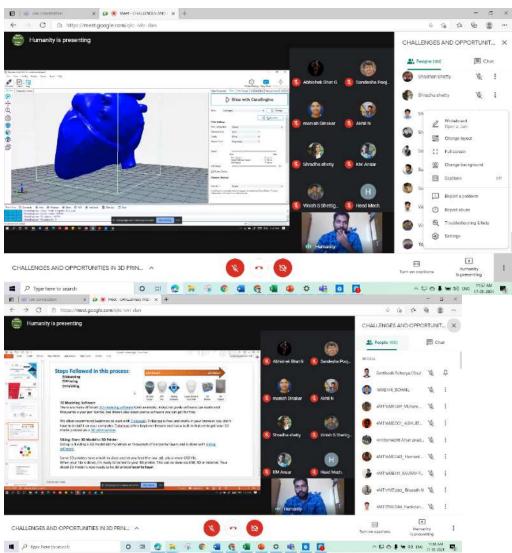
41	Shravan H Shetty	4MT17ME140	Nice	
42	Mohammad Nabil	4mt17me071	Good	
43	Arjun pradeep kumar k	4mt16me018	Its good	
44	Mohammed Sahil	4mt17me074	Good	
45	Ruthwik D Shettigar	4MT17ME115	Good	
46	Harris Amarnath MS	4MT16ME042	Good	
47	Pratheek S Shetty	4MT17ME102	Very good session	
48	Muhammed Hamish	4MT17ME082	Satisfactory	
49	Akhil samad	4mt16me006	Good informative session	
50	ABHIJITH PRADEEP	4MT16ME001		
51	Sushanth Poojary	4mt17me150	Good	
52	B Sanjith Jain	4mt17me029	No comments	
53	Shetty Sanket Surendra	4mt17me138	Awesome	
54	Achinthya S	4MT17ME009	It was a good session	
55	Pawan Kumar	4MT17ME095		
56	SOHAIL	4MT16ME144	Thank you for your kind support	
57	Azeem Ahmed	4MT17ME028	Good seminar	
58	Saleel Pc	4MT17ME120		
59	Jivitesh Sachin N	4MT17ME047	Nice	
60	Adharsh P v	4MT17ME010	Overall its good	
61	Ranson Fernandes	4MT17ME109	This session was good.	
62	Mishaal Dmello	4MT17ME067	thank you	
63	VEEKSHITH MP	4MT17ME159	It was informative 100	
64	Yajnesh	4MTME167	Non	
65	Aakarsh pai	4mt17me001	Superb	
66	Aditya S Acharya	4MT17ME011	Good session	
67	Dipayan Dey	4MT17ME037	Good	
68	Santhosh Kumar	4MT17ME125	Got to know about the recent application and need for 3D manufacturing and important and opportunities.	
69	Sherif Ahamed Shibaz	4mt17me136	Okish	
70	Abhishek Bhat G	4MT17ME008	Good	

71	Akshay Pradeep Kumar	4mt16me010	It's informative and good
72	Manishdinakar	4mt14me072	Good session
73	Bharath S Rai	4MT14ME027	No comments
74	saurav.p	4mt16me131	session was good , got some idea about 3d printing
75	Deekshith	4mt17me035	Should have avoided disturbance in the background
76	Abhishek B Shetty	4mt17me007	no
77	Prajwal R	4MT17ME099	Good
78	Rakshith	4mt17me108	Good
79	Roystan veigas	4MT17ME113	Good
80	Karthik g h	4mt17me055	Good session
81	Abhijith B	4MT17ME005	Excellent
82	Harikrishnan TS	4MT16ME040	Section was good
83	Faheem Rehman	4MT17ME039	·
84	Joel Fleming Mascarenhas	4MT17ME048	Good
85	Mohammed Zohaib Kolkar	4MT17ME079	Good
86	Shafreez hussain	4mt17me128	Satisfied

13. Program Coordinator: Mamatha K M, Assistant professor, Dept of Mechanical Engineering MITE

14. Programme Photos.





MITE Invent Solutions

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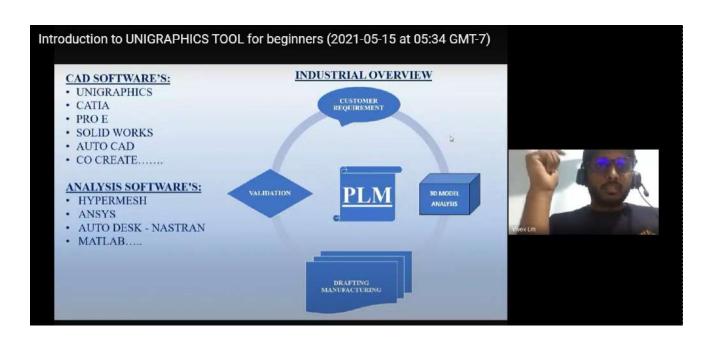
Department of Mechanical Engineering

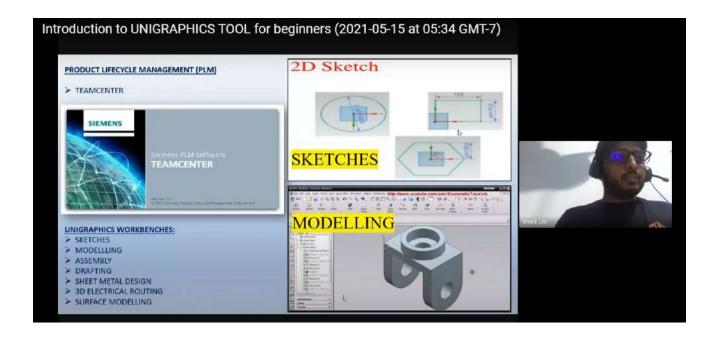
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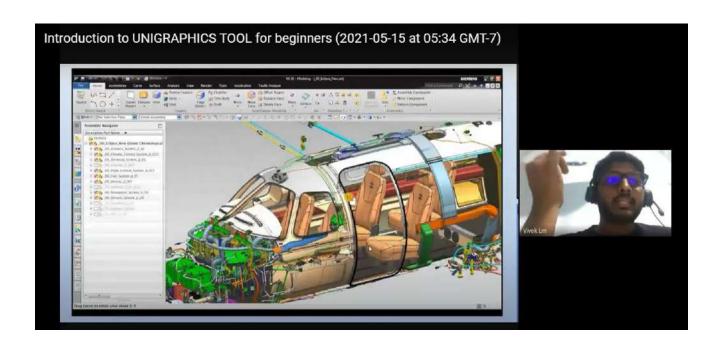
Date: 16.5.2021

Report of Technical talk

- 1. Title: INTRODUCTION TO UNIGRAPHICS TOOL FOR BEGINNERS
- 2. **Resource person name & Address**: Mr. Vivek L M PD Engineer, Wabtec Corporation, Mysore
- 3. **Brief Profile of Resource person**: Mr. Vivek L M is working as a PD Engineer in Wabtec Corporation in a locomotive design vertical. He has 8 years of experience in Design engineering Field. He has also worked in Molex company, GE Transportation & Aviohelitronics Company. He was a tutor in Swamy design solution.
- 4. **Date organized**: 15.5.2021
- 5. **Duration**: One hours
- 6. Topics Covered:
 - a) Industrial Overview, Cad Software's & Analysis Software's
 - b) Product Lifecycle Management (PLM)
 - c) Unigraphics Workbenches
 - d) Design Considerations
- 7. Venue: Online (https://meet.google.com/jip-srzi-ngo)
- **8. Target Audience:** Students of 6ME
- 9. Attendance Sheet: Attached
- 10. Courses Related to the topic of presentation: FEM & DME
- **11. Outcome of the Talk:** Students were able to understand the information about high-end CAD/CAM/CAE modern tools.
- 12. Feedback: Attached
- 13. Program Coordinator: Mr. Aveen K P, Assistant Professor, Mech
- 14. Programme Photos.









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Department of Mechanical Engineering

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Date: 14/05/2021

Report of Technical talk

- 1. **Title**: Heat analysis in Lime calcination plant and Recent trends in Steel sector
- 2. Resource person name & Address: Mr. Anil Kumar Gujjal, Assistant Manager, JSW steels ltd
- 3. Brief Profile of Resource person: Mr. Anil Kumar Gujjal is been working as a Assistant Manager in JSW steel Ltd from past 7 years and looking after the lime calcination plant operation and maintenance and has following achievements under his name, has Won gold medal in state level quality circle from of India and even has Won par excellence award in national level quality circle concept. Mr gujjal has Won second prize in model exibition prize national level quality circle concept. With his and team mates efforts he has even started kannada teaching classes in jsw for non kannadigas. Mr. Anil kumar has Won totally 9 best kaizens of the department under quality circle initiatives, he is working on a PhD project in waste utilisation. he even Represented his Dprt as TQM coordinator in Deming prize examination Recently he was selected for Future fit leader program in JSW

4. **Date organized**: 14/05/2021

5. **Duration**: One hour

6. Topics Covered:

- a) Introduction to JSW steels Ltd
- b) Working of Lime Calcination plant
- c) Heat analysis during lime calcination process
- d) recent developments and trends in Steel industry sector

7. **Venue:** Online (https://meet.google.com/bsi-obeo-vyd)

8. Target Audience: Mechanical Engineering 2nd Year students

9. Attendance Sheet:

Sl No	USN	Name	Attendance
1	4MT17ME100	Prakhyath J	P
2	4MT17ME103	Praveen nair p	P
3	4MT18ME001	ABDUL SAMI	P
4	4MT18ME005	Adithya Shetty	P
5	4MT18ME015	Amal pk	P
6	4MT18ME017	Amogh P Hegde	P
7	4MT18ME026	CHANDAN RAO P	A
8	4MT18ME029	CHIRAYU RAI	P
9	4MT18ME030	Cyril Vikas	P
10	4MT18ME032	Darshan Shetty	A
11	4MT18ME057	Midhlaj kp	P
12	4MT18ME063	Mohammed Khallel	P
13	4MT18ME075	Narendra Nayak	P
14	4MT18ME081	Omar Zidan	P
15	4MT18ME088	Pratheek K C	P
16	4MT18ME091	Rachan R Shetty	P
17	4MT18ME099	Rithesh Kumar	P
18	4MT18ME137	Vishnu Raj	P
19	4MT19ME001	ABDUL RAHEEM O T	P
20	4MT19ME002	AKASH	A
21	4MT19ME003	BHARATHESH	Р
22	4MT19ME004	DEVDARSH C AJAY	A
23	4MT19ME005	HARSHITH	A
24	4MT19ME006	HASHIR SYED ADIL BAFAKYH	P
25	4MT19ME007	HAZIM ISMAIL K	P
26	4MT19ME008	K SRIJAN RAI	P
27	4MT19ME010	KISHAN KOTIAN	P
28	4MT19ME011	LUCKY SOMANNA M K	P
29	4MT19ME012	MALATESH L	Р
30	4MT19ME014	MERWYN PINTO	Р
31	4MT19ME015	MOHAMED KHALID	P

32	4MT19ME016	MOHAMMED MUNAWAR	P
33	4MT19ME017	MOHAN CHANDRA N MOOLYA	P
34	4MT19ME018	MOHOMED SHURAIH	P
35	4MT19ME019	NISHAN	P
36	4MT19ME020	NITHESH	P
37	4MT19ME021	NUMAAN NAVEED AHMED	P
38	4MT19ME022	PRADEEP SHETTY	P
39	4MT19ME023	PRAVEEN SURYAKANTH NAIK	P
40	4MT19ME024	RAEID	P
41	4MT19ME025	RAJPRASAD N ACHARYA	P
42	4MT19ME026	RAJATH S MADIVAL	P
43	4MT19ME027	RAKESH G M	P
44	4MT19ME028	RAMACHANDRA SHRIDHAR BHAT	P
45	4MT19ME029	RITHIC LOBO	P
46	4MT19ME030	SAYEED ANWAR P M	P
47	4MT19ME031	SHOHAN	P
48	4MT19ME032	SIDDESH B N	P
49	4MT19ME033	SOURAB SHETTY	P
50	4MT19ME034	SREENIVASAN	A
51	4MT19ME035	STEPHAN CLINTON SERRAO	P
52	4MT19ME036	SUJAN L	P
53	4MT19ME037	SUSHANTH	P
54	4MT19ME038	VAIBHAV PRAKASH NAIK	P
55	4MT19ME039	VARUN GUNAKAR	P
56	4MT19ME040	VIGNESH JNANESH	P
57	4MT19ME041	Mohammed Shamsheer	P
58	4MT19ME042	Manish Suvarna	P
59	4MT19ME043	Mohammed Shanid	P
60	4MT 20ME400	Anish Paul Pinto	P
61	4MT 20ME401	Chiranth Jain	P
62	4MT 20ME402	Darshan S Shetty	A
63	4MT 20ME403	KARTHIK MAHENDRA MENDON	P
64	4MT 20ME404	Marvin lance	P

65	4MT 20ME405	Nagendra Anant Mahale	Р
66	4MT 20ME406	Nikhil	P
67	4MT 20ME407	Swaroop S Bhandary	P
68	4MT 20ME408	Wayne Godfrey Barboza	P

10. Courses Related to the topic of presentation: Applied Thermodynamics

11. Outcome of the Talk: Students got exposed to the heat balance sheet employed at industrial level and got a better understanding of the concept of thermodynamics, even there confidence regarding the job opportunities were boosted as a result of the discussion related to job opportunities of mechanical engg students.

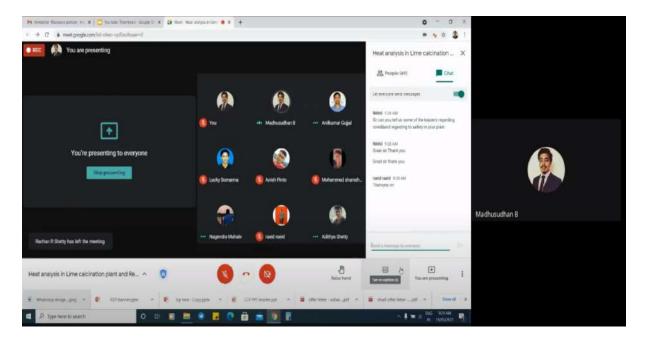
12. Feedback:

Name	USN	Feed back	Rati ng
Pradeep Shetty	4MT19ME022	Very useful session	5
AMOGH HEGDE	4mt18me017	Good	5
Sushanth	4MR19ME037	Session was good but informations are not sufficient and content is also less.	4
Amal pk	4MT18ME015	Good Class	4
RAEID	4MT19ME024	It was educational	4
KARTHIK MENDON	4MT20ME403	Session was really good and verry knowledgeable for our future	5
Marvin lance	4MT20ME404	Nice session	5
K SRIJAN RAI	4MT19ME008	Wonderful session	5
Hazim Ismail K	4MT19ME007	Informative session	4
Rachan R Shetty	4MT18ME091	This session made us to improve our knowledge And this session was GOOD	5
Narendra nayak	4MT18ME075	Learnt something new	5
Praveen suryakanth	4mt19me023	Good session	4
Nagendra Anant Mahale	4MT20ME405	It was good, ok	4
Anish Pinto	4MT20ME400	The session was very knowledge full.	5
Vaibhav naik	4MT19ME038		4
PRAKHYATH J	4MT17ME100	Good	4
Numaan Ahmed	4MT19ME021	Very good session.	4

Wayne barboza	4MT20ME408	Session was good and interactive	4
MOHAMMED SHAMSHEER	4mt19me041	very good session	4
Kishan kotian	4MT19ME010	Good	4
Cyril Vikas	4MT18ME030	Good	5
Nithesh	4MT19ME020	GOOD	4
Sourab Shetty	4MT19ME033		4
Sujan 1	4mt19me036	Got some ideas about the process involved in manufacturing	4
Abdul Raheem	4mt19me001	It was a good experience and useful at the same time	4
Nishan	4mt19me019	Session was good	2
Rithic Lobo	4MT19ME029	Very Informative	5
MERWYN PINTO	4MT19ME014	It was good sessionvery usefulalso gained a bit knowledge on heat balance sheetand other aspects which we have Come across during prev and ongoing sem	5
CHIRANTH JAIN	4MT20ME401	Was very educational	5
Chirayu.rai	4MT18ME029	Session was good	5
Shohan	4MT19ME031	Session was good	3
mohamed khalid	4MT19ME015	was very educational	5
Siddesh BN	4MT19ME032	Good information in mechanical engineering	4
Mohammed munawar	4MT19ME016	Ok good	3
Stephan Clinton serrao	4MT19ME035	Good	4
Abdul Raheem	4mt19me001	It was a good experience and useful at the same time	4
Rajath S Madival	4MT19ME026	Good	3

13. Program Coordinator: Madhusudhan B , Assistant professor, Dept of Mechanical Engineering MITE

14. Programme Photos.





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Organized By,

Department of Mechanical Engineering

"Mangalore Institute of Technology and Engineering" - Mangalore

Mangalore Institute of Technology and Engineering

VISION

"To attain perfection in providing **Globally Competitive Quality Education** to all our Students and also benefit the global community by using our strength in **Research and Development**"

MISSION

"To establish world class educational institutions in their respective domains, which shall be **centers of excellence** in their Stated and Implied sense. To achieve this objective we dedicate ourselves to meet the Challenges of becoming **Visionary and Realistic**, **Sensitive and Demanding**, **Innovative and Practical** and **Theoretical and Pragmatic**; All at the same time"

ABOUT US

Mangalore Institute of Technology & Engineering (MITE) was established in the year 2007 by Rajalaxmi Education Trust to fulfil the growing needs of the industry and aspirations of young students of Mangalore District and other parts of the country, which requires outstanding professionals who can be an asset to any organization. Located amidst lush greenery and a serene ambience in Moodbidri, the campus spreads over an area of 70 acres in the sylvan surroundings near Mijar en route to Karkala. Integrating modern design, construction technology and eco-friendly techniques, the campus provides the right setting to the students for effective learning. MITE is affiliated to Visvesvaraya Technological University, Belagavi and approved by AICTE, New Delhi

CORE VALUES

- Passion and commitment: We strive to work with passion and commitment in all our activities towards the ultimate good of the society
- **Making a difference:** We strive to make a positive difference in the lives of all our students and the future generation by going beyond curriculum and academics
- **Family culture:** We believe in inculcating and nurturing a 'MITE FAMILY' culture among all the staff, students, alumni and all those who associate with us
- Care for the environment: We strive to work with utmost care for the Nature creating a serene and conducive environment for quality education and research

DEPARTMENT OF MECHANICAL ENGINEERING

Vision

To develop technically competent Mechanical Engineering Professionals, Entrepreneurs and Researchers for the benefit of the society

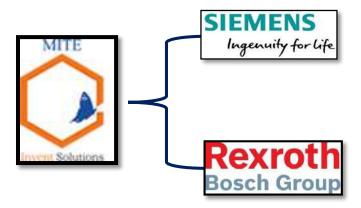
Mission

- To provide a well-balanced program of instructions to impart concepts on basics and applied areas of Mechanical Engineering.
- To provide the state-of-the-art facility for learning, skill development and research in design and manufacture areas.
- To encourage the students to excel in the co-curricular and extra-curricular activities to impart social & ethical values and leadership quality.

The Department of Mechanical Engineering is one of the Pioneer departments in MITE. The Main objective of the Department is to provide academic excellence, knowledge and nurture talent in the area of Mechanical Engineering. The Mechanical Engineering Course was started in the Year 2007. The contribution of this branch is enormous in the growth of technology over the centuries. The scope of the course varies from material research to machinery development, Nano Technology, Smart materials, Aerospace Technology, Missiles technology, CAD/CAM, FMS, CTM, Automation and such other interrelated developments.

The job opportunities are in aerospace, Automotive and Manufacturing sectors apart from research establishments. Many firms developing software packages for mechanical components and products are also recruiting the mechanical engineers. The skills needed for this course are strong computational mathematics, creativity and analytical abilities. The areas of study includes Manufacturing processes, Mechanical vibrations, Mechatronics, Heat and Mass Transfer, Tool Engineering and Design, Design of machine elements, Computer Integrated Manufacturing and Robotics

The Department of Mechanical Engineering has the best facilities to nurture the Mechanical engineering students in becoming the best in their domain. The department is well equipped with Siemens center of Excellence and Bosch-Rexroth Automation center.



OBJECTIVES

- To analyze the societal impacts on ever increasing Energy Demand.
- To enable them & understand the need to switch to Greener Alternatives in the Energy domain.
- To enhance knowledge of Participants by Academia- Industry Interaction.
- To provide knowledge in Sustainable Technologies for carrying Quality Research.
- To expose the participants in IoT for practical challenges in Energy Monitoring and Control.

TOPICS COVERED

- To understand a societal impacts of ever-increasing Energy Demand.
- To promote the technology involved in E- vehicles to achieve zero emission.
- To bring forth the contribution of Importance, Challenges and Recent Technologies in Hybrid vehicles and E- vehicles.
- Simulation of E-Vehicle Setup on MATLAB.
- Design of Battery pack under Mechanical & Thermal perspective.
- To understand the Electric Vehicle Charging Infrastructure.

PROGRAMME SCHEDULE:

				_
14.12.2020	"An Overview of EV and HEV"	"Importance, Challenges and Recent Technologies in HEV"	"Codes & standards for HEV"	
	Resource person: Dr Bhim Singh, Professor, IITD	Resource person: Dr Arun Kumar Verma, Professor, MNIT	Resource person: Mr. Ashutosh Singh (EV Engineer, ISIE INDIA)	
15.12.2020	"Essentials of Battery Systems & BMS"	"Electric Machines & Selection of Motor and controller for EV and HEV"	"Thermal Management in EV"	"Computer Vision Aided Autonomous Navigation System for using Overhead Ca meras and Raspberry Pis in
	Resource person: Mr Durvankur Raut, EV Expert ,Pune	Resource person: Mr. Shekhar Malani MD - Devise Electronics, Pune	Resource person: Mr Ravi Ranjan, Lead Engineer, Product Development – Automotive Division (AD-PD) Mahindra Research Valley	Electric vehicles' Resource person: Dr. Yong Wang, Professor Binghamton University (USA)
	"Simulation of Electric Vehicle Using Ricardo"	"Component Sizing and Integration"	"Fundamentals of Battery pack- Mechanical Design"	
16.12.2020	Resource person: Mr. Shikhar Verma (EV Engineer, ISIE INDIA)	Resource person: Mr Durvankur Raut, EV Expert ,Pune	Resource person: Dr. Koushal Jha, Sr. Project Advisor - IIT Madras	
17 10 000	"Fundamentals of Battery pack- Thermal Design"	"EV Charging Infrastructure"	"EV Analysis & Crash Test Analysis"	
17.12.2020	Resource person: Dr. Koushal Jha, Sr. Project Advisor - IIT Madras	Resource person: Mr Durvankur Raut, EV Expert, pune	Resource person: Mr. Ashutosh Singh (EV Engineer, ISIE INDIA)	
18.12.2020	"Energy Management Control Strategies of HEV"	"Light-weighting of E V using MDO"		
	Resource person: Dr. Deepak Paul, Mahindra Research Valley	Resource person: Dr G R Srinivas, DGM Mahindra Research Valley		

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Mr. Rajesh Chouta Chairman,

Rajalaxmi Education Trust, Mangalore

Patrons

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Dr. Divakara Shetty S, Dean (Academic), MITE **Co-Ordinator**

Dr. C R Rajashekhar

Vice Principal & Head, Dept of Mechanical Engg,

MITE

Advisory Board

Dr Gunti Ranga Srinivas

Deputy General Manager Mahindra Research Valley

Chennai

Dr. Koushal Jha,

Sr. Project Advisor

IIT Madras

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Professor, IITD

Dr Bhim Singh,

Sr Project Advisor, IIT Madras

Dr G R Srinivas,

Dr Arun Kumar Verma,

Mr Sreenivasalu Ala

Mahindra Research Valley, Chennai

Professor, MNIT, Jaipur

Project Engineer, Pantech eLarning, Chennai

Mr Durvankur Raut,

Mr Ravi Ranjan,

Dr. Deepak Paul,

Wipro, Pune

Mahindra Research Valley,

Chennai

Mahindra Research Valley, Chennai

REGISTERED PARTICIPANTS LIST

SI no	PARTICIPANT Name	INSTITUTE NAME
1	SWAPNIL PATIL	PVPIT BUDHGOAN Sangli
2	Vikram Kedambadi Vasu	Nitte Meenakshi Institute Of Technology
3	R PRAKASH	Saveetha Engineering college
4	Gautam S Shetty	Mangalore Institute of Technology and Engineering
5	Praveen Math	reva univeristy bangalore
6	Dr. Kripa M Suvarna	Saveetha Engineering College
7	AJAY KUMAR S	MAHATMA GANDHI INSTITUTE OF TECHNOLOGY
8	K Santosh Kumar	Mahatma Gandhi Institute of Technology
9	THAKAR MIHIRKUMAR J	G N patel college of Dairy Technology
10	Aveen K P	Mangalore Institute of technology & Engineering
11	Srinivas K R	Debre Tabor University, Ethiopia
12	P.BALAMURUGAN	MEPCO SCHLENK ENGINEERING COLLEGE
13	Dr. Shankar K. S	Srinivas Institute of Technology
14	V.Esra	Sri Venkateswaraa college of technology
15	Vishnu R Kammath	SCMS COLLEGE OF POLYTECHNICS
16	Dr. UGRASEN G	B.M.S. College of Engineering
17	Dr.Raju Jadar	Ballari Institute of Technology and Management
18	Mada Rukmini sai rupa sri	Cvr college of engineering
19	VENKATESH K C	Ballari Institute of Technology and Management
20	Sushma S	Channabasaveshwara Institute of Technology
21	VADIVELAN T	SIR ISSAC NEWTON COLLEGE OF ENGINEERING AND TECHNOLOGY
22	DR.CHANDRA KISHORE	GRAPHIC ERA DEEMED TO BE UNIVERSITY
23	Arindam Ghosal	Graphic Era Deemed to be University
24	SATHYAPRAKASH ANEKALLU	SIT Mangaluru
25	Bala Manikandan C	Mepco Schlenk Engineering College
26	Dr. Senthil Muthu Kumar Thiagamani	Kalasalingam Academy of Research and Education
27	Sharathchandra Prabhu	alva's institute of engineering and technology
28	Sandeep K	MITE, Moodbidri
29	Sudeep Kumar K S	BGS Institute of Technology
30	Anuj Raturi	Graphic Era deemed to be University

31	Dr.B.Radha Krishnan	Nadar Saraswathi College of Engineering and Technology
32	Dr.Basawaraj	DEPT. OF APT VTU CPGS
33	RAMYA K M	HKBK College of Engineering
34	Mahipal Bukya	Manipal University Jaipur
35	DrIng. Maharshi Subhash	Graphic Era Deemed to be University
36	C.Uthranarayan	Mepco Schlenk Engineering College
37	R Sukanya	Saveetha Engineering College
38	Mohanish Shah	MIT Academy Of Engineering
39	BASAVARAJ V	Sri Jayachamarajendra College of Engineering
40	R SARAVANA SATHIYA PRABHAHAR	Mepco Schlenk Engineering College
41	ABILASH DESAI	Sri Dharmasthala Manjunatheshwara College of Engineering and Technology
42	Mr. S. J. Adsul	PVPIT Budhgaon
43	SHAIK HIMAM SAHEB	The Icfai Foundation for Higher Education
44	YOGISH S RAO M	AIET MOODBIDRI
45	DINESH KUMAR MONDAL	Cambridge Institute of Polytechnic
46	DEEPAK V LOKARE	KLS VISHWANATHRAO DESHPANDE INSTITUTE OF TECHNOLOGY
47	Srinidhi CV	Malnad College of Engineering, Hassan

Date : 14.12.2020

Time : 10.00AM-11.15AM

Resource Person: Dr Bhim Singh,

Professor, IITD



Topic:

"An Overview of EV and HEV"

An excellent talk provided by **Dr. Bhim singh** on sustainable technologies which had gained an immense knowledge on many concepts as mentioned below,

- Overview of Electric Hybrid Vehicle Technology.
- Advantages and disadvantages in Hybrid electric vehicles.
- Global statistics of HEV market.
- Economic and production Growth rate of HEV
- Classification of EV Ecosystem (ICEV/HEV/PHEV/REV/BEV & FEV)
- Energy storage systems in HEV.
- Types of energy sources and its possible configuration of an HEV
- Overview of Battery technology (LI-TANTUNATE Fast charging)
- Motor drive technology requirement across the globe.
- Review of various charging levels and its efficiency.
- Timeline on wireless power transfer (WPT)- Nikola tesla.
- Renewable energy system adoptability in charging.
- ON-Board and OFF-Board charging characteristic

Date : 14.12.2020

Time : 11.30AM-12.45PM

Resource Person: Dr Arun Kumar Verma, Assistant Professor

MNIT



Topic:

"Importance, Challenges and Recent Technologies in HEV"

- He explained below mentioned points through this platform
- Various possibilities across Developing nations, Climate change result's with technology adoption.
- Greenhouse gases across the global.
- History of HEV across 1830/1890/1904/1910.
- Global HEV objectives to have an exponential growth in competitive market.
- Modeled grid profiles representing varying levels of carbon intensity.
- Emission comparison on a high carbon grid.
- Comparison of EV & ICEV in terms of greenhouse gases.
- Barriers of EV challenges, Technical/Market/policy/Infrastructure.
- Difference between EV/HEV/FCV in terms of performance and Luxury.
- Types of hybridization series and parallel.
- Parts of HEV vehicles Lead acid (2.2V)/Nickel cadmin (2.2V)/Li-ion (3.7V).
- Different types of integrated battery used in HEV.
- Ongoing projects in smart energy & sustainability research Lab

Date : 14.12.2020

Time : 2.00PM-3.15PM

Resource Person: Mr. Ashutosh Singh

(EV Engineer, ISIE INDIA)



Topic:

"Codes & Standards for Hybrid Electric Vehicle"

Introduction of Industrial code & standards.

Interchangeability & compatibility of maintaining such codes & standards.

Professional society build across the nation.

National specific standards/ASTM/ANSI/ISO.

Automotive industry standard functions in terms of safety, Review & recommendations, CMVR Technical standard committee.

CODES-

- AIS038 Constant & functional safety
- AIS039 Measure electric energy consumption
- AIS040 Measuring range
- AIS048 Battery safety standard.

CODES for EV chargers

- AISI38 part1 AC Conductive charging (Slow)
- AISI38 part2 DC Conductive charging (Fast)
- IS17017 Bharat electric vehicle charger

CODES for HEV

- AISI02 part-1 {<3500kg} part-2 {>3500kg} vehicle
- ECE R100, R101, R83, R85 (EUROPEAN STANDARD)

Cost reduction strategies

Development of Ancillary industries

Availability of critical cell components

Demand & Aggregation

Date : 15.12.2020

Time : 10.00AM-11.15AM

Resource Person: Mr Durvankur Raut

(EV Expert, Pune)



Topic:

"Essentials of Battery Systems & BMS"

Mr Druvshankar started his session with briefing out the working principle behind the Li-Ion battery and cycle of charging and went on explaining about following topics

- Depth of Discharge (DOD)
- State of health
- Hazards in li ion battery
- Battery management systems
- Balancing of battery
- Voltage and current measurement of battery in BMS
- Charge estimations
- Cell voltage measurement and control
- Contactor control
- Isolation monitoring
- Temperature control
- State of charge/health calculation

Date : 15.12.2020

Time : 11.30AM-12.45PM Resource Person: Mr. Shekhar Malani,

MD - Devise Electronics, Pune



Topic:

"Electric Machines & Selection of Motor and controller for EV and HEV"

Mr. Shekhar Malani Is a Director, Devise Electronics Private Limited, started his session with stating the requirement of drive requirement targets, like high power density, wide speed range, high efficiency, better NVH, reasonable cost, high reliability etc. and continued briefing on the following topics

- E drive system
- Two and three wheeler applications
- A modern stator audi eTron
- Stator construction
- Electrical steels for EV and HEV applications
- Winding configurations for EV and HEV applications
- Brushless DC Motor- Advantages and Disadvantages
- PMAC motors
- Trapezoidal back EMF

Date : 15.12.2020

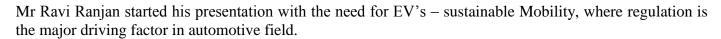
Time : 2.00PM-3.15PM

Resource Person: Mr. Ravi Ranjan,

Mahindra Research Valley

Topic:

"Thermal Management in EV"



He briefed about the Information about certain functionaries which regulate and issue the guidelines for effective implementing mobility strategies such as,

- REGULATING BODY: Bureau of energy efficiency (BEE)
- IMPLEMENTATING AGENCY: Ministry of road transport and high (MoRTH)

Explained for the need of innovation and future vehicle trends at present scenario.

He differentiated between Hybrid electric vehicle and pure electric vehicle about their challenges facing to implement new concepts of cleaner energy.

Following factors to be considered while designing and implementing such E-vehicle Affordability, Performance, Maintenance, Reliability & efficiency, Vehicle range, Charging infra, Environment

He also explained about electric vehicle (EV) Policy Development Cycle (Identify, Understand, Evaluate, Develop, and Implement) and also about electric vehicle segment.

He also briefed about Battery pack economics (average li-ion battery price & cost structure).

He extended his talk on Problems and key challenges facing by electric vehicle design such as (thermal management of EV batteries, optimal performance, managing temperature fluctuations, reusability, cooling systems).

Proposed solution- Methodology

Vehicle range optimized thermal management, control logic & hardware.

Vehicle range optimization will be achieved mainly through vehicle thermal and energy management.

- Battery and powertrain thermal management
- Vehicle cabin thermal management

He concluded the session by briefing about the **E-vehicle layout**.



Date : 15.12.2020

Time : 7.00PM-8.15PM

Resource Person: Dr. Yong Wang,

SUNY - Binghamton University (USA)



Topic:

"Computer Vision Aided Autonomous Navigation System for using Overhead Cameras and Raspberry Pis in Electric vehicles"

Dr Yong Wang focused more on automation navigation system such as image processing, localization and mapping, path planning and tracking and also briefed about how raspberry pi is used to transmit the information from a sending error signal, capturing the dynamics and to find the location of the vehicle.

- He also explained functions of the concepts of Overhead camera & drive board and how it aids in autonomous navigation system.
- He also discussed some of the case studies pertaining to image processing of various other materials and efficiency of image processing and how the efficiency can be improved.
- He also explained regarding Mini camera, Raspberry pis, drive board, Robocar.
- He also briefed about system connection and wireless communication i.e. wiring and wireless protocol.
- GPIO pins and wire connections loosen easily due to movement and vibration
- Poor contact, action delay, no response, short circuit; soldering to increase reliability

He also explained about design and implement a computer vision-based autonomous vehicle system

Date : 16.12.2020

Time : 10.00AM-11.15AM

Resource Person: Mr. Shikhar Verma

(EV Engineer, ISIE INDIA).

Topic:

"Simulation of Electric Vehicle Using Ricardo"



Mr. Shikhar Verma, EV Design Engineer, ISIE India was the Resource person. He delivered a talk on *Simulation of Electric Vehicle using Ricardo*. He demonstrated the various components of the software and how to use the command tools to represent the automobile in the form of an equivalent Electric components and the circuit. He discussed the various aspects of the software in detail.

Date : 16.12.2020

Time : 11.30AM-12.45PM

Resource Person: Mr Durvankur Raut,

EV Expert, Pune



Topic: "Component Sizing and Integration"

Mr Druvankur Raut, Chief Engineer, Devise Electronics Pvt Ltd was the Resource person. He delivered a lecture on *Component Sizing and Integration*. He explained in detail about the basic architecture of an Electric Vehicle (EV), types and location of the battery and about the Battery Management System (BMS). He also explained the equivalent terminologies used in Electric Vehicle. Discussed the numerical determination of power generated by EV and also the Aerodynamic effects. The major topics covered are,

- EV Architecture
- Regeneration of power
- Fundamental terms (Mechanical-Electrical analogy)
- Calculation of power with numerical examples
- Aerodynamic Resistance

Date : 16.12.2020

Time : 2.00PM-3.15PM

Resource Person: Dr. Kaushal Kumar Jha,

Sr. Project Advisor

IIT Madras

Topic:

"Fundamentals of Battery pack-Mechanical Design"

Dr. Kaushal Kumar Jha, Sr. Project Advisor - IIT Madras PI & Founder - NoonRay Energy Pvt. Ltd.was the resource person for the session. He delivered the technical talk on *Fundamentals of Battery pack-Mechanical Design*. He explained the principles behind mechanical design, thermal design, electrical design and BMS design of an EV. Discussed about the mechanical design aspects such as material selection, forces acting on the battery pack and the various testing standards for testing battery packs. The following topics were the highlights of this session.

- Types of design principles used in battery pack design
- Importance of Mechanical design
- Stages of battery pack design
- Ashby methodology
- Material index calculation
- Forces acting on base pack and testing standards used.

Date : 17.12.2020

Time : 10.00AM-11.15AM

Resource Person: Dr. Kaushal Kumar Jha,

Sr. Project Advisor

IIT Madras

Topic

"Fundamentals of Battery pack- Thermal Design"

Prof. Jha discussed about the aspects to be considered regarding the battery temperature. Several considerations at high and low operating temperature were conveyed and elaborated.

- The optimum temperature range conducive for safe working was displayed.
- The effect of temperature overshoot and undershoot on battery life were explained.
- The equation concerning the heat generation was conveyed that provided an estimation of heat generation in the battery.
- An example of heat load determination was solved and elaborately discussed to demonstrate the effect of temperature.
- Thermal management options available to control the temperature of the battery were explained. Advantages and limitations of each types were clearly told.
- The materials and design considerations of the active and passive types of thermal management systems were mentioned.

Date : 17.12.2020 **Time** : 11:30-12:45

Resource Person: Mr Durvankur Raut, EV Expert, pune



Topic:

"EV Charging Infrastructure"

- The session began with elaboration on challenges involved in Li-battery usage.
- Thermal runaway concept and the perils of a fully charged battery were conveyed.
- Charging profile of typical battery was explained with reference to charge current, charge capacity and charge flow voltage plot.
- The limitations of battery full charge were explained.
- Battery charge with reference to constant current and constant voltage regimes were explained.
- EV charging modes comprising of low, acceptable, and high mode of charging along with their limitations were explained.
- The requirements concerning effective charging were dealt in brief.
- AC charging system power flow with ON-board and OFF-board charging modules were explained.
- The various types of plug and socket arrangement to charge EV used across the globe were shown.
- Global Charging standards presently used in various regions were discussed.

Date : 17.12.2020

Time : 02:00 PM to 3:15PM Resource Person: Mr. Ashutosh Singh

(EV Engineer, ISIE INDIA)

Topic:

"EV Analysis & Crash Test Analysis"



- A role-cage model used for EV was constructed using solid work software package.
- The design aspects using FEM analysis for factor of safety, stress experienced and deflection of the model along with the steps involved were explained.
- This model was imported into an Ansys working environment.
- The various steps involved in specifying geometry, properties etc. under static load analysis were shown. The solid CAD model was meshed using tetragonal and triangular mesh elements.
- EV analysis and crash test analysis requirements were briefly discussed. The effect of front and side impact effect on the role cage were shown utilizing the impulse theorem and torsional roll over equations respectively.
- Factor of safety and the stress at various locations were obtained by FEM analysis of the rollcage. The material used for the cage was 4130 steel.
- The author's analysis with the constraint conditions applied during FEM analysis showed that their design was safe with deflection being well within the safety limit.
- The result sheet generated during the exercise were compared with the meshed model in solid work package which again ascertained the viability of the design.

Date : 18.12.2020

Time : 10:00 AM to 11:15 AM

Resource Person: Dr. Deepak Paul,

Mahindra Research Valley

Topic:

"Energy Management Control Strategies of HEV"



Dr. Deepak Paul delivered a topic on "Energy Management Control Strategies of HEV". He compared improvement of energy efficiency between hybrid mode and electric mode. He explained about Conventional vehicles which consume considerable amounts of fuel, which generates exhaust gases and environmental pollution during intermittent driving cycles. Electric vehicles feature high performance and low pollution characteristics, their limitations are their short driving range and high battery costs. Hybrid electric vehicles (HEVs) are comparatively environmentally friendly and energy efficient, but cost substantially more compared with conventional vehicles.

Following are the topics discussed in the meeting

• Hybrid Electric Vehicle

An improved hybrid electric vehicle includes an internal combustion engine and an electric motor. Both the motor and the engine provide torque to drive the vehicle directly through a controllable torque transfer unit. Typically, at low speeds or in traffic, the electric motor alone drives the vehicle, using power stored in batteries; under acceleration and during hill climbing both the engine and the motor provide torque to drive the vehicle; and in steady state highway cruising, the internal combustion engine alone drives the vehicle.

Energy management strategies

Fuzzy-logic-based energy management and power control strategy for parallel hybrid vehicles (PHV). The main objective is to optimize the fuel economy of the PHV, by optimizing the operational efficiency of all its components. The controller optimizes the power output of the electric motor/generator and the internal combustion engine by using vehicle speed, driver commands from accelerator and braking pedals, state of charge (SOC) of the battery, and the electric motor/generator speed. Separate controllers optimize braking and gear shifting

• EV infrastructure

Consumers and fleets considering plug-in electric vehicles (PEVs) which include plug-in hybrid electric vehicles (PHEVs) and all-electric vehicles (EVs) need access to charging stations, also known as EVSE (electric vehicle supply equipment). For most drivers, this starts with charging at home or at fleet facilities. Charging stations at workplaces and public destinations may help bolster market acceptance. Community leaders can find out more about getting ready for PEVs from Clean Cities Coalition Network PEV vehicle community readiness projects or through PEV readiness planning.

Date : 18.12.2020

Time : 11.00AM-12.45PM

Resource Person: Dr G R Srinivas, DGM,

Mahindra Research Valley



Topic:

"Light weighting of EV using MDO"

Dr. G R Srinivas focused on areas of Automotive Light weighting of EV using Multidisciplinary design optimization (MDO). He mentioned MDO of a full vehicle under the constraints of crashworthiness, NVH (Noise, Vibration and Harshness), durability, and other performance attributes is one of the imperative goals for automotive. However, it is often infeasible due to the lack of computational resources, robust simulation capabilities, and efficient optimization methodologies.

Dr. G R Srinivas discussed on CAE which has established as the tool for validating and certifying mechanical properties during product development. Simulation-driven design takes simulation and optimization into the creative design process. Primary goal of simulation-driven design is to provide a continuous stream of decision data to support concept design and later product development stages.

Following are the MDO- Advanced CAE techniques

- RSM based MDO
- Practical MDO
- Hybrid MDO
- Machine Learning based MDO

Finally, Professor concluded the session by giving Learning tips to become a MDO Specialist

QUALIFIED PARTICIPANT CERTIFICATE

Mangalore Institute of Technology and Engineering



Mangalore, Karnataka,
(An ISO 9001:2015 Certified Institution)

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Certificate of Participation

This certificate is proudly presented to Gautam 5 Shetty From Mangalore Institute of Technology and Engineering for his/her active participation in one week Faculty Development program on

"SUSTAINABLE SOLUTIONS IN HYBRID VEHICLES"

From 14th to 18th of December-2020, organized by Department of Mechanical Engineering, Mangalore Institute of Technology and Engineering



<u>Patrons</u>

Dr. G L Easwara Prasad, Principal, MITE Ravalellar Co-Ordinator

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"SUSTAINABLE ENERGY SOLUTIONS IN SOLAR ENERGY APPLICATIONS"

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Organized By,

Department of Mechanical Engineering

"Mangalore Institute of Technology and Engineering"
-Mangalore

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Mangalore Institute of Technology and Engineering, was established in the year 2007 by Rajalaxmi Education Trust to fulfil growing needs of the industry and aspirations of young students of Dakshina Kannada District and other parts of the country, which requires outstanding professionals who can be an asset to any organization. Located amidst lush greenery and a serene ambience in Moodbidri, the campus spreads over an area of 74 acres in the sylvan surroundings near Mijar en route to Karkala. Integrating modern design, construction technology and ecofriendly techniques, the campus provides the right setting to the students for effective learning. MITE is affiliated to Visvesvaraya Technological University, Belagavi & approved by AICTE, New Delhi

About the Department

The Department of Mechanical Engineering is one of the Pioneer departments in MITE. The Main objective of the Department is to provide academic excellence, knowledge and nurture talent in the area of Mechanical Engineering. The Mechanical Engineering Course was started in the Year 2007. The Department of Mechanical Engineering has the best facilities to nurture the Mechanical engineering students in becoming the best in their domain. The department got accredited by NBA and is well equipped with SIEMENS center of Excellence and Bosch-Rexroth Automation center.

Objectives of the Program

- ✓ To have a historical perspective of solar energy harvesting methods.
- ✓ To promote the technology involved in harnessing solar energy.
- ✓ To bring forth the contribution of materials in synthesizing solar energy.
- ✓ To provide the information on solar equipment's viable to be used in domestic and commercial establishments.
- ✓ To understand Challenges encountered in developing sustainable solar energy equipments.

Who can apply...?

A FDP on "Sustainable Energy Solutions in Solar Energy Applications" is organized for the faculty members of the AICTE approved institutions, research scholars, PG Scholars, and Industry professionals.

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Dr. C R Rajashekar Vice Principal & Head, Dept of Mechanical Engg, MITE

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Mangalore Institute of Technology & Engineering (MITE) was established in the year 2007 by Rajalaxmi Education Trust to fulfil the growing needs of the industry and aspirations of young students of Mangalore District and other parts of the country, which requires outstanding professionals who can be an asset to any organization. Located amidst lush greenery and a serene ambience in Moodbidri, the campus spreads over an area of 70 acres in the sylvan surroundings near Mijar en route to Karkala. Integrating modern design, construction technology and eco-friendly techniques, the campus provides the right setting to the students for effective learning. MITE is affiliated to Visvesvaraya Technological University, Belagavi and approved by AICTE, New Delhi

CORE VALUES

- Passion and commitment: We strive to work with passion and commitment in all our activities towards the ultimate good of the society
- Making a difference: We strive to make a positive difference in the lives of all our students and the future generation by going beyond curriculum and academics
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- Care for the environment: We strive to work with utmost care for the Nature creating a serene and conducive environment for quality education and research

CAREER ORIENTED EDUCATION

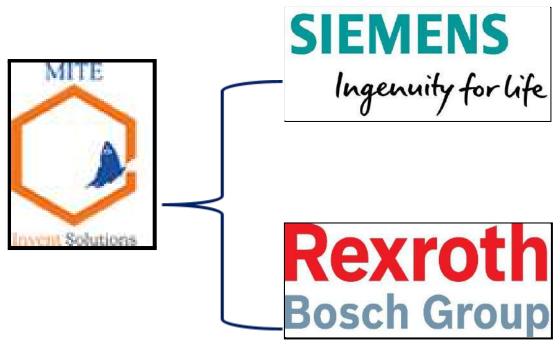
Students pursue science, engineering and technology courses for many reasons. Some may have specific goals: they wish to cure diseases or combat hunger or reduce pollution; or they dream of developing the next laser, transistor, or vehicle for space travel; or they imagine building companies that capitalize on new engineering capabilities. Some choose careers in science or engineering because they are curious about the natural world. Others are motivated by the excitement and beauty of the intellectual world. Whatever your ambitions may be, MITE offers the right combination of course in order to pursue your career goals

DEPARTMENT OF MECHANICAL ENGINEERING

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The job opportunities are in aerospace, Automotive and Manufacturing sectors apart from research establishments. Many firms developing software packages for mechanical components and products are also recruiting the mechanical engineers. The skills needed for this course are strong computational mathematics, creativity and analytical abilities. The areas of study includes Manufacturing processes, Mechanical vibrations, Mechatronics, Heat and Mass Transfer, Tool Engineering and Design, Design of machine elements, Computer Integrated Manufacturing and Robotics

The Department of Mechanical Engineering has the best facilities to nurture the Mechanical engineering students in becoming the best in their domain. The department is well equipped with Siemens center of Excellence and Bosch-Rexroth Automation center.



FDP - Schedule

Date/Da y	Session 1 11:00 - 12:30	Session 2 14:00 - 15:20	Session 3 15:30 to 16:45
23-11-2 020 Day 1: Monda y	Topic: "Solar Resource Estimates" Speaker: Dr. J K Naik Professor Emeritus, IITB,	Topic: "Solar concentrators design and applications for industrial process heat" Speaker: Dr S.B Kedare, Professor, IITB	Topic: "An Overview of Solar Energy Applications" Speaker: Prof. Ashok Kundapur, M.Sc., Ph.D.,(Retd.,), Environment and Energy Pro Activist, Professor (Rtd),
24-11-2 020 Day 2: Tuesday	Topic: "Role of Renewable energy and Energy conservation in Present scenario" Speaker: Dinesh kumar Project Engineer: KREDL Mysore	Topic: "An Overview on Solar Energy storage" Speaker: Sudheer Rajgopalan, Professor, Presidency University, Banglore	Topic: Heat loss analysis of solar Parabolic dish Speaker: Dr Veershetty Gumtapure, NITK, Suratkal
25-11-2 020 Day 3: Wednes day	Topic: Sustainable energy solutions for Solar Industrial Applications Speaker: Dr K Ravikumar, Associate Professor, IITD	Topic: "Grid tide and Off Grid solar PV system for Power generation" Speaker: Dr Shamasundar Professor, NIT, Mysore	Topic: "Ultra Super critical CO2 based Gas turbine Power Plant using concentrated solar Thermal collector" Speaker: Dr Ajay Kumar Yadav, Professor, NITK, Surathkal
26-11-2 020 Day 4: Thursd ay	Topic: Thermal Management of photovoltaic modules Speaker: Aruncahala Umesh chandavar, Professor, MIT, Manipal	Topic: "Fault identification in Solar farms" Speaker: Dr Gangadharan, Professor, NITK, Suratkal	Topic: An Experimental and Mathematical investigation of optimal tilt angle and effects of reflectors on PV energy production Speaker: Dr Shashikanth Karnika, Professor, NMAMIT, Nitte
27-11-2 020 Day 5: Friday	Topic: Enhancement of efficiency of solar Cells by surface modification techniques Speaker: Dr Ragahvendra Sagar Professor, MITE, Mangalore	Topic: Thermal Energy storage materials Speaker: Dr K Narayana Prabhu,	Topic: Issues and challenges in the Concentrating Solar Power System Speaker: Dr Sendhil Kumar Natarajan Assistant Professor, NIT Puducherry

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28	Wani Sawan Anilchandea	Academics	Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon	Assistant Professor
29	Pruthviraj Pratap Rahane	Academics	Mahatma Education Society's, Pillai College Of Engineering	Assistant Professor
30	Mr. Sanjay M. Gheji,	Academics	PVPIT SANGLI	Assistant Professor
31	Sriharsha S R	Academics	Channabasaveshwara Institute of technology	Asst professor
32	Vinod Kumar MV	Academics	Canara Engineering College	Assistant Professor
33	Dr Vinay HB	Academics	Government Engineering College Huvinahadagali	Assistant Professor
34	KIRAN N BHAT	Academics	SHRI MADHWA VADIRAJA INSTITUTE OF TECHNOLOGY AND MANAGEMENT N	ASSISTANT PROFESSOR
35	Akshay S Bhat	Academics	Vidyavardhaka College of Engineering, Mysore	Assistant Professor
36	Srinivas K R	Academics	Debre Tabor University, Ethiopia	Asst. Professor

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39	THARA R	Academics	CIT, GUBBI, TUMKUR	Assistant professor
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42	LAWRENCE JOSEPH FERNANDES	Academics	Sahyadri College of Engineering and Management	Assistant Professor
43	Dr. Raja Yateesh Yadav	Academics	Shri Madhwa Vadiraja Institute of Technology and Management	Associate Professor
44	Naveen B	Academics	Sahyadri College of engineering and management	Assistant professor
45	Mr RAGHAVENDRA M J	Academics	SRINIVAS INSTITUTE OF TECHNOLOGY	ASSISTANT PROFESSOR
46	Manjunatha C	Academics	AMC Engineering College	Assistant Professor
47	Sunil H V	Academics	Sahyadri College of Engineering & Management, Mangalore	Assistant Professor
48	SHASHANK S	Academics	Srinivas Institute of Technology	Assistant professor
49	Sushma S	Academics	Channabasaveshwara Institute of Technology, GUBBI	Assistant professor
50	RAMYA K M	Academics	HKBK College of Engineering	Assistant Professor
51	ABILASH DESAI	Academics	SDMCET, Dharwad	Asst. Professor
52	C.Uthranarayan	Academics	Mepco Schlenk Engineering College, Sivakasi	Asst. Professor
53	Prashant Puthani	Academics	BLDEA's V.P.Dr.P.G.Halakatti College of Engineering & Technology, Vijayapur	Assistant Professor
54	MANU S S	Academics	Adichunchanagiri Institute of Technology Chikkamagaluru	Asst.Professor
55	Mr Mahantesh M Ganganallimath	Academics	Basavehwar Engineering College (Autonomous), Bagalkot	Associate Professor
56	Bala Manikandan C	Academics	Mepco Schlenk Engineering College, Sivakasi	Assistant Professor

57	Sunil Kumar S	Academics	A J Institute of Engineering and Technology	Assistant Professor
58	Sunil Kumar B V	Academics	Canara Engineering College	Assistant Professor
59	Prem Kumar B G	Academics	Malnad college of Engineering	Asst. Professor
60	Pradeep D G	Academics	Malnad College of Engineering	Assistant Professor
61	Dr. Madhu P	Academics	Malnad College of Engineering, Hassan	Assistant Professor
62	Sharath BN	Academics	MCE Hassan	Assistant professor
63	MAHESWARAN K	Academics	MEPCO SCHLENK ENGINEERING COLLEGE(AUTONOMOUS)	ASSISTANT PROFESSOR (SR.GR)
64	Faheem Akthar	Academics	Navodaya Institute of Technology Raichur	Asst.Professor
65	Karthik S	Research	Malnad College of Engineering Hassan	Research Scholar
66	M.ANANDHAN	Academics	MEPCO SCHLENK ENGINEERING COLLEGE	ASSISTANT PROFESSOR (SL.GR.)
67	VENKATESH RAO S N	Academics	Srinivas Institute of Technology, Mangaluru	Assistant Professor
68	S.Lionel Beneston	Academics	Mepco Schlenk Engineering College, Sivakasi	Assistant Professor (Sr.Gr.)
69	Vasudeva Bhat P	Academics	Srinivas Institute of Technology Mangaluru	Assistant professor
70	Pramod Kumar N	Academics	Alva's Institute of Engineering and Technology Mijar Moodbidri	Assistant Professor
71	Mahesh E H	Industrial	JSW Steels Ltd	Assistant Manager
72	KIRAN PRAKASHA A	Academics	Sahyadri College of Engineering & Management, Mangaluru	Assistant Professor
73	R SARAVANA SATHIYA PRABHAHAR	Academics	MEPCO SCHLENK ENGINEERING COLLEGE (AUTONOMOUS), SIVAKASI, TAMILNADU	ASST PROFESSOR (SR GR)
74	Sangeetha B	Academics	AMC Engineering College	Student
75	Sudeep N S	Academics	National Institute of Technology, Karnataka - Surathkal	Research Scholar
76	Pratik V Dhage	Academics	GHRIET NAGPUR	assistant professor
	•	•		

77	Kalyani Singh	Academics	SCET NAGPUR	Assistant Professor
78	Dr Vighnesha Nayak	Academics	AJ Institute of Engineering and Technology	Associate Professor
79	Dr.M.L.Pavan Kishore	Academics	FST,IFHE ICFAI University	Assistant Professor
80	Anish Jafrin Thilak J	Academics	Mepco Schlenk Engineering College	Assistant Professor
81	Sunder Raj	Industrial	JSW steel Ltd Bellary	Engineer
82	NIkhil Winston D Souza	Industrial	Tata Steel	Assistant Manager
83	Rajesh rajan	Academics	Amc engineering college	Student
84	Dr.Girisha.C	Academics	AMC Engineering College	Professor
85	Dr.R.THAMIL MAGAL	Academics	University college of Engineering Panruti	Assistant Professor
86	MADHUKUMAR B M	Industrial	JSW STEEL LTD	ASST ENGINEER
87	Nagesh sb	Academics	Channabasaveshwara institute of technology	Assistant professor
88	Raghavendra T Anegundi	Academics	Channabasaveshwara Institute of Technology	Assistant Professor
89	Umashanker.L	Academics	AMC ENGINEERING COLLEGE	Associate professor
90	Sharathchandra Prabhu	Academics	Alvas institute of engineering and technology	ਤੱੱ. Asst. Professor
91	KIRAN N. BHAT	Academics	SHRI MADHWA VADIRAJA INSTITUTE OF TECHNOLOGY AND MANAGEMENT	ASSISTANT PROFESSOR
92	Sudeep Kumar K S	Academics	BGS Institute of Technology, B G Nagara	Assistant Professor
93	Roopa B Math	Academics	Basaveshwar Engineering College (A) Bagalkot	Assistant Professor
94	prasad k	Academics	K.S .Institute of Technology	Associate .prof
95	CHAPPELI SAI KIRAN	Academics	CVR COLLEGE OF ENGINEERING	Assistant Professor
96	VINIT SHAH	Industrial	FREEZCO CORPORATION	ENGINEER
97	SATHYAPRAKASH ANEKALLU	Academics	SIT Mangaluru	Asst. Professor

98	Dr.BASAWARAJ	Academics	VTU CPGS MUDDENAHALLI	ASSOCIATE PROFESSOR
99	Mrs. Sowmya C	Academics	SJCE, JSS STU, MYSURU	Assistant professor
100	Mr . Madhusudhan B	Academics		Asisistant Professor

Date

23/11/2020

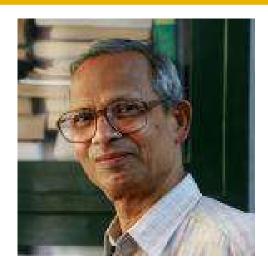
Time

11:00 - 12:30

Resource Person:

Dr. J K Naik

Professor Emeritus, IITB,



Topic:

"Solar Resource Estimates"

J.K. Nayak is Professor Emeritus, Department of Energy Science and Engineering at the Indian Institute of Technology Bombay. He has been a faculty member at the Institute since 1982. He is known for his research contributions in thermal applications of solar energy. He is the co-author of books entitled "Solar Energy" and "Handbook on Energy Conscious Buildings"

Dr. J K Naik sir started his session by giving the history of energy usage and merits and Demerits of the Solar energy. later on he briefed regarding the following topics

- issues in accessing the solar energy
- Solar Radiation Extra-terrestrial Terrestrial
- Solar radiation at the earth's surface
- Terrestrial Solar Radiation
- Analysis of Radiation Data
- Brief introduction reagarding Solar radiation resource assessment stations (NIWE)
- Empirical Relations for Isotropic and anisotropic models, Global, Diffuse, Beam and Beam normal

Date

23/11/2020

Time

14:00 - 15:20

Resource Person:

Dr S.B Kedare

Professor, IITB



Topic:

"Solar concentrators design and applications for industrial process heat"

Dr S.B Kedare is a Chair Professor at IIT Bombay. With academic experience as well as extensive exposure to industry, entrepreneurship, product development and commercialization, his ability to communicate different aspects of engineering and technology is appreciated by the students. He has won "Departmental Award for Excellence in Teaching – 2018" at IIT Bombay.

Dr S.B Kedare started his session by discussing Why Solar thermal in off-grid mode?, going on Kedare sir gave highlights about

Potential Applications of solar thermal energy

Use the thermal energy of solar radiation to power thermally driven cooling machines (VAM : Vapour Absorption Machine)Load and Load Pattern (Time of Load) matching between cooling loads and solar radiation needed \square HVAC (Heating, Ventilation, and Air Conditioning)

Solar Thermal Technologies

\square Low temperature technologies (non-concentrator) \square Flat Plate Water
Heaters / Air Heaters
☐ Evacuated Glass Tube Collectors
☐ Imported Parabolic Trough with line focus operating at temperature

Date

23/11/2020

Time 15:30 to 16:45

Resource Person

Prof. Ashok Kundapur M.Sc., Ph.D.,(Retd.,), Environment and Energy Pro Activist, Professor (Rtd)



Topic: "An Overview of Solar Energy Applications"

Prof. Ashok Kundapur Born in 1944, has done schooling at Mandya and Mysore. B.Sc., and M.Sc., at Central College Bangalore, and pursued studies leading to Doctorate through Institute for Research in Reproduction, which is then affiliated to G S Medical College, Mumbai.

Prof. Ashok Kundapur started his session by highlighting about the usage of ocean thermal energy to access the renewable energy ,later Dr Kundhapur highlighted about the solar cookers its usage merits and challenges faced in accessing the solar energy for cooking food

Professor kundhapur explained that For maximum efficiency it is necessary to "track" the sun, or in other words adjust your solar cooker so that it is directly towards the sun in order to be able to better concentrate and absorb the sun's rays.

This does not mean that you must continually stand beside the solar cooker the whole cooking period. But it can mean adjusting the angle and direction every so often or every set period, such as every one to two hours.

The more direct that the sun's rays are towards the food and cooking pot the greater the energy (heat) capacity will be from the sun's converted rays.

Ideal cooking results when using a solar oven occur when the sun is bright and uninhibited or unimpeded by clouds, shadows etc.

Cooking can be accomplished as well on days when the clouds are high and thin, but it may slow things down a bit, and one would be wise to start a little earlier than usua

SESSION-4

Date 24/11/2020

Time 11:00 - 12:30

Resource Person:

Dinesh kumarProject Engineer :KREDL Mysore



Topic:

"Role of Renewable energy and Energy conservation in Present scenario"

Mr Dinesh Kumar who is working as project engineer in KREDL mysore started his session briefing that the sources of electricity production such as coal, oil, and natural gas have contributed to one-third of global greenhouse gas emissions.

Date 24/11/2020

Time 14:00 - 15:20

Resource Person:

Dr. Sudheer RajgopalanProfessor,
Presidency University, Banglore



Topic: "An Overview on Solar Energy storage"

Dr. Sudheer Rajgopalan professor from Presidency University, Banglore starting the session briefing about the component necessary for solar energy storage and continued explaining about the following topics

Renewable energy source (RES), power and energy management system (PEMS), grid, energy storage devices (ESD), residential load. integration of RES and ESD using the PEMS.

Operation mode of grid-supported PV

Operation mode of grid and energy storage system-supported PV

Operation mode of energy storage system-supported PV

Operation mode of PV in peak hours

safety issues relating with the integration of RES and ESD

Temperature hazard of a lithium ion battery

Date

24/11/2020

Time

15:30 to 16:45

Resource Person:

Dr Veershetty Gumtapur NITK, Suratkal



Topic:

"Heat loss analysis of solar Parabolic dish"

Professor Dr Veershetty Gumtapre NITK surathkal started the presentation on how to Harness of solar energy through thermal & photovoltaic route.

- How effective is the solar energy in generating power
- Classified the system to low, medium and high temperature system.(concentrating and non-concentrating type)
- How Scaling of tubes will reduce efficiency of flat plate collectors.
- He also explained regarding Thermo syphon systems (solar water heater).
- He also shared the concept in detailed overview of solar distillation, solar dryer, and absorber surface treatment.
- Explained regarding Concentration ratio with paraboloid collector for dish (aperture area).
- Detailed study of Importance in selecting parabolic trough collector for collecting the radiation of solar energy.
- Design of solar parabolic trough collector including focal point that can be tracked in such a way that around the time to collect the solar radiation through reflectors.

 (Concentrating collectors)
- He also clarified about how circular solar collector for close water open air (CWOA)
 heated humidification and dehumidification process is used and its advantages and
 disadvantages

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Date

25/11/2020

Time

11:00 - 12:30

Resource Person:

Dr K Ravikumar Associate Professor, IITD



Topic:

"Sustainable energy solutions for Solar Industrial Applications"

Dr. Ravi Kumar received his Ph.D. from Indian Institute of Technology (IIT) Madras in 2012. At IIT Madras, he worked on investigation of energy efficient receivers for line-focus concentrating solar power (CSP) systems such as parabolic trough collector and linear Fresnel reflector for process heating and power generation. He also worked on solar field design, feasibility study of large scale CSP plants and multi-stage solar desalination system

Dr. Ravikumar provided the IEA data that showed the potential and growth for solar thermal technologies in industrial process heating applications. Economic feasibility and environmental benefits arising due to implementation of solar technology were highlighted.

Thermal technologies that are suitable for low, medium and high temperature heat demand applications for various process undertaken in Oil and gas, pulp and paper, textile, diary, rice processing, metal heating and glass industries were discussed

The savings that would result due to the commissioning of relevant solar technologies were also elaborated during the session

Date

25/11/2020

Time

14:00 - 15:20

Resource Person:

Dr Shamasundar "Professor, NIT, Mysore



Topic: "Grid tide and Off Grid solar PV system for Power generation"

Dr. SHAMSUNDAR SUBBARAO - is a international Renewable Energy consultant and currently, Head , of NIE-Centre For Renewable Energy & Sustainable Technologies.(NIE-CREST) and Associate Professor in Department Of Mechanical Engineering at The National Institute Of Engineering,(NIE), Mysore, India.

The talk began with information on the availability of solar energy at various locations in India. . The off grid system that is used to satisfy domestic demand and acts as a standalone entity was explained with the various components that are to be used for the efficient functioning of the system. Building integrated photovoltaic systems that are presently being used in developed nations were briefed about. Modern tiles that are capable of harnessing the solar energy were discussed. A brief overview of the Solar tracking system was provided. Solar grid system of 185 kW capacity currently commissioned at NIE, mysore was discussed. Various grid tied systems especially the one which utilized heat from the sun to generate electricity was elaborated.

Date 25/11/2020

Time 15:30 to 16:45

Resource Person: Dr Ajay Kumar Yadav Professor, NITK, Surathkal



Topic: "Ultra Super critical CO2 based Gas turbine Power Plant using concentrated solar Thermal collector"

Dr Ajay Kumar Yadav research area includes heat transfer, CFD, Natural circulation loop, bio heat transfer, solar energy, I. C. engines, and Refrigeration & air conditioning. He is currently working as Assistant Professor in the Department of Mechanical Engineering at National Institute of Technology Karnataka, Surathkal, Mangalore, since 2009.

The webinar session began with Prof. Ajay sharing with the participants the motivation behind choosing to work with CO_2 gas as working fluid in solar thermal collectors. Properties of CO_2 gas were discussed and were compared with water. The working of the Natural circular loop system was discussed. His research results of the behaviour of the heat transferrate as a function of temperature difference were shown. The significant experimental findings were discussed. The maximum temperatures attained using different types of solar collectors were conveyed. Effect of compressor discharge pressure on thermal efficiency was shown that helped in comparing the behaviour of the gas with respect to air. Important CFD results that led to computation of heat transfer coefficient and pressure drop as a function of velocity were discussed. The session ended with providing a brief overview regarding the barriers in developing supercritical CO_2 plant for energy harvesting.

Date 26/11/2020

Time 11:00 - 12:30

Resource Person:

Dr. Aruncahala Umesh chandavar, Professor, MIT, Manipal



Topic:

"Thermal Management of photovoltaic modules"

Dr. Arunachala Umesh Chandavar, who is currently working as Senior Associate Professor in MIT Manipal. He has almost 24 years of teaching experience in various institutions He is a recognised researcher in Solar Thermal Engineering.

His talk began with information on the application of Solar Energy. He has explained in detail about the system on Solar Photovoltaic cells, its characteristics and terminologies. The effect of operating temperature on PV and the PV cooling technologies like Active cooling system and passive cooling system were discussed. In active cooling systems, air cooled and water cooled systems are the most commonly used techniques. In the Passive cooling system, PIN cooling and PCM cooling methods were discussed.

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Date 26/11/2020

Time 14:00 - 15:20

Resource Person:
Dr Gangadharan Professor,
NITK, Suratkal



Topic "Fault identification in Solar farms"

Dr. K.V. Gangadharan is Professor in Mechanical Engineering and Head of the Center for System Design, President, Institute Innovation Council, National Institute of Technology Karnataka, Surathkal, (NITK Surathkal), India. His areas of research are System design, vibration and its control, smart material and its applications, Structural health Monitoring, and Product design. He is also actively engaged in creating learning materials for experiential learning of basic concepts in engineering.

In the beginning of the webinar, Dr. Dr. K.V. Gangadharan has asked the audience about the difference between scientists and Engineers . He said scientists discover the world that exists, engineers create the world that never exists. He continued his speech with the solar panel construction and factors affecting the solar panel efficiency and performance. He has discussed the typical solar failure scenarios and field issues in solar PV Modules. Further he explained about the solar farm fault detection methods like Thermal imaging. He explained about the thermal measurement errors. The errors occurred during the thermal measurement systems viewing angle and longer distances.

Date 26/11/2020

Time

15:30 to 16:45

Resource Person

Dr Shashikantha Karinka Professor, NMAMIT, Nitte



Topic:

"An Experimental and Mathematical investigation of optimal tilt angle and effects of reflectors on PV energy production"

Dr. Shashikantha Karinka working as a Professor and also as Head of Mechanical Engineering Department at NMAM Institute of Technology, Nitte. 35+ years of experience including Industrial and academic R&D, shop floor in heavy engineering industry and field testing experiences of engines, renewable energy systems and teaching.

Dr. Shashikantha Karinka started his speech with the world scenario of renewable energy. He has continued with the solar energy conversion and solar PVs and their advantages and disadvantages. He has explained about the solar constant and its importance in solar energy conversion. He has discussed why the tilt angle plays the major role in the conversion of solar energy in PV cells.

Date 27/11/2020

Time 11:00 - 12:30

Resource Person:Dr Ragahvendra Sagar Professor, MITE, Mangalore



Topic:

"Enhancement of efficiency of solar Cells by surface modification techniques"

- → Detailed overview on solar cells
- → Operation mode of PV in peak hours
- → Designing of multilayer Junction for solar cell packing
- → Efficiency and capability of Junction diodes
- → safety issues relating with the integration of RES and ESD
- → Different types of Cells related to performance characteristics
- → He also explained about the improvement of Solar intensity on the surface of the cell.
- → Temperature hazard of a lithium ion battery

Date 27/11/2020

Time 14:00 - 15:20

Resource PersonDr K Narayana Prabhu,
Professor, NITK, Suratkal



Topic: "Thermal Energy storage materials"

Thermal energy storage (TES) is a technology that stocks thermal energy by heating or cooling a storage medium so that the stored energy can be used at a later time for heating and cooling applications and power generation.

TES systems are used particularly in buildings and in industrial processes. He also focused on TES technologies that provide a way of valorizing solar heat and reducing the energy demand of buildings.

The principles of several energy storage methods and calculation of storage capacities are described

Sensible heat storage technologies, including water tank, underground, and packed-bed storage methods, are briefly reviewed.

Additionally, latent-heat storage systems associated with phase-change materials for use in solar heating/cooling of buildings, solar water heating, heat-pump systems, and concentrating solar power plants as well as thermo-chemical storage are discussed

Date 27/11/2020

Time 15:30 to 16:45

Resource Person:

Dr Sendhil Kumar Natarajan Assistant Professor, NIT Puducherry



Topic: "Issues and challenges in the Concentrating Solar Power System"

concentrating solar power, **concentrated solar thermal**) systems generate solar power by using mirrors or lenses to concentrate a large area of sunlight onto a receiver

As a thermal energy generating power station, CSP has more in common with thermal power stations such as coal, gas, or geothermal. A CSP plant can incorporate thermal energy storage, which stores energy either in the form of sensible heat or as latent heat

CSP is often compared to photovoltaic solar (PV) since they both use solar energy. While solar PV experienced huge growth in recent years due to falling prices, Solar CSP growth has been slow due to technical difficulties and high prices.

The DEWA project in Dubai, under construction in 2019, held the world record for lowest CSP price in 2017 at \$73 per MWh for its 700 MW combined trough and tower project: 600 MW of trough, 100 MW of tower with 15 hours of thermal energy storage daily. Base-load CSP tariff in the extremely dry Atacama region of Chile reached below ¢5.0/kWh in 2017 auctions

Different types of concentrators produce different peak temperatures and correspondingly varying thermodynamic efficiencies, due to differences in the way that they track the sun and focus light. New innovations in CSP technology are leading systems to become more and more cost-effective.

Participant list who had taken the Quiz with scores

SI No	full name [along with salutations Ex Mr./Dr./Mrs.]	Institution [Full name]	Score
1	Mr. Madhusudhan B	MITE	18 / 30
2	C. Uthranarayan	Mepco Schlenk Engineering College, Sivakasi	16 / 30
3	Mr. Pradeep D G	Malnad College of engineering	14 / 30
4	Sangeetha B	AMC ENGINEERING COLLEGE	15 / 30
5	Mr. Sharath BN	Malnad college of engineering Hassan	4 / 30
6	Raju S	Yellamma Dasaap	5 / 30
7	Mr. G. B. Sathishkumar	Arasu Engineering College	19 / 30
8	Mrs. THARA R	CIT, GUBBI, TUMKUR	18 / 30
9	Mr. Nishanth Nag HD	KS School of Engineering & Management	18 / 30
10	VINIT SHAH	FREEZCO CORPORATION	9 / 30
11	Mr.Wani Sawan Anilchandra	Padmabhooshan Vasantraodada Patil Institute of Technology,Budhgaon	23 / 30
12	Mr. PRAVEENA B A	Nitte Meenakshi Institute of Technology	13 / 30
13	Mr. Vasudeva Bhat P	Srinivas Institute of Technology Mangalore	20 / 30
14	Mr. Naveen B	Sahyadri college of engineering and management	22 / 30
15	Dr. Mahesh V M	Sri Jayachamarajendra College of Engineering, Mysore	20 / 30
16	Mr. Sanjay M. Gheji	Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon 416304	22 / 30
17	Mr. LAWRENCE JOSEPH FERNANDES	SAHYADRI COLLEGE OF ENGINEERING & MANAGEMENT, MANGALORE	22 / 30
18	Mr. DEVIPRASAD N MIRASHI	Jain college of Engineering and Technology, Hubballi-580032	17 / 30
19	Mr. Sudeep Kumar K S	BGS Institute of Technology, B G Nagara	24 / 30
20	Mr. SUNIL H V	Sahyadri College of Engineering & Management, Mangaluru	16 / 30
21	Mr RAMAKRISHNA DEVANANDA P	SAHYADRI COLLEGE OF ENGINEERING AND MANAGEMENT, ADYAR, MANGALURU	22 / 30
22	Mr. Srinivas K R	Debre Tabor University, Ethiopia	21 / 30
23	Mr Ananth Mohan Mallya	Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi	25 / 30
24	Dr.Girisha.C	AMC ENGINEERING COLLEGE	20 / 30
25	Mrs Jayashree Nayak	Indira Gandhi Institute of Technology,Sarang	18 / 30
26	Mr. S. J. Adsul	PVPIT Budhgaon	21 / 30
27	Dr. Raja Yateesh Yadav	Shri Madhwa Vadiraja Institute of Technology and	25 / 30

		Management, Bantakal	
28	Mr. Vikram Kedambadi Vasu	Nitte Meenakshi Institute of Technology	22 / 30
29	Mr.Vinay S S	Government engineering college, Hassan	22 / 30
30	Mrs. Sushma S	Channabasaveshwara Institute of Technology	21 / 30
31	Mr.Nagesh S B	Channabasaveshwara institute of technology	10 / 30
32	Mr.KIRAN PRAKASHAA.	Sahyadri College of Engineering and Management, Mangaluru	23 / 30
33	Mr N.S.Kumaraswamy	Sri Jayachamarajendra College of Engineering, Mysuru	15 / 30
34	Aveen K P	Mangalore Institute of Technology and Engineering	30 / 30
35	Prof. RAMYA K M	HKBK College of Engineering	24 / 30
36	Prof. Akshay S Bhat	Vidyavardhaka College of Engineering, Mysore	30 / 30
37	Dr Vignesh Nayak Ullal	Mite	26 / 30
38	Mr.C.Bala Manikandan	Mepco Schlenk Engineering College, Sivakasi	23 / 30
39	Dr.Basawaraj	VTU CPGS MUDDENAHALLI CHIKKABALLAPUR 562101	22 / 30
40	PRASHANTH PAI M	P.A. COLLEGE OF ENGINEERING, MANGALORE	25 / 30
41	Yathin Krishna	PA college of Engineering	26 / 30
42	SRINIVAS VALMIKI	PDA College of Engineering, GULBARGA	25 / 30
43	Mr. Sunil Kumar S	A J Institute of Engineering and Technology	24 / 30
44	Mr RAGHAVENDRA M J	Srinivas Institute of Technology	30 / 30
45	Mr. Sathyaprakash A	Srinivas Institute of Technology	19 / 30
46	Dr Sukhila Krishnan	Sahrdaya College of Engineering and Technology, Kodakara	22 / 30
47	Mr. Nagaraj	Dayananda Sagar Academy of Technology and Management, Bengaluru.	18 / 30
48	Mr. SHASHANK S	Srinivas Institute of Technology, Mangalore	24 / 30
49	Mr.	MAHESWARAN K	13 / 30
50	Sukanya	GCE	10 / 30
51	Mr.J.Anish Jafrin Thilak	Mepco Schenk Engineering College	23 / 30
52	Mr. Sunil Kumar B V	Canara Engineering College	22 / 30
53	BASAVARAJ V	Sri Jayachamarajendra College of Engineering	21 / 30
54	Dr R SARAVANA SATHIYA PRABHAHAR	MEPCO SCHLENK ENGINEERING COLLEGE (AUTONOMOUS), SIVAKASI	25 / 30
55	Mr.Raghavendra T Anegundi	Channabasaveshwara Institute of Technology, Gubbi	15 / 30
56	Mr.M.ANANDHAN	MEPCO SCHLENK ENGINEERING COLLEGE	21 / 30
57	Mr.PRASHANT PUTHANI	BLDEA's V.P.Dr.P.G.Halakatti College of Engineering & Technology, Vijayapur	21 / 30
58	Dr. Ramakrishna Balijepalli	RGM College of Engineering and Technology, Nandyal	24 / 30

59	Mr. Thakar Mihirkumar Jatinkumar	G N Patel College of Dairy Technology Sardarkrushinagar Dantiwada Agricultural University Sardarkrushinagar	13 / 30
60	DR Somnath Gurulingayya Kolgiri	S B patil college of engineering Indapur Pune	19 / 30
61	Mr. Mahadeva Prasad	NMIT	19 / 30
62	Dr. M. L. Pavan Kishore	FST, IFHE, ICFAI University	21 / 30
63	Mr.Pruthviraj Pratap Rahane	Mahatma Education Society's, Pillai College of Engineering	23 / 30
64	Mr. VENKATESH RAO S N	Srinivas Institute of Technology	20 / 30
65	Mrs. JIMI K J	Sahrdaya College of Engineering and Technology, Kodakara	22 / 30
66	Sourabh Mishra	AVM	15 / 30
67	Mr. MANU S S	Adichunchanagiri Institute of Technology Chikkamagaluru	23 / 30
68	Mr.Sharathchandra Prabhu	Alva's institute of Engineering Technology	11 / 30
69	Lad Ashvini Prakash	Padmabhushan Vasantraodada Patil Institute Of technology, Budhgaon Sangli	23 / 30
70	Mr. CHAPPELI SAI KIRAN	CVR COLLEGE OF ENGINEERING	12 / 30
71	Mr. SRINIDHI ACHARYA S R	ACS College of Engineering	19 / 30
72	Mr . PRASAD K	k S INSTITUTE OF TECHNOLOGY	24 / 30
73	Mr. Pratik Vijay Dhage	G H Raisoni Institute of Engineering and Technology Nagpur	12 / 30

Participant list for whom the certificate were issued

SI No	Full name	Institution
1	Mr. Madhusudhan B	MITE
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15	Mr RAMAKRISHNA DEVANANDA P	SAHYADRI COLLEGE OF ENGINEERING AND MANAGEMENT, ADYAR, MANGALURU
16	Mr. Srinivas K R	Debre Tabor University, Ethiopia
17	Mr Ananth Mohan Mallya	Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi
18	Dr.Girisha.C	AMC ENGINEERING COLLEGE
19	Mrs Jayashree Nayak	Indira Gandhi Institute of Technology,Sarang
20	Mr. S. J. Adsul	PVPIT Budhgaon
21	Dr. Raja Yateesh Yadav	Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal
22	Mr. Vikram Kedambadi Vasu	Nitte Meenakshi Institute of Technology
23	Mr.Vinay S S	Government engineering college, Hassan
24	Mrs. Sushma S	Channabasaveshwara Institute of Technology
25	Mr.KIRAN PRAKASHAA.	Sahyadri College of Engineering and Management, Mangaluru
26	Aveen K P	Mangalore Institute of Technology and Engineering
27	Prof. RAMYA K M	HKBK College of Engineering
28	Prof. Akshay S Bhat	Vidyavardhaka College of Engineering, Mysore

29	Dr Vignesh Nayak Ullal	Mite
30	Mr.C.Bala Manikandan	Mepco Schlenk Engineering College, Sivakasi
31	Dr.Basawaraj	VTU CPGS MUDDENAHALLI CHIKKABALLAPUR 562101
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33	Yathin Krishna	PA college of Engineering
34	SRINIVAS VALMIKI	PDA College of Engineering, GULBARGA
35	Mr. Sunil Kumar S	A J Institute of Engineering and Technology
36	Mr RAGHAVENDRA M J	Srinivas Institute of Technology
37	Mr. Sathyaprakash A	Srinivas Institute of Technology
38	Dr Sukhila Krishnan	Sahrdaya College of Engineering and Technology, Kodakara
39	Mr. Nagaraj	Dayananda Sagar Academy of Technology and Management, Bengaluru.
40	Mr. SHASHANK S	Srinivas Institute of Technology, Mangalore
41	Mr.J.Anish Jafrin Thilak	Mepco Schenk Engineering College
42	Mr. Sunil Kumar B V	Canara Engineering College
43	BASAVARAJ V	Sri Jayachamarajendra College of Engineering
44	Dr R SARAVANA SATHIYA PRABHAHAR	MEPCO SCHLENK ENGINEERING COLLEGE (AUTONOMOUS), SIVAKASI
45	Mr.M.ANANDHAN	MEPCO SCHLENK ENGINEERING COLLEGE
46	Mr.PRASHANT PUTHANI	BLDEA's V.P.Dr.P.G.Halakatti College of Engineering & Technology, Vijayapur
47	Dr. Ramakrishna Balijepalli	RGM College of Engineering and Technology, Nandyal
48	DR Somnath Gurulingayya Kolgiri	S B patil college of engineering Indapur Pune
49	Mr. Mahadeva Prasad	NMIT
50	Dr. M. L. Pavan Kishore	FST, IFHE, ICFAI University
51	Mr.Pruthviraj Pratap Rahane	Mahatma Education Society's, Pillai College of Engineering
52	Mr. VENKATESH RAO S N	Srinivas Institute of Technology
53	Mrs. JIMI K J	Sahrdaya College of Engineering and Technology, Kodakara
54	Mr. MANU S S	Adichunchanagiri Institute of Technology Chikkamagaluru
55	Lad Ashvini Prakash	Padmabhushan Vasantraodada Patil Institute Of technology, Budhgaon Sangli
56	Mr. SRINIDHI ACHARYA S R	ACS College of Engineering
57	Mr . PRASAD K	k S INSTITUTE OF TECHNOLOGY
58	Mr. Pratik Vijay Dhage	G H Raisoni Institute of Engineering and Technology Nagpur

Report

AICTE Training And Learning (ATAL) -FDP

on

"Emerging trends in Sustainable Technologies"

September 7-11, 2020



Organized by

Dr. C R Rajashekar Coordinator

Department of Mechanical Engineering

Mangalore Institute of Technology and Engineering

Moodabidri, Dakshina Kannada District, Kartnataka

MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING



VISION

"To attain perfection in providing **Globally Competitive Quality Education** to all our Students and also benefit the global community by using our strength in **Research and Development**"

MISSION

"To establish world class educational institutions in their respective domains, which shall be **centers of excellence** in their Stated and Implied sense. To achieve this objective we dedicate ourselves to meet the Challenges of becoming **Visionary and Realistic**, **Sensitive and Demanding**, **Innovative and Practical** and **Theoretical and Pragmatic**; All at the same time"

ABOUT US

Mangalore Institute of Technology & Engineering (MITE) was established in the year 2007 by Rajalaxmi Education Trust to fulfil the growing needs of the industry and aspirations of young students of Mangalore District and other parts of the country, which requires outstanding professionals who can be an asset to any organization. Located amidst lush greenery and a serene ambience in Moodbidri, the campus spreads over an area of 70 acres in the sylvan surroundings near Mijar en route to Karkala. Integrating modern design, construction technology and eco-friendly techniques, the campus provides the right setting to the students for effective learning.MITE is affiliated to Visvesvaraya Technological University, Belagavi and approved by AICTE, New Delhi

CORE VALUES

- Passion and commitment: We strive to work with passion and commitment in all our activities towards the ultimate good of the society
- Making a difference: We strive to make a positive difference in the lives of all our students and the future generation by going beyond curriculum and academics
- **Family culture:** We believe in inculcating and nurturing a 'MITE FAMILY' culture among all the staff, students, alumni and all those who associate with us
- Care for the environment: We strive to work with utmost care for the Nature creating a serene and conducive environment for quality education and research

CAREER ORIENTED EDUCATION

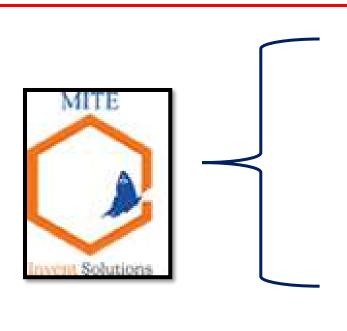
Students pursue science, engineering and technology courses for many reasons. Some may have specific goals: they wish to cure diseases or combat hunger or reduce pollution; or they dream of developing the next laser, transistor, or vehicle for space travel; or they imagine building companies that capitalize on new engineering capabilities. Some choose careers in science or engineering because they are curious about the natural world. Others are motivated by the excitement and beauty of the intellectual world. Whatever your ambitions may be, MITE offers the right combination of course in order to pursue your career goals

DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering is one of the Pioneer departments in MITE. The Main objective of the Department is to provide academic excellence, knowledge and nurture talent in the area of Mechanical Engineering. The Mechanical Engineering Course was started in the Year 2007. The contribution of this branch is enormous in the growth of technology over the centuries. The scope of the course varies from material research to machinery development, Nano Technology, Smart materials, Aerospace Technology, Missiles technology, CAD/CAM, FMS, CTM, Automation and such other interrelated developments.

The job opportunities are in aerospace, Automotive and Manufacturing sectors apart from research establishments. Many firms developing software packages for mechanical components and products are also recruiting the mechanical engineers. The skills needed for this course are strong computational mathematics, creativity and analytical abilities. The areas of study includes Manufacturing processes, Mechanical vibrations, Mechatronics, Heat and Mass Transfer, Tool Engineering and Design, Design of machine elements, Computer Integrated Manufacturing and Robotics

The Department of Mechanical Engineering has the best facilities to nurture the Mechanical engineering students in becoming the best in their domain. The department is well equipped with Siemens center of Excellence and Bosch- Rexroth Automation center.



SIEMENS Ingenuity for life



AICTE Training and Learning (ATAL) Academy



VISION

•To empower faculty to achieve goals of Higher Education such as access, equity and quality.

MISSION

- •To establish AICTE Training and Learning (ATAL) cell in all the technical institutions, Universities, Deemed-to be Universities and other institutions of technical learning.
- AICTE will support for establishment of AICTE Training and Learning (ATAL) cell in all the technical institutions. Universities. Deemed to be Universities and other institution of technical learning.
- Initially AICTE will establish AICTE Training and Learning (ATAL) Academies in Jaipur, Vadodara, Guwahati and Trivandrum. However, in future more academies may be opened as per requirements.
- AICTE HQ will have a training cell who will coordinate with training academies of AICTE and training cells across the country. To establish Academies web portal and mobile application for carrying out its operations.
- To build a database of trainers/experts, Video Repositories, Training materials and training needs of technical institutions.
- Training needs analysis of technical manpower of the country.

OBJECTIVES OF ACADEMY

- To set up an Academy which will plan and help in imparting quality technical education in the country
- To support technical institutions in fostering research. Innovation and entrepreneurship through training

- To stress upon empowering technical teachers & technicians using Information & Communication Technology
- To utilize SWAYAM platform and other resource for the delivery of trainings.
- To provide a variety of opportunities for training and exchange of experiences. Such as workshops, Orientations, learning communities, peer mentoring and other faculty development programs.
- To support policy makers for incorporating training as per requirements

Objectives of the FDP

- To analyze the societal impacts on ever increasing Energy Demand.
- To enable them & understand the need to switch to Greener Alternatives in the Energy domain.
- To enhance knowledge of Participants by Academia- Industry Interaction.
- To enhance knowledge of Participants by Academia- Industry Interaction.
- To provide knowledge in Sustainable Technologies for carrying Quality Research.
- To expose the participants in IoT for practical challenges in Energy Monitoring and Control.

Topics covered

- Solar Photovoltaic and Micro Grids Fault Identification in Solar farms.
- Design Thinking involved in building Energy Management Systems.
- Battery Technologies for Solar PV systems.
- Renewable energy systems.
- Sustainable Energy Integration in Smart Cities.
- Energy Monitoring and Control Sustainability in Heating Ventilating Air Conditioning and Refrigeration.

PROGRAMME SCHEDULE:

Date/Time	9.30 to 11.00 am	11.15 to 12.45 pm		2.30 to 4.00 pm	07:00- 08:30 PM
07.9.2020	"An overview of Sustainable Technologies" Resource person: Mr.Deva P. Seetharam Founder, Data Glen Technologies, Bangalore	Combined Inauguration of 38 online ATAL FDP at 11:00 AM Chief Guest,: Hon'ble Union Minister of State for Education, Communications and Electronics & Information Technology, Govt. of India .		"Health and Happiness" Resource person: Sanadana Das, ISKON	"Product Prototypes in Renewable Energy Systems and Sustainability" Resource person: Mr Ganesh Shankar, F & MD, FluxGen Engineering Technologies, Bangalore.
08.9.2020	"Solar Thermal Energy Systems" Resource person: Dr.Dhiraj Patil, Professor IIT, Dharwad, KarnatakA	"Thermal Management of photovoltaic Modules; recent advances in Parabolic trough collector" Resource person: Dr. Arunachal U C, Professor, MIT, Manipal,		"Sustainable Energy Integration in Smart Cities" Resource person Dr G N Kumar Professor NITK, Suratkal	
09.9.2020	"Design thinking of Conventional and Hybrid Electric Power trains" Resource person: Dr Poornesh Kumar K Professor, NITK, Suratkal	"Societal Impacts of Ever increasing Energy Demand" Resource Person: Dr.ShashikanthaKarinka, Professor NMAMIT, Nitte, Karnataka	Lunch Break	"Methodologies for Range Optimization of an Electric vehicle for Sustainable Mobility-A Thermal Perspective". Resource person: Mr. Ravi Ranjan, Lead Engineer, Mahindra Research Valley Tamilnadu,	
10.9.2020	"Desiccant based dehumidification techniques for Sustainable Energy Applications" Resource person: Dr. Shivakumar, Professor MIT, Manipal, Karnataka	"Options for Improving Sustainability in Heating Ventilating Air Conditioning and Refrigeration, HVAC&R" Resource person: Dr.Milind V Rane Institute Chair Professor Mechanical Engineering Department, IIT Bombay		"Need to Switch to Greener Alternatives in the Energy domain" Resource person: Dr. Shamasundar S Professor NIE, Mysore, Karnataka	
11.9.2020	"Computer Vision Aided Au tonomous Navigation System Using Overhead Cameras and Raspberry Pis" Resource Person: Dr. Yong Wang, Professor, Dept. of Systems Science & Industrial Engineering SUNY - Binghamton University, New York.	"Fault identification in Solar farms" Resource person Dr Gangadharan Professor NITK, Suratkal		"Bio inspired flow control technique for wind turbine performance enhancement" Resource person: Dr Satyabhama Professor, NITK, Suratkal	

REGISTERED PARTICIPANTS LIST

SI no	PARTICIPANT Name	INSTITUTE NAME	STATE
1	Mr. Ganesh Raj Urs	Mangaluru Institute of Technology and Engineering	KARNATAKA
2	Mr.ShekherSheelam	Rajiv Gandhi University of Knowledge Technologies Basar	TELANGANA
3	Mr.eedavikram	vaagdevi college of engineering	TELANGANA
4	Mr. SAYYAN SHAIKH	Jnanavikas Institute of Technology, Bidadi	KARNATAKA
5	Miss Rashmi J V	Jain College of Engineering	KARNATAKA
	Mr.MaheshkumarM	AnnasahebDange College Of Engineering and Technology	MAHARASH
6	ahadevBhanuse	AshtaSangli	TRA
7	Mrs. SUMATHI K	SRI SAIRAM INSTITUTE OF TECHNOLOGY	TAMIL NADU
	Mr. ARUNKUMAR K		
8	K	SCMS COLLEGE OF POLYTECHNICS	KERALA
9	Mrs.Shilpa K R	Ballari institute of technology and management	KARNATAKA
10	Mr. V.NARASIMMAN	SRI SAIRAM INSTITUTE OF TECHNOLOGY	TAMIL NADU
11	Mrs.AsaboyinaSrava nthi	Vaagdevi college of engineering	TELANGANA
12	Dr. MANCHIKANTI SRINIVAS	GayatriVidyaParishad College of Engineering(Autonomous)	ANDHRA PRADESH
13	Miss AishwaryaJogul	KLE Technological University	KARNATAKA
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15	Mrs.Bhagya HK	K V G College of Engineering Sullia D K	KARNATAKA
	Mr. YASHWANTH M		
16	K	Mangalore Institute of Technology and Engineering	KARNATAKA
17	Mrs. VIDYASHREE D	GLOBAL ACADEMY OF TECHNOLOGY	KARNATAKA
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19	Mrs. RISHMA MARY GEORGE	MITE	KARNATAKA
20	Mr.swaroop	MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING	KARNATAKA
21	Mrs.Shyba A	Government Engineering College Kozhikode	KERALA
22	Mr.Aveen K p	MITE	KARNATAKA
	Mr. Vishal		MAHARASH
23	AbhimanMeshram	Indira College of Engineering & Management, Pune	TRA
24	Mr.Sagar S	Mangalore Institute of Technology and Engineering	KARNATAKA
	Dr. SUKHILA	SAHRDAYA COLLEGE OF ENGINEERING AND	
25	KRISHNAN	TECHNOLOGY,KODAKARA	KERALA
	Mrs. SHUBHRA		
26	PANDE	SJBSAP	KARNATAKA
27	Dr.Rajender Kumar	FET MRIIRS	HARYANA
28	Mrs.Ramziya	Rajeev gandhi institute of technology	KERALA

		Vel Tech High Tech Dr.RangarajanDr.Sakunthala Engineering	TAMIL
29	Mrs.Anju M S	College	NADU
	, , ,	Mangalore Institute of technology and Engineering,	
30	Mr.PurandaraNaik	Moodabidri	KARNATAKA
	Mrs.		
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			TAMIL
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33	Dr.Jayaprakash M C	Mangalore Institute of Technology & Engineering	KARNATAKA
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			TAMIL
35	Dr.S.Sujatha	K.Ramakrishnan College of Technology	NADU
	Mrs. SANKARA		
36	LOKESWARI	MatrusriEnginnering College	TELANGANA
37	Mr. Sridhar DR	Mangalore Institute of Technology and Engineering	KARNATAKA
	Mr. M.S.BRITTO		
38	JEYAKUMAR	GokarajuRangaraju Institute of Engineering and Technology	TELANGANA
39	Mr.Mohiyuddin T D	Govt.Polytechnic	KARNATAKA
		Rajive Gandhi college of engineering research and	MAHARASH
40	Miss EktaDhande	technology	TRA
41	Dr.Sasanka Borah	Assam Engineering College	ASSAM
42	Mr.Suhas H B	Dayanandasagar college of engineering	KARNATAKA
	Mr. YAJNESHA P		
43	SHETTIGAR	Mangalore Institute of Technology and Engineering	KARNATAKA
44	Mr. Anudeep Rao P	MITE, Moodbidre	KARNATAKA
	Mrs.Sanjana S		
45	Prabhu	Na	KARNATAKA
46	Mrs. V Swathi	Cambridge Institute of Technology North Campus	KARNATAKA
	Mr.TamilselvamNallu		
47	samy	MVJ COLLEGE OF ENGINEERING, BANGALORE, INDIA	KARNATAKA
48	Mrs.Anupriya A.G	Cambridge institute of technology north campus	KARNATAKA
49	Mrs.Mamatha C M	Cambridge Institute of Technology North Campus	KARNATAKA
	Mr. Vishnu R		
50	Kammath	SCMS COLLEGE OF POLYTECHNICS , PERUMBAVOOR	KERALA
	Miss ROSHNI		
51	ELDHOSE	SCMS COLLEGE OF POLYTECHNICS	KERALA
		CAMBRIDGE INSTITUTE OF TECHNOLOGY NORTH	
52	Mrs.Swetha R	CAMPUS,BANGALORE.	KARNATAKA
	Mr. BHANUPRAKASH	Mangalore Institute of Technology And Engineering,	
53	HS	Moodabidri	KARNATAKA
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	_		TAMIL
55	Mr.Sanjeevi Kumar P	Mangalore Institute of Technology and Engineering	NADU
			TAMIL
56	Dr.K.Subathra	Sri Sai Ram Engineerin College	NADU

	Mr. E		TAMIL
57	Balasubramanian	MepcoSchlenk Engineering College	NADU
58	Mr. Vijay Shiravalkar	K.L.S Shri VasantraoPotdar Polytechnic	KARNATAKA
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60	Mr.Sarthak M Thakar	Saffrony Institute of technology	GUJARAT
	Mr. SOMASHEKARA		
61	G	The National Institute of Engineering, Mysuru.	KARNATAKA
	Mr.Kotla Rahul		ANDHRA
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63	I	Mangalore Institute of Technology and Engineering	KARNATAKA
64	Mr.Gautam Shetty	Mangalore Institute of Technology and Engineering	KARNATAKA
65	Mr.Akshay	Mangalore Institute of Technology and Engineering	KARNATAKA
		Mangalore Institute of Institute Technology and Engineering,	
66	Miss SUSHMITHA G S	Moodbidri	KARNATAKA
67	Mr. Madhusudhan B	Mangalore Institute of Technology and Engineering	KARNATAKA
68	Dr.Lokesha M	MITE Moodbidiri	KARNATAKA
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72	Mr.Srinivas K R	MITE	KARNATAKA
	Mr. Mohamed		
73	Gowspeer	Srinivas Institute of Technology	KARNATAKA
74	Mr.NithinJoshuva	Srinivas Institute of technology	KARNATAKA
75	Mr. Sunil B	Siddaganga Institute of Technology	KARNATAKA
76	Miss Nischitha	Mangalore Institute of Technology & Engineering	KARNATAKA
77	Dr.Neelakantha V L	Mangalore Institute of Technology and Engineering	KARNATAKA
78	Mr. H T SHIVARAMU	MITE	KARNATAKA
79	Mr. Harold Dsouza	AJ Institute of Engineering and Technology	KARNATAKA
80	Mr.Ranjith H D	Mangalore Institute of Technology and Engineering Moodabidri	KARNATAKA
	Mr.RamamoorthyAd		TAMIL
81	himoolam	Rajiv Gandhi College of Engineering	NADU
82	Mr.Sumith Shetty	Mangalore Institute of Technology and Engineering	KARNATAKA
	Mrs.Swapna		TAMIL
83	Srinivasan	Mangalore Institute of Technology and Engineering	NADU
	Dr. SAMEER M		MAHARASH
84	WAGH	Laxminarayan Institute of Technology RTMNU Nagpur	TRA
0.5	Mr.Sudeep Kumar K	DCC Lead's to a f Table 1	LABNATA CA
85	\$	BGS Institute of Technology	KARNATAKA
86	Mrs. ARUNA R	Sri Sairam College of Engineering	KARNATAKA
87	Dr.BanjaraKotresha	Government Engineering College	KARNATAKA

	Mr. LAWRENCE	SAHYADRI COLLEGE OF ENGINEERING AND MANAGEMENT,	
88	JOSEPH FERNANDES	MANGALORE	KARNATAKA
	Dr.NileshSatyavijayP	Prof Ram Meghe Institute Of Technology & Research	MAHARASH
89	ohokar	Badnera Amravati	TRA
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93	Mrs.S.Nithya	SSM Institute of Engineering and Technology	NADU
	Mr.Sudhindra R.		
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95	Mr. MAHADEVA C K	G MADEGOWDA INSTITUTE OF TECHNOLOGY	KARNATAKA
_			TAMIL
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97	Mrs.AartiRana	Chitkara University	PUNJAB
	Dr.SunilkumarShank		MAHARASH
98	arrao Patil	Walchand institute of Technology	TRA
99	Mr.Sharath B	Dr.Ambedkar Institute of Technology	KARNATAKA
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	Mr. GOWRISH		
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	Mr. THAKAR	G N Patel college of Dairy Technology	
102	MIHIRKUMAR	SardarkrushinagarDantiwada Agricultural University	GUJARAT
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104	Mrs. KIRLAMPALLI	Aurangabau	ANDHRA
105	HARIJA RANI	GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING	PRADESH
106	Mr. GIRISWAMY BG	SRI VENKATESHWARA COLLEGE OF ENGINEERING	KARNATAKA
107	Mr.Sukanth B P	DSDNP	KARNATAKA
108	Mrs.Rashmi B J	STJIT	KARNATAKA
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109	Dr. C S Ravichandran	Sri Ramakrishna Engineering College	NADU
103	Dr. C 3 Navichanaran	311 Namaki 31111a Engineering conege	ANDHRA
110	Dr. PADALA SUJATHA	Government PolytechnuicRajampeta	PRADESH
	Divivious terroristics to the second terroristic terroristic terroristics to the second terroristic terroristic terroristic terroristics to the second terroristic terroristic terroristics to the second terroristic terroristi	- Covernment i oryteomiaionajampeta	MAHARASH
111	Miss Nidhi Singh	Visvesvaraya National Institute Of Technology	TRA
	Mr. D	,	ARUNACHAL
112	DEVARASIDDAPPA	RAJIV GANDHI GOVT. POLYTECHNIC	PRADESH
113	Mr. SUNDARESAN T B	P.A.C.RAMASAMY RAJA POLYTECHNIC COLLEGE	TAMIL NADU
			MAHARASH
114	Miss Ayushi Mishra	VNIT	TRA

	T		
	Mr. GAIKWAD		
	SWAPNIL		MAHARASH
115	ANDKISHOR	S B PATIL COLLEGE OF ENGINEERING INDAPUR	TRA
	Mr. SUMANT		
	MANDAR		
116	MUKUNDRAV	BABARIA INSTITUTE OF TECHNOLOGY	GUJARAT
	Dr. S. ANAND		TAMIL
117	KUMAR VARMA	EGS PILLAY ENGINEERING COLLEGE	NADU
	Dr.SomnathGuruling		MAHARASH
118	ayyaKolgiri	S B Patil College of engineering Indapur Pune	TRA
119	Mrs. N Yashaswini	Sreenidhi Institute of Science and Technology	TELANGANA
	Mrs.sonalianantdesh		MAHARASH
120	mukh	S.B.Patil College of Engineering Indapur	TRA
121	Mr. CHANDRA K	SMT. L. V. GOVERNMENT POLYTECHNIC, HASSAN	KARNATAKA
	Dr.Seetha Rama Raju		
122	V	CVR college of engineering	TELANGANA
	Mr. A Guru		ANDHRA
123	brahmam	AMET University	PRADESH
			TAMIL
124	Mr. RAGIN T	Stella Mary's College of Engineering, Aruthenganvilai	NADU
			ANDHRA
125	Mr.Jangam Ramesh	The National Institute of Engineering, Mysuru	PRADESH
126	Mr.NagarajShet	VNRVJIET	KARNATAKA
			WEST
127	Dr. JAYATO NAYAK	VSB ENGINEERING COLLEGE KARUR	BENGAL
		SIR ISSAC NEWTON COLLEGE OF ENGINEERING AND	TAMIL
128	Mr. VADIVELAN T	TECHNOLOGY	NADU

Program Opening Remarks by the Coordinator

Dr. C R Rajashekar.

Introduction to FDP

The Co-ordinator of the FDP, welcome the Participants to the 5 day online FDP on "Emerging trends in sustainable technologies". The objective of this faculty development program is to provide an exposure to faculty members, practicing engineers and Post Graduate students, to the concepts of Recent Advances in Renewable Energy Technologies. The FDP emphasis on Societal Impacts of Ever increasing Energy Demand, Need to Switch to greener Alternatives in the Energy domain, An Overview of Sustainable Technologies, Product Prototypes in Renewable Energy Systems and Sustainability, Solar Photovoltaic Technology, Thermal Management of photovoltaic modules, Fault identification in Solar farms, Sustainable Energy Integration in Smart Cities, Design thinking of Conventional and Hybrid Electric Power trains, Sustainability in Heating Ventilating Air Conditioning and Refrigeration, Wind energy conversions, etc.

India is one of the countries with large production of energy from **Renewable Sources**. As of 31 March 2020, about 35.86% of India's installed electricity generation capacity is from renewable sources, generating 21.22% of total utility electricity in the country. In the Paris agreement, India has committed to an **Intended** Nationally Determined Contributions target of achieving 40% of its total electricity generation from **non-fossil fuel sources** by 2030. The country is aiming for even more ambitious target of 57% of the total electricity capacity from **renewable sources** by 2027. According to 2027 blueprint, India aims to have 275 GW from **renewable energy**, 72 GW of hydroelectricity, 15 GW of nuclear energy and nearly 100 GW from "other zero emission" sources.

There are about 15 sessions arranged for this FDP, including one session of human value on **Health & Happiness**. We have wonderful audience, as registered candidates are from various streams of Engineering. I request the candidates to attend the all the sessions and maintain 80% of attendance. On the last day of the programme one MCQ test will be conducted. The questions will be based on all 15 sessions. After the test, the candidates are

requested to give the feedback which is available on candidate's portal to receive the FDP certificate from AICTE.

I take this platform to thank ATAL-AICTE for having given an opportunity to organize an FDP and have good network with you all. I would like to express our deep and heart-felt gratitude to **Dr Ravindra Kumar Soni**, Director and **Dr. Girdhari Lal Garg**, Assistant Director of ATAL for good support and timely suggestions to organize this programme.

I personally thank our Management in particular our Chairman **Mr Rajesh Chowta** and our Principal **Dr G L Easwara Prasad** for their great support in organizing this programme.

Once again I welcome you all to this FDP. Have wonderful days ahead.

AICTE- ATAL Common Inauguration



Dr. Ravindra Kumar Soni, Director, AICTE greeted and addressed and About ATAL FDP. Principals of 38 Host Institutions expressed their views on FDP. Prof. M.P. Poonia, Vice Chairman, and Prof. Anil D. Sahasrabudhe, Chairman All India Council for Technical Education (AICTE), New Delhi addressed and spoke about the importance of faculty development program and also explained why faculties should be well aware of recent technologies used in industries.

Dr. N H Siddalinga Swamy, Director, AICTE, proposed vote of thanks to the fourth gathering.

Date:07.09.2020

Time:9:30 AM to 11:00 AM

Resource Person:Mr. Deva P. Seetharam

Founder, Managing Director

Data Glen Technologies, Bangalore



"An overview of Sustainable Technologies"



An excellent talk provided by **Mr. Deva P** on sustainable technologies which had gained an immense knowledge on many concepts as mentioned below,

- Sustainability related to climate change
- Climate change caused by greenhouse effect and effects of climate change
- Human involvement related to increase in global surface temperature
- Information of micro grids and conventional grid design
- Scientist R. smalley a Nobel prize winner, discussed about top 10 problems facing humanity
- Energy is the crucial issue (pertaining to generation & consumption)
- Microgrids is a localized grouping of generation, storage and loads (classified as offline, backup, online)
- KBFSC energy issues, DG optimization, battery based optimization (cost saving techniques),
 demand optimization with Collaborative scheduling
- Major elements of SOLAR O&M (Operations and maintenance)
- Major variables influencing extent and cost of O&M
- DATA driven solar portfolio management system (Portfolio system)
- Optimize panel cleaning schedules, Analyse O&M response, track shading issues, benchmark and forecast generation, DER Optimization,
- Environment costs of lithium (E-vehicles)

Date:07.09.2020

Time:2:30 PM to 04:00 PM

Resource Person: Sri. Sanandana Das

ISKON, Mangalore

Topic:

"Health and Happiness"

A personality development session was provided by Sri. Sanandana Das, to control the behavior as faculties and as a person.

- He spoke about self Management and its importance in day to day life.
- How to overcome stress and be positive in work life.

Date:07.09.2020

Time:7:00 PM to 8:30 PM

Resource Person: Mr Ganesh Shankar,

Founder & Managing Director, FluxGen Engineering Technologies,

Bangalore.



Topic:

Product Prototypes in Renewable Energy Systems and Sustainability"

A professional person briefed about an idea on how to convert from prototype to a product on various projects related to IoT and data science. He gained immense knowledge through a startup which he worked initially, gave him a thought on developing such kind of innovative models using IoT in renewable energy sources.

He explained below mentioned points through this platform

- How to work on a idea which converts from Concept stage to an implementing stage.
 Ex: Power grid model demonstration which uses the software FluxGen Smart Renewable Energy Micro grid (to analyze individual home power conception)
 He also explained about a case of Solar PV Micro-Grid at Mendil, Belgaum
- How to implement a prototype model
 He explained about the case of Solar powered Water Management using EWM to
 systematically measure and manage the water in the entire campus which include water flow
 in 50 different location. Two bore wells, two water pumps, four sumps and an overhead
 tank.(water flow and level monitoring system software by FluxGen)
- Installing a pilot system (proof of concept)

 Developed a IoT based water usage and wastage tracking system for monitoring tracking using software connected to IoT.
- Product development challenges and field issues
- IoT value chain
 Connectivity between devices, ingestion of data, circuit boards, design of programmable code,
 big data analytics and Demonstration of IoT based systems

Date:08.09.2020

Time:9:30 AM to 11:00 AM

Resource Person: Dr. Dhiraj Patil

Professor

IIT, Dharwad, Karnataka



Topic: "Solar Thermal Energy Systems"

Prof**Dhiraj Patil** started his presentation with detailed case studies involved in Fusion reactions, solar physics, and world radiation center.

- Importance of study related to Sun's surface activities- solar flares, solar stormSpectral distribution of solar irradiance
- He also expressed the importance of Renewable energy (Green energy initiatives) India launched National solar mission (solar radiation resource assessment) stations and also National institute of wind energy.
- He also explained in detailed technical parameters involved in selecting solar energy as a source for power generation with high efficiency as Solar angles, solar thermal collector system(unglazed EPDM Collector, flat plate, evacuated tubes, parabolic trough, photovoltaic conversion, solar thermal conversion)
- Intensity Solar radiation parameters. Concentrating solar thermal power plants
- Parabolic trough collectors(PTC) are used in the longest operating solar thermal power facility in Mojave Desert in California, USA (solar energy generating system (SEGS)

He concluded the session by briefing about the roles and responsibilities of engineers in renewable energy resources.

Roles of civil engineers in CSP's

(Site overview, availability of water(primary/secondary circuit) site preparation (survey, leveling, foundation), construction and its stability.

Roles of electronics, data science engineering in CSP's

IoT devices- energy supply chain integrated with the solar photovoltaic cells and thermal energy case studies.

Date:08.09.2020

Time:11:15 AM to 12:45 PM

Resource Person: Dr. Arunachal U Chandavar

Professor

MIT, Manipal, Karnataka



Topic:

"Thermal Management of photovoltaic modules; recent advances in parabolic trough collector"

Professor **Arunachal U Chandavar** has an extensive experience in the field of thermal engineering, solar thermal energy systems, fluid mechanics, and thermodynamics.

- He started the presentation on how to Harness of solar energy through thermal & photovoltaic route.
- How effective is the solar energy in generating power
- Classified the system to low, medium and high temperature system.(concentrating and non-concentrating type)
- How Scaling of tubes will reduce efficiency of flat plate collectors.
- He also explained regarding Thermo syphon systems (solar water heater).
- He also shared the concept in detailed overview of solar distillation, solar dryer, and absorber surface treatment.
- Explained regarding Concentration ratio with paraboloid collector for dish (aperture area).
- Detailed study of Importance in selecting parabolic trough collector for collecting the radiation of solar energy.
- Design of solar parabolic trough collector including focal point that can be tracked in such a way that around the time to collect the solar radiation through reflectors.(Concentrating collectors)
- He also clarified about how circular solar collector for close water open air (CWOA) heated humidification and dehumidification process is used and its advantages and disadvantages.
- He also clarified about among various Nano materials that are available which offers greater stability in terms of dispensing water.
- Non concentrating solar simulator with water cooling duct how performance changes
- He three methods to improve the performance or heat transfer augmentation Surface based (reflector surface, evacuated glass, absorptivity and emissivity)

Date:08.09.2020

Time:2:30 PM to 4:00 PM

Resource Person: Dr G N Kumar

Associate Professor.

Dept. of mechanical engineering

NITK, Suratkal



Topic:

"Sustainable Energy Integration in Smart Cities"

His areas of research include alternate fuels for IC, Simulation IC in heat transfer. Development and performance evaluation of hydrogen fuel spark ignition for vehicular application. Field of emission CI, volumetric gas flow rates in spark ignition engine.

He started his presentation with what are the Steps to be taken in energy initiatives to create smart cities.

European definition of a smart city -

"A city seeking to address public issues via ICT based solutions on the basis of a multi-stakeholder, municipally based partnership. These solutions are developed and refined through smart city initiatives"

Need for Smart cities?

- Uses data and digital connectivity to improve its core functions.
 - Sustainability energy management.
 - Coupled with internet of things.

Why smart cities?

- Overload of people in cities
- Energy demands are increasing in the cities
- Rapidly growing carbon footprint in the cities
- Urban consumption data collection and analysis
- Transportation energy and mobility
- Building model solution environment
- User centric consideration
- System integration
- Looking for a probable energy resource over the period of

time

- Including the source with existing technology.
- Further migrating to the probable carbon free sustainable source

The assessment of energy for smart

cities?

Date:09.09.2020

Time:9:30 AM to 11:00 AM

Resource Person: Dr Poornesh Kumar K

Professor,

NITK, Suratkal

Topic: "Design thinking of Conventional and Hybrid Electric Powertrains"



Dr. Poornesh is working in NITK Suratkal with an immense knowledge on hybrid Electric powertrains. He started his presentation with a BLOOM'S TAXONOMY which gives knowledge on working on some concept in a professional manner (Create, Evaluate, Analyze, Apply, Understand, and Remember). He also briefed about recent advancements in recent trends in hybrid electric powertrains technologies projects which are on table.

- He shared information pertaining to Government of India is adopting a technique which has a faster adoption and manufacturing hybrid and EV (FAME)-2 which comes under Ministry of heavy industry.
- Hybrid/electric vehicle types-detailed Mild hybrid, Full hybrid, plug-in hybrid, BEV with REX (limited charge infrastructure), Full electric (comprehensive charging infrastructure)
- He explained detailed flow chart related to policy making of Electric vehicle Ecosystem in terms of Battery technology, GRID systems, OEMs of customers.
- He also given information about OEMs of Mega manufacturing companies of automotive sector in production of E-vehicle in future production and implementation stage.
- What is the impact of E-vehicle on conventional infrastructure (IC engine and its parts, motor and controllers, tyres, transmission, lead acid batteries, wiring harness, acid developments, suspensions and braking)
- He also shown importance of E-vehicle needs in market as per the requirement of the customers.
- Explained about the Difference between design of conventional powertrain andbatteries operated powertrain.
- Fully electric power train have certain advantages as high efficiency, regenerative braking, no emissions, and Low noise.
- Explained about the difference between Series hybrid powertrain and parallel hybrid powertrain and its commercial use in market with advantages and disadvantages.

Date:09.09.2020

Time:11:15 AM to 12:45 PM

Resource Person: Dr. Shashikantha Karinka,

Professor,

NMAMIT, Nitte, Karnataka.



Topic:

"Societal Impacts of Ever increasing Energy Demand"

Dr shahikantha started his presentation by explaining about the societal impact which caused drastic increase in energy demand due to increasing greed for human comfort and ever increasing population with an best example about China and India drive global demand for Air conditioning.

He explaining about the facts which will result with the current rate of depletion of naturally available resources namely oil, natural gas & coal and also improvement in energy resource like renewable energies.

He briefed about the total energy consumption by the world's biggest population countries which are using hydro, geothermal, wind/solar and biomass energy.

Sector wise energy consumption in India (industry remains the biggest consumer of commercial energy and its share in the overall consumption near to 50 %.)

India electricity scenario-2020

- Online generation load balancing by forecasting loads from historic trends
- India distribution caters of load over millions of customers with distribution utilities
- Overall transmission and distribution losses in India
- Renewable energy share is about 16%

Explain about the societal impacts of using fossil fuels

- Existential (limited life of the resources)
- Political (concentrated in politically unstable regions of the world, mainly petroleum)
- Environmental (causes pollution, global warming and climate change issues)

He also explained about the importance of human impact on

- nitrogen cycle in an ecosystem
- sulphur cycle in an ecosystem
- oxygen cycle in an ecosystem

He concluded the session by giving detailed overview on what is the alternative to the depleting conventional fuel resources renewables and how to overcome it by choosing the best practices.

Date:09.09.2020

Time:2:30 PM to 4:00 PM

Resource Person: Mr. Ravi Ranjan

Lead Engineer

Mahindra Research Valley, Tamilnadu.

Topic:

"Methodologies for Range Optimization of an Electric vehicle for Sustainable Mobility-A Thermal Perspective"



Mr Ravi Ranjan started his presentation with the need for EV's – sustainable Mobility, where regulation is the major driving factor in automotive field.

He briefed about the Information about certain functionaries which regulate and issue the guidelines for effective implementing mobility strategies such as,

- REGULATING BODY: Bureau of energy efficiency (BEE)
- IMPLEMENTATING AGENCY: Ministry of road transport and high (MoRTH)

Explained for the need of innovation and future vehicle trends at present scenario.

He differentiated between Hybrid electric vehicle and pure electric vehicle about their challenges facing to implement new concepts of cleaner energy.

Following factors to be considered while designing and implementing such E-vehicle Affordability, Performance, Maintenance, Reliability & efficiency, Vehicle range, Charging infra, Environment

He also explained about electric vehicle (EV) Policy Development Cycle (Identify, Understand, Evaluate, Develop, and Implement) and also about electric vehicle segment.

He also briefed about Battery pack economics (average li-ion battery price & cost structure).

He extended his talk on Problems and key challenges facing by electric vehicle design such as (thermal management of EV batteries, optimal performance, managing temperature fluctuations, reusability, cooling systems).

Proposed solution- Methodology

Vehicle range optimized thermal management, control logic & hardware.

Vehicle range optimization will be achieved mainly through vehicle thermal and energy management.

- Battery and powertrain thermal management
- Vehicle cabin thermal management

He concluded the session by briefing about the **E-vehicle layout**.

Date:10.09.2020

Time:9:30 AM to 11:00 AM

Resource Person:Dr. Shiva Kumar

Associate Professor,

MIT, Manipal, Karnataka



"Desiccant based dehumidification techniques for Sustainable Energy Applications"



Dr Shiva Kumar (energy systems) has started his presentation by giving introduction about importance of sustainable Energy in the environment which we are living as defined by comfort zone.

- He briefed about Humidity levels needed for comfort zone which a human being is expecting to avoid with respect to health issues. And also given information about relative and specific humidity.
- He had shown the importance of temperature parameters related to summer air conditioning system installed as per the requirement of human comfort.
- Drawbacks with conventional AC systems (HVAC- 40-50% consumption of total energy)
- He also explained about the selection of refrigerant such as R11, R12 for effective cooling with minimum energy consumption. (Lifetime, ODP and GWP of refrigerants)
- Evaporative cooling technology- alternative cooling method consuming less energy with providing required thermal comfort inside building.

Cooling pad material is an important parameter on which the performance of the cooler depends. Selection of material should possess huge water absorbing and holding capacity, increased porosity, huge flow area, and reduced weight. (ORGANIC BASED, METALLIC BASED, PLASTIC BASED, NATURAL FIBER BSED & STONE BASED)

He briefed about the **LIQUID DESICCANT DEHUMIDIFICATION**system in the normal air conditioning atmosphere. Components required for instant system such as Desiccant solution, packing unit, regenerator, flow measuring and controlling devices.

Compassion between LDS & VCR with respect to environmental aspects.

Types of liquid descent – **lithium bromide**, **lithium chloride**, **calcium chloride**, Tryethyleneglycol(TEG), POTASSIUM FORMATE (Hcook), mixed Desiccant (Li Cl+ Hydroxyethyle Urea)

He concluded the session with detailed study of composite desiccants can be achieved through research activities.

Date:10.09.2020

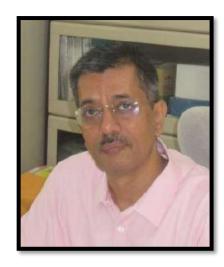
Time:11:15 AM to 12:45 PM

Resource Person: Dr. Milind V Rane

Institute Chair Professor,

Mechanical Engineering Department,

IIT Bombay



Topic:

"Options for Improving Sustainability in Heating Ventilating Air Conditioning and Refrigeration, HVAC&R"

Dr. Milind has an immense knowledge in HVAC & R, following are the important points discussed in this presentation.

Brief overview of various technologies

• Electric and heat driven multi utility heat pumps, exhaust heat recovery, renewables

Need and scope for super heat recovery, heat pumps and waste heat recovery

Various waste heat recovery systems and their salient features

- Exhaust heat recovery units: engine, gas turbine, furnace and stentor.
- Plastic and aluminum air to air heat recovery units: air conditioning systems.

Applications of super heat recovery water heater and heat pumps

- Review of conventional heat exchangers used for recovery
- Salient features of the novel patented tube-tube heat exchanger, TT_HE

Case studies along with economies for SHR_WH and Heat pumps

- 60 TR R22 chiller at a Hotel: 270TR R717 refrigeration system at a dairy: 8.3 TR R22 Air cooled duct able split air conditioner at fast food outlet
- 33 KWh MU_HP solution heater at automotive factory: 36KWh air source heat pump water heater

Solar collectors and their salient features

• Plastic air heaters, evacuated glass tubes based air heaters, steam generator, EGT+Heat pipe based LD solar multi-utility heat pumps: EGT adsorption refrigerator cum water heater.

Date:10.09.2020

Time:2:30 PM to 4:00 PM

Resource Person: Dr. Shamasundar S

Professor

NIE, Mysore, Karnataka

Topic "Need To Switch To Greener Alternatives In The Energy Domain"



Dr. Shamasundar S has extensive knowledge on technologies related to green energy domain such as Biomass technologies (Kitchen waste biomass plant, Aerobic composters, bio fuels), Solar energy, micro grids, rain water harvesting, sustainable building materials, Muscle power technologies.

He started his presentation with brief overview of installed capacity for different sources of power-GW in FY-2015-18 such as Thermal, hydro, renewablesand nuclear.

CO₂ emission's released to atmosphere creates carbon footprint which leads to global warming.

BIOMASS TECHNOLOGIES- Organic Waste To Energy Technology

"kitchen waste biogas & composting technology for heat, power and manure generation-projects implemented by NIE-CREST, NIE, MYSORE, INDIA"

Biogas Benefits-

- Thermal applications: biogas can be directly used for cooking
- It can be used for hot water or steam generation
- Smoke free fuel

Waste Management Benefits-

- Clean, hygienic, convenient and ecofriendly way to treat the waste.
- Free from offensive odour or smell
- Electricity and water consumption is low
- Organic manure as a byproduct.

Current R&D work at NIE-CREST, Mysore, India

- Biogas scrubbing for purifying the biogas
- Biogas bottling
- Mobile mini biogas bottling busses
- Blending biogas & LPG

Date:11.09.2020

Time:9:30 AM to 11:00 AM

Resource Person: Dr. Yong Wang,

Professor, Dept. of Systems Science &

Industrial Engineering

SUNY - Binghamton University, New York.



Topic:

"Computer Vision Aided Autonomous Navigation System Using Overhead Cameras and Raspberry Pis"

Dr Yong Wang focused more on automation navigation system such as image processing, localization and mapping, path planning and tracking and also briefed about how raspberry pi is used to transmit the information from a sending error signal, capturing the dynamics and to find the location of the vehicle.

- He also explained functions of the concepts of Overhead camera & drive board and how it aids in autonomous navigation system.
- He also discussed some of the case studies pertaining to image processing of various other materials and efficiency of image processing and how the efficiency can be improved.
- He also explained regarding Mini camera, Raspberry pis, drive board, Robocar.
- He also briefed about system connection and wireless communication i.e. wiring and wireless protocol.
- GPIO pins and wire connections loosen easily due to movement and vibration
- Poor contact, action delay, no response, short circuit; soldering to increase reliability
- He also explained about design and implement a computer vision-based autonomous vehicle system

Date:11.09.2020

Time:11:15 AM to 12:45 PM

Resource Person: Dr Gangadharan

Professor

NITK, Suratkal

Topic:

"Fault identification in solar farms"



He spoke more on solar energy harvesting. His more focuses on defects, failures, and how to detect the failure of solar panel.

- He explained several solar farm fault detection methods such as visual inspection photo inspection
- Thermal imaging and drone thermal imaging.
- He is also explained parameters such as angle of inclination and vertical distance required for the efficient mode of thermal imaging`
- He explained the critical reasons for PID diode failure
- He also explained P-type silicon cell is less compared with N-type silicon cell.
- He included information regarding solar panel size and availability of PV cells.
- He also showed some of the practical images of defected solar panel

Date: 11.09.2020

Time: 2:30 PM to 4:00 PM

Resource Person: Dr Satyabhama

Professor

NITK, Suratkal

Topic:

"Bio inspired flow control technique for wind turbine performance enhancement"



Dr Satyabhama started her presentation by briefing about importance of renewable energy technologies and its application related to wind power generation. Wind power generation technologies need high focus on blade design. And she also shared statistics of global wind energy generation and consumption.

Quoted an example – Innovation inspired by Nature

- How technology can be adopted from nature and how to draw inspiration from the same.
- She also focused more on wind energy conversion and utilization. She briefly explained phenomenon on the concepts of lift and drag.
- She continued to explain the behavior of laminar flow and turbulent flow on the turbine blade.
- She explained thermal analysis of flow of air over flat plates
- she explained flow control techniques to improve the efficiency of wind turbine
- She concluded session by briefing out research carried on wind turbine blades and future research works involved in it.

Program Conclusion Remarks by the Coordinator Dr. C R Rajashekar.



Welcome to the conclusion session of AICTE Training and Learning (ATAL) FDP sponsored by AICTE, New Delhi

It is clear that there is a strong need to integrate more renewable energy sources into the grid of the future. These kinds of energy sources, when coupled with energy storage, can greatly benefit the grid by offering a variety of ancillary services and daily peak load reductions. Storage technologies will vary according to different renewable energy sources and a greater variety of sources will lead to more grid stability.

Ongoing concerns about climate change have made renewable energy sources an important component of the world energy consumption portfolio. Renewable energy technologies could reduce CO2 emissions by replacing fossil fuels in the power generation industry and the transportation sector. Because of some negative and irreversible externalities in conventional energy production, it is necessary to develop and promote renewable energy supply technologies and demand for renewable energy. Power generation using renewable energy sources should be increased in order to decrease the unit cost of generation. Energy consumption depends on several factors including economic progress, population, energy prices, weather, and technology.

The course was intended to discuss most of the Emerging trends in sustainable technologies and systems including the basic working principle.

The major topics covered in this programme were

- 1. Societal Impacts of Ever increasing Energy Demand, Dr Shashikanth Karnika
- 2. Societal Impacts of Ever increasing Energy Demand, Mr Deva P Seetaram, Data Glen Tecnologies
- 3. Product Prototypes in Renewable Energy Systems and Sustainability, Mr Ganesh Shankar, FlexGen Technologies, Bangalore
- 4. Thermal Management of photovoltaic modules; recent advances in Parabolic trough collector by Dr Arunachal Chandavara, MIT, Manipal

- 5. Fault identification in Solar system by Dr Gangadharan, NITK, Surtkal
- 6. Sustainable Energy integration in Smart cities by Dr Kumar G N, NITK
- 7. Design thinking of Conventional and Hybrid Electric Power trains by Dr Poornesh Kumar, NITK
- 8. Need to Switch to Greener Alternatives in the Energy domain by Mr Raviranja, M&M, Chennai
- 9. Desiccant based dehumidification techniques for Sustainable Energy Applications by Dr. Shivakumar
- 10. Options for improving Sustainability in HVAC by Dr M V Rane, IIB
- 11. Wind energy technologies by Dr Sathya Bhama, NITK
- 12. Health and Happiness by ISKON

We would like to thank all the Experts from the different reputed academic institutes, Research laboratories and industries who have very effectively delivered the various aspects of the programme in detail.

Thanks to ATAL for having considered our proposal and sponsoring to organize the programme. I am indeed very thankful to **Dr Ravindra Soni**, Director, ATAL and **Dr Gidari Garg**, Assistant Director for timely suggestions in organizing the programme.

I thank our Chairman Mr. Rajesh Chowta and Principal for great support in organizing such programme.

Special thanks to all my dear participants. Being a faculty member and having teaching responsibility, you made your time to attend this FDP. I hope you are all comfortable with all the sessions. Please take the knowledge gained in this FDP and empower your students.

Dear participants please note the following:

- 1. Attendance will be uploaded after the programme
- 2. Test is scheduled 11/9/2020 at 7.00 pm, will be opened till 10.00 pm
- 3. Candidates have to give the feedback about the programme after obtaining 60% of marks in the test.

 Then only they get e-certificate from ATAL within two working days