



# PDEU

PANDIT DEENDAYAL ENERGY UNIVERSITY

Formerly Pandit Deendayal Petroleum University (PDPU)

# SOT

SCHOOL OF  
TECHNOLOGY

NEWSLETTER

January  
2021



## SCHOOL OF TECHNOLOGY

### DEPARTMENT OF MECHANICAL ENGINEERING

#### FACULTY ZONE

- > Publications - Journals
- > Patents
- > Administrative Assignments
- > Events/Webinar Organized

#### FACULTY ZONE

- > Consultancy
- > Professional Activities
- > DC Conducted
- > Professional Visits

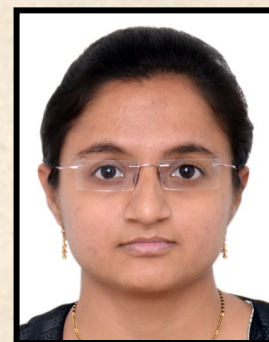
#### STUDENT ZONE

- > Webinar Attended
- > Seminar
- > Project

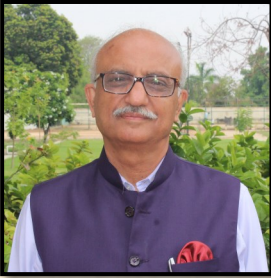
### Editorial Team



**Dr. Pankaj Sahlot**  
Faculty Coordinator



**Mrs. Pooja Nimavat**  
Staff Coordinator



## DIRECTOR'S DESK...

### **Prof. Sunil Khanna**

Dear Colleagues and Students:

Industry 4.0 (the fourth Industrial Revolution) encapsulates the future development trends to achieve more intelligent manufacturing. As we @ PDEU embark on this journey to towards Industry 4.0, I am Happy to Introduce the next issue of the Newsletter which not only share with all its readers the latest news and developments in the Department of Mechanical Engineering but would also be sensitizing all of us on the latest trends and developments in the Fourth Industrial Revolution.

The limitless power of technology to do good and the conviction of my faculty colleagues and students that the golden age is ahead of us - and not behind us – brings about the best in all of us which is reflected in their achievements.

Compliments to the editorial team for their passion for perfection and unbound creativity which makes me always look forward to the next edition of the Newsletter.

## HEAD OF THE DEPARTMENT'S DESK ...



### **Prof. Vishvesh Badheka**

It gives me immense pleasure to share Newsletter of the Mechanical Engineering Department, January 2021. Mechanical Engineering Department is the most happening Department of the School of Technology. Newsletter gives an overview of the activities carried out by students, staff and faculties during the month. You may please share your feedback, comments & suggestions to the coordinators.



## FACULTY

## PUBLICATIONS

### JOURNALS

The following Journal are published by Department of Mechanical Engineering in the month of January 2021:

⇒ Omkar Halbe and **Harshal Oza**, "Robust Continuous Finite-Time Control of a Helicopter in Turbulence", IEEE Control Systems Letters, Vol. 5, pp-37-42, Print publication January 2021. First published online June (2020).

<https://ieeexplore.ieee.org/abstract/document/9105064>.

⇒ Sharma, D. K., **Badheka, V.**, Patel, V., and Upadhyay, G. "Recent Developments in Hybrid Surface Metal Matrix Composites Produced by Friction Stir Processing: A Review" ASME, J. Tribol. 143(5): 050801, May (2021).

<https://doi.org/10.1115/1.4049590> (published online on 7th Jan)

### BOOK CHAPTER

The following Book Chapter are published by Department of Mechanical Engineering in the month of January 2021:

⇒ **S.J. Singh** and S.P. Harsha, "Free Vibration Analysis of Sandwich Plate with Honeycomb Core and FGM Face Sheets", Advances in Systems Engineering, Lecture Notes in Mechanical Engineering, Springer, Singapore, pp.905-917 24th January (2021).

[https://doi.org/10.1007/978-981-15-8025-3\\_85](https://doi.org/10.1007/978-981-15-8025-3_85)

⇒ V. Kumar, **S.J. Singh**, V.H. Saran, S.P. Harsha, "Effect of Foundation on Free Vibration of Tapered Functionally Graded Material Plate", Advances in Systems Engineering, Lecture Notes in Mechanical Engineering, Springer, Singapore, pp. 889-904 24th January (2021).

[https://doi.org/10.1007/978-981-15-8025-3\\_84](https://doi.org/10.1007/978-981-15-8025-3_84)



## FACULTY

## PATENTS

*Dr. M. B. Kiran* submitted a Design Patent titled “Vision Inspection” to Indian Patent Office on 14th January 2021.



## ADMINISTRATIVE ASSIGNMENTS

*Dr. M B Kiran* is invited as a reviewer in recognition of professional membership in the technical committee of 2021 7th International Conference on Mechatronics and Robotics Engineering (ICMRE 2021) to be held in Budapest, Hungary on 3rd to 5th February 2021.

*Dr. Ravi Kant* coordinated with two PMRF (Prime Minister's Research Fellows) namely Mr. Yogesh Singh and Mr. Prassana Kulkarni from IIT Gandhinagar, to take 1 hours of tutorial session at PDEU every week. Mr. Yogesh will be TA assistant to Dr. Ravi Kant for the course Control System Engineering and Mr. Prassana Kulkarni will be TA assistant to Dr. Rajesh Patel for the course Fluid mechanics Lab.

*Dr. Simranjeet Singh* attended the first DC meeting of Dhaval Dave (SPM, Roll No. 20202004) as a DG Nominee on 29th January 2021 at 3:00 pm through MS Teams.



# FACULTY

## EVENTS /WEBINARS ORGANIZED

**Dr. Harshal Oza** organized webinar titled "The Ultimate Design toolkit" under ASME Student Chapter, PDEU dated 30 January 2021 (11:00 am to 12:00 pm).

Revised Social Media - 152



**SOT**  
SCHOOL OF TECHNOLOGY

**ASME**  
SETTING THE STANDARD  
PDPUP STUDENTS CHAPTER

**PDEU**  
PANDIT DEENDAYAL PETROLEUM UNIVERSITY

**PDPUP**  
PANDIT DEENDAYAL PETROLEUM UNIVERSITY

**WEBINAR**

# The Ultimate Design Toolkit

BY DEPT. OF MECHANICAL ENGINEERING AND ASME STUDENT CHAPTER, PDPUP  
30<sup>TH</sup> JANUARY 2021, MONDAY | 11:00AM

**SPEAKER**  
**MS. KHEVNA MANKODI**  
(Owner- Phoenix Design Studio, CEPT Alumnus)

Register Now!

**zoom**

Department of Mechanical Engineering organized farewell function of **Dr Vipindas K** conducted on 8th January 2021.





## FACULTY

## EVENTS /WEBINARS ORGANIZED

**Dr. Vishvesh Badheka** organized the following webinars under IIW-PDPU Student Chapters during the month of January 2021 :

- ⇒ “A Young Professional Webinar on 1. Magnetic Pulse Welding, 2. Super plasticity in Al-Alloys, 3. Weldability of Mg-Alloys, 4. Friction Stir Forming, 5. Ultrasonic Welding” by M. Tech Students on 6<sup>th</sup> January 2021.
- ⇒ “Welding – Most lucrative career option for Engineers” was delivered by Mr Amrit Yoga, Sr. Manager-Marketing, Panasonic Smart Factory Solutions India jointly with Panasonic Smart Factory Solutions India (PSFSIN) on 8<sup>th</sup> January 2021.
- ⇒ A Young Professional Webinar on 1. Friction Stir Welding of Polymer to Metal 2. Friction Stir Scrib Welding, 3. Friction Stir Forming, 4. Friction Stir Spot Welding and its variants, by B. Tech students on 13<sup>th</sup> January 2021.
- ⇒ “Welding process training - MIG/MAG welding” was delivered by Mr. Amrit Yoga, Sr. Manager-Marketing, Panasonic Smart Factory Solutions India jointly with Panasonic Smart Factory Solutions India (PSFSIN) on 29<sup>th</sup> January 2021.



## CONSULTANCY

**Dr. M. B. Kiran** conducted Executive Development Programs on 07th and 14th November 2020. given on 5th November 2020.

# FACULTY

## PROFESSIONAL ACTIVITIES

The faculties from *Department of Mechanical Engineering* presented the Posters in 1st Faculty Research Review Symposium on 4th January 2021:



Name of Faculty	Title of the Poster
Dr. Anirudh Kulkarni	Improving The Thermal Performance of A Flat-Plate Solar Collector Using Conjugated Porous Blocks
Dr. Ravi Kant	Aerial Thermography Inspection Of Large Solar Power Plant Using Unmanned Aerial Vehicle
Dr. Vinay Vakharia	A Random Forest and Deep Learning Sequential Neural Network Model for Diagnosis of COVID-19 Infections using CT Scan Images
Mr. Kishan Ashok Fuse	Hybrid Self-reacting Friction Stir Welding of AA 6061-T6 Aluminum Alloy with Cooling Assisted Approach
Mr. Parth Prajapati	Comparative Analysis Of Nano Fluid-Based Organic Rankine Cycle Through Thermo-Economic Optimization
Dr. Rajesh Patel	Thermo-Electric Cooler and Bubbler Humidifier based Water Desalination System
Mr. Rahul Deharkar	Investigation Of Small Scale Vertical Tube Evaporator Multi Effect Desalination System
Dr. Jaydeep Patel	A Novel Geometric Pattern Based Approach To Maximize Power Output Of A Wind Farm
Dr. Rakesh Chaudhari	Experimental Investigations of WEDM Process for Nitinol Shape Memory Alloy
Mr. Manjeet Keshav	Prediction Of Magnetic Field In Magnetorheological Elastomers Using Artificial Neural Network
Dr. M. B. Kiran	Innovative Inspection Of Surface Texture –In Industry 4.0 Scenario
Dr. Harshal Oza	Robust Continuous Finite-Time Control of a Helicopter in Turbulence
Dr. Jatin Patel	Low-Cost Renewable Energy Driven (LC-RED) Water Treatment Solutions Centre



# FACULTY

## PROFESSIONAL ACTIVITIES

The faculties from *Department of Mechanical Engineering* presented the Posters in 1st Faculty Research Review Symposium on 4th January 2021:

Name of Faculty	Title of the Poster
Prof. S.S Kachhwaha, Dr. Nagababu, Mr. Bhasuru Abhinaya	Wind And Wave Energy Resource Assessment And Climate Change Studies
Prof. Surendra Singh Kachhwaha	In-Situ Biodiesel Production Using Process Intensification Techniques: Process Optimization
Dr. Vivek K Patel	Performance improvement of centrifugal pump through an integrated approach based on multi-objective optimization algorithm, CFD and experimentation
Dr. Krunal Mehta	Tribological characterization of Al 6061 surface composites manufactured using Friction Stir Processing
Dr. Vivek Kumar	Elastohydrostatic Lubrication of Control Flow Valve Compensated Thrust Bearing
Dr. Simran Jeet Singh	Nonlinear dynamic analysis of sandwich S-FGM plate in thermal environment
Dr. Jaykumar Vora	Optimization of A-TIG welding parameters for carbon steels by advanced parameter-less optimization techniques: with experimental validation
Dr. Abhishek Kumar	Micro-Machining Characteristics of Quartz Using Travelling Wire-Electrochemical Discharge Machining (TW-ECDM) Process
Dr. Nirav Patel	Multidirectional Damage Analysis of Composite Plates
Dr. Rajat Saxena	Utilization of Phase Change Material (PCM) as Thermal Shield for Building Energy Conservation
Dr. Kush P. Mehta	Rotation speed effect on copper to stainless steel joint by friction welding process on a pipe to pipe configuration (Jointly with Hardik D. Vyas, Vishvesh Badheka, Bharat Doshi)
Dr. Vishvesh Badheka	Various Mode Of Joining Nylon To Aluminium With Friction Stir Welding (Jointly with Nitesh Kumar Jha)
Dr. Vishvesh Badheka	Welding of copper using Hot Wire GTAW process (Jointly With Raghavendra Darji, Kush P. Mehta)



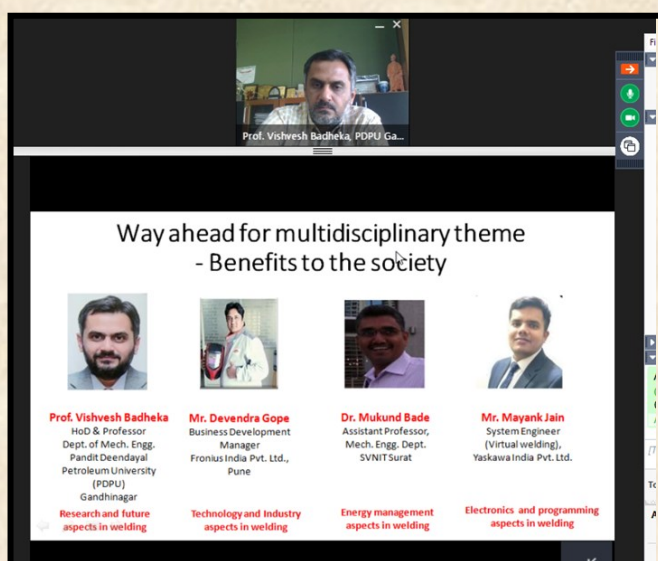


# FACULTY

## PROFESSIONAL ACTIVITIES

**Dr. Vishvesh Badheka** carried out the following professional activities in the month of January 2021:

- ⇒ attended Joint Management Committee (JMC) meeting of IACE-IIW held on 6th January 2021.
- ⇒ acted as an External Examiner for conducting Viva –Voice and paper setter the Material Science and Physical Metallurgy course for II year B. Tech Production Engineering students of Birla Vishvakarma Mahavidyalaya, Vallabh Vidyanagar on 7th January 2021.
- ⇒ member of the Panel Discussion on ‘Welding Research’ for ATAL Academy sponsored online Faculty Development Program (FDP) during 18-22 January 2021 organised by SVNIT Surat held on 22nd January 2021.
- ⇒ full day Manufacturing Processes Lab-I demonstrations for the first year M. Tech (Manufacturing) students(20MMM) conducted at Welding Research Lab. 10 demonstrations were conducted with the support of Mechanical lab staff, second year M. Tech and PhD students on 22nd January 2021.
- ⇒ attended Doctoral Progress Committee (DPC) at Government Engineering College (GEC) as an external expert held on 23rd January 2021.
- ⇒ attended Doctoral Progress Committee (DPC) at A. D. Patel Institute of Technology (ADIT) as an external expert held on 30th January 2021.



Panel discussion for ATAL Academy



First year M.Tech (Manufacturing\_20MTMM)


**FACULTY**
**PROFESSIONAL ACTIVITIES**

GATE classes conducted by Faculty members of Mechanical Engineering in Academic Year 2020-2021:

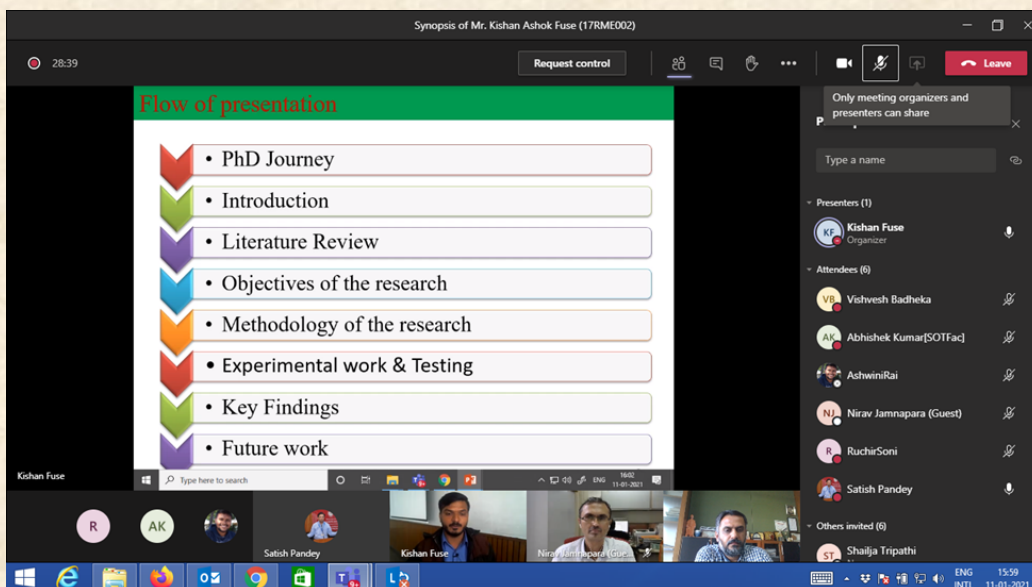
<b>Subject</b>	<b>Faculty</b>	<b>No.of hours</b>
Engineering Mechanics	Dr. Nirav Patel	4
Mechanics of Materials	Dr. Garlapati Nagababu	4
Vibrations	Dr. Vinay Vakharia	3
Machine Design	Dr. Simran Jeet Singh	3
Fluid Mechanics	Dr. Rajesh Patel	4
Thermodynamics	Dr. Jatin Patel	4
Machining and Machine Tool Operations	Dr. M.B.Kiran	4
Metrology and Inspection	Dr. M.B.Kiran	4
	<b>Total</b>	<b>30 hours</b>



# FACULTY

## DC CONDUCTED

DC Review	Date	PhD Scholar	External Expert	Guide/Supervisor
4th	4th January 2021	Mr. Rajesh Goswami 18RME002	Dr. Indravadan Dave	Dr. Jay Vora
6th	4th January 2021	Mr. Subhash Sukhdev Das 17RME005	Dr. Piyush Gohil	Dr. Jay Vora Dr. Vivek Patel
7th	4th January 2021	Mr. Rahul Vitthal Deharkar 16RME009	Dr. Subarna Maiti	Dr. Anurag Mudgal
2nd	5th January 2021	Mr. Dipak Ankolia 20RME001	Dr. Hiren D. Raval	Dr. Anurag Mudgal
4th	6th January 2021	Mr. Raghavendra Somabhai Darji 18RME008	Dr. Manoj Kumar Gupta	Dr. Vishvesh Badheka, Dr. Kush Mehta,
4th	6th January 2021	Mr. Vyas Hardik Dineshbhai 18RME009	Dr. Manoj Kumar Gupta	Dr. Kush Mehta, Dr. Vishvesh Badheka,
5th	6th January 2021	Mr. Ravikumar Pravinkumar Patel 18RME006	Dr. Rajesh Patel	Dr. Garlapati Nagababu Prof. S.S. Kachwaha
2nd	7th January 2021	Mr. Dhavalkumar Rajeshbhai Patel 20RME002	Dr. Jaichander Swaminathan	Dr. Anurag Mudgal, Dr. Vivek K. Patel
Synopsis	11th January 2021	Mr. Fuse Kishan Ashok 17RME002	Dr. Nirav I. Jamnapara	Dr. Vishvesh Badheka



Synopsis of Mr. Kishan Ashok Fuse (17RME002)

28:39

Request control

Flow of presentation

- PhD Journey
- Introduction
- Literature Review
- Objectives of the research
- Methodology of the research
- Experimental work & Testing
- Key Findings
- Future work

Kishan Fuse

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Only meeting organizers and presenters can share

Type a name

Presenters (1)

Kishan Fuse  
Organizer

Attendees (6)

Vishvesh Badheka

Abhishek Kumar[SOTFac]

Ashwini Rai

Nirav Jamnapara (Guest)

Ruchir Soni

Satish Pandey

Others invited (6)

Shailja Tripathi

Windows taskbar: e, AK, Satish Pandey, Kishan Fuse, Nirav Jamnapara (Guest)

Windows taskbar: ENG 15:59 11-01-2021

Synopsis presentation of Mr Kishan Fuse



## FACULTY



## PROFESSIONAL VISITS OUTSIDE PDEU

*Dr. Jatin Patel and Dr. Vivek K Patel* went to Industrial visit at Axis Solutions Pvt. Ltd to seek collaboration opportunity and explore the possibilities of UG and PG project work dated 11th January 2021.




## PROFESSIONAL VISITS AT PDEU

*Dr. Vishvesh Badheka* coordinated the visit of Mr Ashish Dave (12BME011) at Welding Research Lab regarding higher studies on 20th January 2021 .



# STUDENTS

## WEBINAR ATTENDED

Parth Kamleshbhai Bagerwal (18MMT001) attended “5th International Geothermal Conference: Geothermal as a Green Energy” on 21st January 2021 organized by Centre of Excellence for Geothermal Energy.

## SEMINAR - THERMAL ENGINEERING

Seminar for students of M. Tech Mechanical Engineering ( Thermal Engineering) conducted during January 2021 on the titles as given under:

Roll No.	Student Name	Supervisor	Seminar Title	Date
19MMT001	Dhruv Patel	Dr. Anurag Mudgal & Dr. Rajat Saxena	Recovery Of Lithium From Rejected Brine	07-Jan-21
19MMT003	Harsh Umaretiya	Dr. Anurag Mudgal & Dr. Jatin Patel	Solar Photo Phenton Process For Industrial Waste Water Treatment	07-Jan-21
19MMT004	Jaykishan Chamudia	Dr. Rajat Saxena/ Dr. Ojas Satbhai & Dr. Ravi Kant	Performance Improvement Of Thermal System Using PCM	07-Jan-21
19MMT005	Monil Shah	Dr. Rajesh Patel & Dr. Rajat Saxena	Waste Heat Recovery Heat Exchanger	08-Jan-21
19MMT009	Parth Patel	Dr. Rajesh Patel & Dr. Vivek K. Patel	Optimization Of Rankine Cycle For Domestic/Industrial Application	08-Jan-21
19MMT010	Pragnan Lad	Dr. Rajat Saxena & Dr. Vivek K. Patel	Heat Exchanger Design For Ther- mal Energy Storage	08-Jan-21
19MMT011	Saurabh Patel	Dr. Jatin Patel & Dr. Vivek K. Patel	Membrane Based Air Dehumidification System	08-Jan-21
19MMT012	Shweta Patel	Prof. S. S. Kachhwaha & Dr. Rajat Saxena	Imminent Threats Of Diesel Engine And Alternatives	22-Jan-21

# STUDENTS

## SEMINAR - DESIGN

Seminar for students of M. Tech Mechanical Engineering Design conducted during January 2021 on the titles as given under:

Roll No.	Student Name	Supervisor	Seminar Title	Date
19MMD001	Bhatt Bhagyesh Jayeshbhai	Dr. Simran Jeet Singh & Dr. Krunal Mehta	Robotic System: Safety & Design For Human Robot Interaction	08-Jan-21
19MMD002	Dharmik Gohel	Dr. Pavan Gurralla	Crack Detection Of Railway Track Using Unmanned Aerial Vehicle	05-Jan-21
19MMD003	Khatri Harsh Lalbhai	Dr. Simran Jeet Singh & Dr. Vivek Kumar	Finite Element Analysis Of Composite Leaf Spring	08-Jan-21
19MMD004	Patel Harsh Kiritkumar	Dr. Vinay Vakharia	Process Parameter Optimization Of Sheet Metal Drawing Process Using CAE Simulations	12-Jan-21
19MMD005	Harshrajsinh Chauhan	Dr. Ravi Kant	Cleaning Parameters Optimization Of Solar Panel Cleaning Machines Using DOE	11-Jan-21
19MMD006	Ingit Trivedi	Dr. Pavan Gurralla	Design For 4D Printing A Voxel-Based Modelling And Simulation Of Smart Materials	07-Jan-21
19MMD007	Jaimin Panchal	Dr. Vinay Vakharia	Fault Diagnosis using Generative Fault Diagnosis And Image Processing Applications In Medical	04-Jan-21
19MMD008	Keval Bhavsar	Dr. Vinay Vakharia	Remaining Useful Life (RUL) Image Processing And Machine Vision Applications In Manufacturing	04-Jan-21
19MMD009	Patel Kunjankumar Kantibhai	Dr. Nirav Patel	Design And Analysis Of Linear Thermal Actuator For Hexapod In Space Telescopes	06-Jan-21
19MMD010	Kush Shrivastava	Dr. Vivek Kumar & Dr. Simran Jeet Singh	Application Of Electro-Rheological Lubricant In Journal Bearings	08-Jan-21
19MMD011	Rikkin Acharya	Dr. Vinay Vakharia	Model Based System Engineering: A Case Study Approach	08-Jan-21
19MMD012	Savan Sanariya	Dr. Pavan Gurralla	Introduction To Non Linear Finite Element	05-Jan-21

# STUDENTS

## SEMINAR - DESIGN

Seminar for students of M. Tech Mechanical Engineering Design conducted during January 2021 on the titles as given under:

Roll No.	Student Name	Supervisor	Seminar Title	Date
19MMD013	Shivam Srivastava	Dr. Pavan Gurrala	Study The Thermal Process And Its Effect On FFF Process	11-Jan-21
19MMD014	Shubham Mishra	Dr. Vinay Vakharia	Cyber-Physical Systems Architecture For Self-Aware Machines In Industry 4.0 Environment.	08-Jan-21
19MMD016	Vyas Vidisha Vipulkumar	Dr. Nirav Patel & Dr. Ravi Kant	Study Of Damage Modeling Of Composites Subjected To Ballistic Impact Load	06-Jan-21
19MMD017	Darsh Mehta	Dr. Simran Jeet Singh & Dr. Vivek Kumar	Advances In Technologies In Car Braking System	08-Jan-21
19MMD018	Nikunj	Dr. Krunal Mehta	Optimise Sequence Of Task For Harvesting Robots	11-Jan-21
19MMD019	Shah Vatsalkumar Ashokkumar	Dr. Vivek Kumar & Dr. Simran Jeet Singh	Development Of Crash Box With Capability For Energy Absorption For Four Wheel Vehicles.	08-Jan-21
19MMD020	Adisu Tadesse Tumsa	Dr. Nirav Patel	The Role Of Vacuum Oven And Hot Press In Manufacturing Of Composite	06-Jan-21

# STUDENTS

## SEMINAR - MANUFACTURING TECHNOLOGY

Seminar for students of M. Tech Mechanical Engineering (Manufacturing Technology) conducted during January 2021 on the topics as given under:

Roll No.	Name	Seminar Supervisor	Seminar Topic	Date
19MMM001	Aditya Nema	Dr. Abhishek Kumar & Dr. Vivek K Patel	Machining Parameter Optimization For The Surface Roughness Of Face Gear Grinding	08-Jan-21
19MMM002	Chintan Patel	Dr. Rakesh Chaudhari	To Study Laser Assisted Hybrid Processes	09-Jan-21
19MMM003	Darshit Kirankumar Desai	Dr. Krunal Mehta	Techniques For Surface Property Alteration	09-Jan-21
19MMM004	Dhairya	Dr. Jaykumar Vora	Advancements In Plastic Waste Recycling Into Reusable Products : A Manufacturing Perspective	09-Jan-21
19MMM005	Dhairya Sandipbhai Shah	Dr. Vishvesh Badheka/ Dr. Vivek Patel	A Review On Magnetic Pulse Welding	06-Jan-21
19MMM006	Gautamsingh Rajput	Dr. Rakesh Chaudhari	Recent Developments In The Research Of Shape Memory Alloys	09-Jan-21
19MMM007	Harsh Soni	Dr. Pankaj Sahlot	Review On Mechanical Properties Of Ni Based (In-625) Super Alloy Of Laser Powder Based Additive Manufacturing	08-Jan-21
19MMM008	Raj Madhusudanji Jangid	Dr. Vishvesh Badheka	Superplasticity In Aluminium Alloy	06-Jan-21
19MMM009	Jaynishkumar Hasmukhbhai Idhariya	Dr. Vishvesh Badheka	Weldability Of Mg And Mg Alloys	06-Jan-21
19MMM010	Tejaskumar H Rathod	Dr. Ramesh K. Guduru	Electric Discharge Machining: Manipulation Of Dielectric Media	08-Jan-21
19MMM011	Darshan Solanki	Dr. Vishvesh Badheka	Friction Stir Forming (FSF) An Innovative Approach	06-Jan-21
19MMM012	Vatsal Maheshkumar Vaghasia	Dr. Jaykumar Vora	Role Of Manufacturing In Urban Farming For Future Needs Of Mankind	09-Jan-21
19MMM013	Meet Vinodkumar Gor	Dr. Pankaj Sahlot	State Of The Art Application Of Machine Learning To Optimize The Process Parameters For Additive Manufacturing	07-Jan-21
19MMM014	Vishal G. Dave	Dr. Vishvesh Badheka/ Dr. Vivek Patel	Ultrasonic Spot Welding For Dissimilar Metals	06-Jan-21
19MMM015	Nitesh Kumar Jha	Dr. Vipin Das	Machining Of Fiber Reinforced Plastics	09-Jan-21



# STUDENTS

## PROJECT - THERMAL ENGINEERING

The following projects were carried out by the Second Year students of M. Tech Mechanical Engineering (Thermal Engineering) conducted during January 2021 on the titles as given under:

Roll No.	Student Name	Supervisor	Seminar Title	Date
19MMT001	Dhruv Patel	Dr. Anurag Mudgal & Dr. Rajat Saxena	Design And Development Of Integrated Batch-RO/ FO Unit For Water Desalination With Minimum Specific Energy Consumption	07-Jan-21
19MMT003	Harsh Umaretiya	Dr. Anurag Mudgal & Dr. Jatin Patel	Modelling And Development Of Solar Powered Electro Coagulation System For Waste Water Treatment	07-Jan-21
19MMT004	Jaykishan Chamudia	Dr. Vishvesh Badheka/ Dr. Ojas Satbhai & Dr. Ravi Kant	Theoretical And Numerical Study Of Convection Dominated Melting Problem	07-Jan-21
19MMT005	Monil Shah	Dr. Rajesh Patel & Dr. Rajat Saxena	Modelling Of Thermal Management Of Lithium-Ion Batteries For Electric Vehicles	08-Jan-21
19MMT009	Parth Patel	Dr. Rajesh Patel & Dr. Vivek K. Patel	Experimental And Theoretical Investigation Of Mechanical Heat Pump For Simultaneous Heating Of Water And Cooling Of Air	08-Jan-21
19MMT010	Pragnan Lad	Dr. Rajat Saxena & Dr. Vivek K. Patel	Study The Melting Solidification Characteristics Of PCM Under Varied Temperature And Ambient Conditions	08-Jan-21
19MMT011	Saurabh Patel	Dr. Jatin Patel & Dr. Vivek K. Patel	Next Generation Air Conditioner For Sustainable Cooling Solutions	08-Jan-21
19MMT012	Shweta Patel	Prof. S. S. Kachhwaha & Dr. Rajat Saxena	Application of Process Intensification Technique For Bio-Ethanol Production Using Non-Edible Food Grains And Biomasses Feedstock And SI Engine Performance Testing	22-Jan-21

# STUDENTS

## PROJECTS - DESIGN

The following projects were carried out by the Second Year students of M. Tech Mechanical Engineering Design conducted during January 2021 on the titles as given under:

Roll No.	Student Name	Supervisor	Project Title	Dissertation Date
19MMD001	Bhatt Bhagyesh Jayeshbhai	Dr. Simran Jeet Singh & Dr. Krunal Mehta	Design For Robotic Arm For Milling Operation	08-Jan-21
19MMD002	Dharmik Gohel	Dr. Pavan Gurrala	Phase Separator For Liquid Nitrogen	05-Jan-21
19MMD003	Khatri Harsh Lalbhai	Dr. Simran Jeet Singh & Dr. Vivek Kumar	Dynamic Analysis of Sandwich Functionally Graded Piezoelectric Plate under Thermo-Electro-Mechanical Loading	08-Jan-21
19MMD004	Patel Harsh Kiritkumar	Dr. Vinay Vakharia	Discrete Element Simulation For The Behaviour Of Bulk Granular Particle For Design Improvement.	08-Jan-21
19MMD005	Harshrajsinh Chauhan	Dr. Ravi Kant	Aerial Thermography Inspection Of Large Solar Power Plants Using UAV	11-Jan-21
19MMD006	Ingit Trivedi	Dr. Pavan Gurrala	Multiphysics Modelling And Simulation Of Hydrogel For Reverse Osmosis Process	11-Jan-21
19MMD007	Jaimin Panchal	Dr. Vinay Vakharia	Fault Diagnosis of Ball Bearing Using Advanced Machine Learning Techniques	04-Jan-21
19MMD008	Keval Bhavsar	Dr. Vinay Vakharia	Remaining Useful Life (RUL) Prediction Of A Bearing Using Machine Learning Techniques	04-Jan-21
19MMD009	Patel Kunjankumar Kantibhai	Dr. Nirav Patel	Design And Development Of Thermal Operated Rotary Actuator For Optical Payload In Remote Sensing Satellite	06-Jan-21
19MMD010	Kush Shrivastava	Dr. Vivek Kumar & Dr. Simran Jeet Singh	Analysis Of Journal Bearing Operating In Turbulent Regime	08-Jan-21

# STUDENTS

## PROJECTS - DESIGN

Roll No.	Student Name	Supervisor	Project Title	Dissertation Date
19MMD011	Rikkin Acharya	Dr. Vinay Vakharia	Parametric Study And Component To Vehicle Level Correlation Of Tire Ride And Noise	08-Jan-21
19MMD012	Savan Sanariya	Dr. Pavan Gurrala	Design & Development Of Submerged Combustion Vaporizer	05-Jan-21
19MMD013	Shivam Srivastava	Dr. Pavan Gurrala	Investigation On Effect Of Temperature On Fused Filament Fabrication Process	11-Jan-21
19MMD014	Shubham Mishra	Dr. Vinay Vakharia	Design And Development Of Futuristic Truck And Bus Radial Tyre	08-Jan-21
19MMD016	Vyas Vidisha Vipulkumar	Dr. Nirav Patel & Dr. Ravi Kant	Study of Slosh Noise In Urea Tank of Diesel Cars	06-Jan-21
19MMD017	Darsh Mehta	Dr. Simran Jeet Singh & Dr. Vivek Kumar	Analysis Of Sandwich Plate With Honeycomb Core And FGM Face Sheets	08-Jan-21
19MMD018	Nikunj	Dr. Krunal Mehta	Model And Design Of An Industrial Manipulator For Unconventional Industrial Application	11-Jan-21
19MMD019	Shah Vatsalkumar Ashokkumar	Dr. Vivek Kumar & Dr. Simran Jeet Singh	Effect Of Porous Layer On Dynamic Performance Of Hydrostatic Thrust Bearing	08-Jan-21
19MMD020	Adisu Tadesse Tumsa	Dr. Nirav Patel	Investigation On Tensile Behaviour Of A Plate Containing Multiple Holes	06-Jan-21

# STUDENTS

## PROJECT - MANUFACTURING TECHNOLOGY

The following projects were carried out by the Second Year students of M. Tech Mechanical Engineering (Manufacturing Technology) conducted during January 2021 on the titles as given under:

Roll No.	Name	Supervisor	Project Title	Date
19MMM001	Aditya Nema	Dr. Abhishek Kumar & Dr. Vivek K Patel	Micromachining Of Non Conducting Material Using ECDM Process	08-Jan-21
19MMM002	Chintan Patel	Dr. Jaykumar Vora	<b>(CP Project: SLTL)</b> Experimental Investigation And Optimization Of Non-Conventional Machining Process For The Low Density High Strength Alloys	09-Jan-21
19MMM003	Darshit Kirankumar Desai	Dr. Vishvesh Badheka	<b>(CP Project: Cortech)</b> Manufacture Device For Measuring Dimension Of The Engine Assembly Component	08-Jan-21
19MMM004	Dhairya	Dr. Jaykumar Vora	Plastics Waste Recycling Into PVC Products	09-Jan-21
19MMM005	Dhairya Sandipbhai Shah	Dr. Vishvesh Badheka/ Dr. Vivek Patel	Experiments & Investigation On Micro Friction Stir Welding	08-Jan-21
19MMM006	Gautamsingh Rajput	Dr. Jaykumar Vora	Microstructure And Mechanical Properties Of Bimetallic Wire Arc Additive Manufactured Structure Of Inconel 625 And 316L Stainless Steel	09-Jan-21
19MMM007	Harsh Soni	Dr. Pankaj Sahlot	Additive Manufacturing Of Margining Steel	08-Jan-21
19MMM008	Raj Madhusudanji Jangid	Dr. Vishvesh Badheka/ Dr. Vivek Patel	Super Plasticity In Non-Ferrous Alloy (Aluminium Alloys)	08-Jan-21
19MMM009	Jaynishkumar Hasmukhbhai Idhariya	Dr. Vishvesh Badheka	<b>(CP Project: Plasser India)</b> Influence Of Welding Parameter Over The Hard-facing	08-Jan-21
19MMM010	Tejaskumar H Rathod	Dr. Vishvesh Badheka/ Dr. Vivek Patel	Variants Of Friction Stir Welding : Friction Stir Scribe Welding Process	08-Jan-21
19MMM011	Darshan Solanki	Dr. Vishvesh Badheka	<b>(CP Project: Inox CVA)</b> Digitalization Of Welding In The Field Of Cryogenic Applications	08-Jan-21
19MMM012	Vatsal Maheshkumar Vaghasia	Dr. Jaykumar Vora	Design And Development Of Low Cost Sustainable Hydroponics Set-Up For Urban Farming	09-Jan-21
19MMM013	Meet Vinodkumar Gor	Dr. Pankaj Sahlot	Experimental Investigation Of SS316L Build By Laser Powder Bed Fusion Additive Manufacturing	07-Jan-21
19MMM014	Vishal G. Dave	Dr. Vishvesh Badheka/ Dr. Vivek Patel	Experimental Investigation On Ultrasonic Welding Of Dissimilar Metals	08-Jan-21
19MMM015	Nitesh Kumar Jha	Dr. Vishvesh Badheka	FSW Of Dissimilar Material (Aluminium To Plastic)	08-Jan-21