# MANJARA CHARITABLE TRUST RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI (Permanently Affiliated to University of Mumbai) DEPARTMENT OF MECHANICAL ENGINEERING



### Activities Report July 2019 – March 2020

RGIT's MESA Conveners: Prof. N. N. Bhostekar & Prof. R.M. Siddiqui

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### **OUR VISION**

To be a vibrant student professional body in the Department of Mechanical Engineering, committed to realize holistic development of students through outcome and skill based transformative events.

### **OUR MISSION**

- To develop practical skills in students by offering internships and providing industrial exposure to the students.
- To assist students in connecting with Industry professionals via our seminars and events.
- To assist students in exploring and learning various inter- disciplinary technologies.
- To assist students in learning event management skills.
- To assist students in developing excellent Communication skills.
- To make students aware of the latest Industrial technology and trends by conducting industrial visits all over India.

### DEPARTMENT OF MECHANICAL ENGINEERING

### **RGIT'S MESA EVENTS LIST 2019-20**

Sr. No.	<b>Event Name</b>	Date	Time	Speaker
1.	Know Your Department	15 <sup>th</sup> July 2019	11:30 am. – 12:30 p.m.	Team of RGIT's MESA 2019-20
2.	F.E. Department Orientation	13 <sup>th</sup> , 14 <sup>th</sup> & 16 <sup>th</sup> August 2019	9:00 a.m. – 3:30 p.m.	Team of RGIT's MESA 2019-20
3.	Self - Balancing Robot Workshop	27 <sup>th</sup> , 28 <sup>th</sup> & 29 <sup>th</sup> August 2019	12:30 p.m. – 5:30 p.m.	Team of RGIT's Robotics Club & RGIT's MESA
4.	Industrial Visit	11 <sup>th</sup> & 12 <sup>th</sup> October 2019	2 Days	Auto Cluster Pvt. Ltd & Maxion Wheels Pvt. Ltd.
5.	GRE Seminar	14 <sup>th</sup> January 2020	10:30 a.m. – 11:30 a.m.	Ms. Ankita Thakker, Education Street
6.	Stem Cell Donor Registry Drive	28 <sup>th</sup> January 2020	9:30 a.m. to 3:30 p.m.	Marrow Donor Registry Drive (MDRI)
7.	Industrial Visit	8 <sup>th</sup> February 2020	9:00 a.m. to 3:30 p.m.	HPCL Terminal, Wadala

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### **RGIT'S MESA STUDENT COMMITTEE 2019-20**

SR. NO.	POST	NAME	YEAR
1.	President	Vamsi Datta	B.E.
2.	Vice – President	Amit Patil	B.E.
3.	General Secretary	Suyash Redkar	B.E.
4.	Treasurer	Himank Sankhe	B.E.
5.	Public Relations Secretary	Burhan Sakarwala	B.E.
6.	Editorial Chief	Prasad Vengurlerkar	B.E.
7.	Event Management Secretary	Saifullah Sayyed & Himanshu Rathod	B.E.
8.	Digital Creative Secretary	Tanveet Marucha	B.E.
9.	Technical Secretary	Mohd. Javed & Komal Pawar	B.E.
10.	Documentation Secretary	Ninad Male	B.E.
11.	Jt. Technical Secretary	Satyam Koul & Prathamesh Kadam	B.E.
12.	Jt. General Secretary	Bharat Vaishnav	T.E.
13.	Jt. Treasurer	Simony Niranjane & Tanmay Bhavsar	T.E.
14.	Jt. Marketing Secretary	Trupti Borade	T.E.
15.	Jt. Documentation Secretary	Ankeeta Nevrekar	T.E.
16.	Jt. Event Management	Yogesh Kanade & Zaid	T.E. &
	Secretary	Salema	B.E.

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### **Second Year Know-Your-Department**

Date: 15th July 2019

Time: 11:30 a.m. to 12:30 p.m.

RGIT's MESA conducted an orientation program for the second-year students of mechanical department for the year 2019-20.

The students were new to the department, hence the much required Know-Your-Department session was organized for them.

The session lasted about an hour and the students were briefed about the technical as well as co-curricular aspects of the department and other departmental activities. They were also introduced to the current teams of MESA.

Students were at ease sharing their difficulties and ideas for upcoming events with their seniors. The event was indeed very fruitful as it would help them know their department better and help them bond with professionals better.

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#### FIRST YEAR ORIENTATION

Date: 13th,14th & 16th August 2019

Time: 9:00 a.m. to 3:30 p.m.



Along with all Mechanical professional bodies we conducted an orientation for the first-year students on 13,14 and 16th August 2019.

The purpose of this orientation was to introduce the students with the goals and objectives of the mechanical department as well as briefing them about the several events MESA has been organizing for the students since its start.

Along with that, the students were also greeted by members from ISCKON, who taught them some relaxation techniques and wished them good luck on their journey as engineers.

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#### SELF BALACING ROBOT WORKSHOP

Date: 27th, 28th & 29th August 2019

Time: 12:30 p.m. to 5:30 p.m.







RGIT's MESA conducted a 3-day workshop on Self - Balancing Robots in collaboration with the RGIT's Robotics club from 27<sup>th</sup> to 29<sup>th</sup> August ,2019. The inauguration of the workshop was done on 27th august ,2019 at 12:30 pm, by the HOD, Dr. Rajesh Kale. It was followed by a small congratulatory speech by Kale sir himself followed by few words from our convener Prof. N. B. Shahapure and RGIT's Robotics Club convener Prof. Deepa Pandey.

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#### MECHANICAL INDUSTRIAL VISIT

### Auto Cluster Development & Research Institute, Pimpri-Chinchwad, Pune

Date: 11th October 2019



Students of Mechanical Department visited Auto Cluster Development & Research Institute along with Prof. N. Bhostekar and Prof. Ratnam G. on 11<sup>th</sup> October 2019. The institute comprised of various labs which included Rapid Prototype Lab, Polymer Lab, Coordinate Measuring Machine (CMM) Lab, Environment Lab etc., where various products from different sectors are tested under vigorous conditions to satisfy customer requirements. The institute also had a dedicated 3D printing lab which is currently most promising domain in mechanical engineering. This visit was beneficial for students as they were able to relate their syllabus topics to the machines used at industry level. Our special thanks to Mrs. Pallavi Jadhav, HR Executive, for permitting us to go through with the visit.

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### Kalyani Maxion Wheels Private Limited,

**Pune** 

Date: 12th October 2019



A group of 45 students of Mechanical Department visited Auto Cluster Development & Research Institute along with Prof. N. Bhostekar and Prof. Ratnam G. on 11<sup>th</sup> October 2019. Maxion Wheels manufacture Aluminum Light Vehicle, Steel Light Vehicle, Forklift, Military etc. They also showed the production time to convert the raw material (steel coils) to the finished goods which was less than a minute. The plant was a semi-automated plant, where the robots performed a precise welding and pick and place tasks accurately. This visit was beneficial for students as they were able to relate their syllabus topics like Press Tool Design and Manufacturing Sciences to the machines used at industry level. Our special thanks to Mr. Narendra Patil, HR Executive, for permitting us to go through with the visit.

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#### GRE SEMINAR

Date: 14th January 2020





In collaboration with RGIT's Robotics Club, we organized a GRE Seminar on 14<sup>th</sup> January 2020.

Education Street is one of the leading overseas education counselors. Ms. Ankita Thakker shared her valuable experiences about applying overseas education. This helped the students of our institute in multiple ways.

Ms. Ankita Thakker shared insights information of visa processing, universities selection and the GRE examination. She also shared the importance and salary difference and explained us about the pay scale according to selected profession and course.

We would like to thank Ms. Ankita Thakker and Education Street for sharing us valuable information.

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### STEM CELL DONOR REGISTRY DRIVE

Date: 28th January 2020







RGIT's MESA conducted a stem cell donor registration drive in collaboration with IEEE on 28<sup>th</sup> January,2020. This event was held by Marrow Donor Registry India (MDRI).

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### ABOUT MARROW DONER REGISTRY (INDIA):

The MDR(I) is India's first NGO which maintains computerized database of voluntary, -unrelated stem cell donors and facilitates blood Stem Cell transplants for patients with life-threatening blood diseases Blood Cancer, Thalassemia, Lymphoma, Aplastic Anemia etc.

Patients suffering from these diseases like thalassemia must undergo regular blood transfusions to make up for the irregularities in the red blood cells. The MDRI recruits' donors, maintains a Registry of volunteer potential donors and initiates a search for HLA typed stem cell donors for a patient requiring a transplant anywhere across globe. At any time, all over the world there are about 3,000 patients searching for a donor for a stem cell transplant. Less than 30% of those in need of a transplant will find a suitable donor within their family, siblings have only 1 in 4 chance of matching). The other 70% depend on the capacity of unrelated persons to donate their stem cells. This means that out of two lakh patients, more than 1,40,000 patients are not receiving the best possible treatment, i.e. stem cell transplantation. If unrelated HLA matched donors become available, transplant can be done easily, and this will provide hope of cure in these patients. The MDRI recruits' donors, maintains a Registry of volunteer potential donors and initiates a search for HLA typed stem cell donors for a patient requiring a transplant anywhere across globe.

#### ABOUT STEM CELL DONATION:

Red blood cells in our body do not last forever and are needed to be produced after some time, when the production of these red blood cells stops it causes blood disorders in the body of the human beings and may result in serious disease. Such diseases can be transmitted from parents to children by genes on chromosomes. When both parents have the sickle cell trait, there is a 25% chance that a child will have sickle cell disease. But when one parent is carrying the trait and the other has the disease, the odds increase to 50% that their child will inherit the disease. The body can use these stem cells whenever it needs them. Also called tissue-specific or somatic stem cells, adult stem cells exist throughout the body from the time an embryo develops. The cells are in a non-specific state, but they are more specialized than embryonic stem cells. They remain in this state until the body needs them for a specific purpose, say, as skin or muscle cells.

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Day-to-day living means the body is constantly renewing its tissues. In some parts of the body, such as the gut and <u>bone marrow</u>, stem cells regularly divide to produce new body tissues for maintenance and repair.

#### WHAT ARE STEM CELLS?

Stem cells are present inside different types of tissue. Scientists have found stem cells in tissues, including brain, liver, blood, bone-marrow, skeletal muscles and skin. However, stem cells can be difficult to find. They can stay non-dividing and non-specific for years until the body summons them to repair or grow new tissue. Adult stem cells can divide or self-renew indefinitely. This means they can generate various cell types from the originating organ or even regenerate the original organ, entirely. This division and regeneration are how a skin wound heals, or how an organ such as the liver, for example, can repair itself after damage.

#### HOW DO PEOPLE DONATE THEIR STEM CELLS?

When the stem cells match, the registered donor is contacted. It is a NON-SURGICAL OUT-PATIENT procedure. Donors receive daily injections of a drug called G-CSF (Granulocyte-colony stimulating factor) for five days prior to the stem cell donation. This is to increase the number of blood stem cells in the blood stream. On Day 6, by a process called apheresis, a donor's blood is removed through a needle in one arm and passed through a machine that separates out these stem cells. The remaining blood components are returned to the donor through the other arm simultaneously. Donors may experience mild headache or bone or muscle aches for few days before collection. These are side effects of the G-CSF injections and disappear shortly after donation.

The MDRI recruits' donors, maintains a Registry of volunteer potential donors and initiates a search for HLA typed stem cell donors for a patient requiring a transplant anywhere across globe.

THE EVENT:

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On a day before the event, i.e.  $27^{th}$  January ,2020, an awareness talk was given by Mr. Praveen Clement accompanied by Mesa volunteers in every classroom for 5-7 minutes.

This helped the students realize the importance of registering as donors, and how their ten minutes could change somebody's entire life for better.

The registration drive began by felicitating Mr. Praveen clement, MRDI doctor, by Dr. Deshmukh sir and the mesa convener, Prof. N. N. Bhostekar & Prof. R. M. Siddiqui on 28<sup>th</sup> January.

Students from first years as well as final years participated.

After registering, a vile of their blood samples of 4ml was collected for testing.

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### INDUSTRY VISIT HPCL TERMINAL, WADALA

Date: 8th February 2020





Students of Mechanical Department along with Prof. Rehan M Siddique visited Hindustan Petroleum Plant on 8th February 2020 organized by RGIT's MESA. It was founded in 1974 and is responsible for providing petroleum products to all the petrol stations in Mumbai as well as other cities. The plant has in total 9 surface tanks, 3 for petrol, 2 for diesel tanks, 2 water tanks, 1 HFHSD tank, 1 tank for ethanol in, situated in Wadala. The orientation was followed by a tour of the plant. The students and professor visited the water tank, where they were acquainted with various types of valves in use, the pumps, filters and the engines which run the water system of the plant in fatal conditions. The students and faculty were taken to the planning department which demonstrated the regular filling up of the TT vehicle. This plant can easily fill up 120 petrol tankers every day. The trip was proceeded to the control room where the live status of all the petroleum tanks was regulated. The tour of the plant was concluded by a live demonstration of the safety sprinklers on one of the petrol tanks, that consumed thousands of liters of water, for about 3 mins. The students and faculty were taken back to the conference room, after lunch where the HR and the host, concluded the industrial visit, answering any questions asked by the students.