

4<sup>th</sup> EDITION

# MECH-ZINE 2017

## Placements

**ANNUAL GATHERING**  
**I.P.T AND PLACEMENTS**  
**STUDENTS &**  
**FACULTY ACHIEVEMENTS**

MAHARASHTRA INSTITUTE OF TECHNOLOGY

4<sup>th</sup> EDITION

# *Mechanical Engineering Magazine*

## MESSAGE FROM EDITORIAL BOARD

Readers will find this issue filled with excitement. We have tried to encapsulate the engineering community and provide a window into day to day life of a Mechanical Engineering student here at MIT (T). The dynamic accomplishments and involvement of the students have provided our writers with a wealth of interesting topics to share with you. Outside the academic realm, our students are involved in many organizations and activities.

Finally, we hope you enjoy the innovative design of this quarterly issue which explores the creativity of the young editors. We hope you enjoy this premium edition of "MechZine".



**DR. A. J. KECHE**  
(PARTON Editor)



**PROF. M. N. FAROOQUI**  
(EXECUTIVE Editor)

### ASSOCIATE HEADS



**RAHUL BHURE**  
TY-A



**MOHIT KABRA**  
TY-A

## Credits

Dr. A. J. Keche  
Prof. M. N. Farooqui  
Mohit Kabra  
Rahul Bhure

Patron Editor  
Executive Editor  
Associate Head  
Associate Head



## CONTENTS

1. Students & Faculty Highlights
2. Major Companies for IPT & Placement
3. MESA- Inauguration
4. Asian Centre for Development Engineering
5. Women's Day
6. IMTEX-2017
7. My City Safe City
8. MicroMachining
9. Mock SSB
10. Kalavihangam 2017
11. Win by Losing
12. Dream Destinations

## STUDENTS & FACULTY HIGHLIGHTS

- Alankar Patni, Ashok Keche, Hanumant Dharmadhikari, 'Experimental Investigation and Modelling of EWR, Ra and MRR in Electric Discharge Machining of AISI 316 Steel', American Journal of Mechanical and Industrial Engineering, Vol. 1, No. 3, 2016, pp. 115-122.
- Pranav P. Bagdiya, Ashok J. Keche, 'Failure Analysis of Bearing: A Review', Trends in Machine Design, Volume 3, Issue 3, pp.1-17.
- Sanket Borkar , A. J. Keche, 'Theoretical Investigation of 600a as an Alternative to R134a' , National Symposium of Mechanical Engineering Research Scholars held at NIT Warangal , October 7, 2016
- Vrushabh Wandhare, Nivutti Pachopor , Akshay Kulkarn, Shubham Mankar, Askok Keche , 'Design and Analysis of Steering and Transmission System for Formula 8 Car' , National Workshop on Industrial Problems on Machines and Mechanisms December 22 -23, 2016
- Sudhir Auti, Ashok Keche , Arun Autee , Subhash Lahane , 'Effect of Split Injection Method for Reducing Emissions in Compression Ignition Engine' , National Symposium of Mechanical Engineering Research Scholars, NIT Warangal October 7, 2016
- Vishakha Jawale , Ashok Keche, 'Comparative Performance Study of Alternative to R22 Refrigerant: A Review' , 4<sup>th</sup> National Conference on Innovations in Mechanical Engineering, NCIME'16, AP , October 21-22, 2016
- Debabrata Samantaraya, A. S. Kousal, Ashok Keche , 'Hard turning of 21 Mn5Cr4 Steel By Super Hard Cutting Tool Material PCBN' , National Conference on Advances in Material Processing and Characterization , NIT, Warangal , January 4-6, 2016
- P. T. Borlepwar, N. G. Patil, 'Recent Advances in Electrical Discharge Machining Process: A Review', IVth International Conference on Production and Industrial Engineering, CPIE-2016, held at Dr B R Ambedkar National Institute of Technology Jalandhar-144011, Punjab, India.
- Asif Pathan, P. T. Borlepwar, 'Development of Automated Leather Cutting Machine', IVth International Conference on Production and Industrial Engineering, CPIE-2016, held at Dr B R Ambedkar National Institute of Technology Jalandhar-144011, Punjab, India.
- Asif Pathan, P. T. Borlepwar, 'Finite Element Analysis of Structure of a Leather Cutting Machine', IVth International Conference on Production and Industrial Engineering, CPIE-2016, held at Dr B R Ambedkar National Institute of Technology Jalandhar-144011, Punjab, India.
- WINGS 2017, Roborace, Government college of engineering, won 1<sup>st</sup> Prize, Nayan Jalgaonkar and Sarang Naik from TY-A. VISIOTECH 2017 , roborace 1<sup>st</sup> prize, MGM College of engineering, Nanded was Awarded to Sarang Naik from TY-A.
- RYLA (Rotatry Youth Leadership Awards), was carried out from 11<sup>th</sup> Feb -14<sup>th</sup> Feb at Maulana Azad Research Centre, Mohit Kabra From TY-A was selected as Head of Design, Technical and Doc. committee, won the best committee Award.

# MAJOR COMPANIES FOR IPT & PLACEMENTS

## Major Companies for IPT

- Bajaj Auto Ltd. Bajaj Nagar, Aurangabad.
- Endurance Technologies Ltd. L 6/3, Waluj , Aurangabad
- L&T, MIDC, Ahmednagar
- Aaydudh Tools Pvt. Ltd. E 70/15 , MIDC, Aurangabad
- Simens, E-76 Waluj, MIDC, Aurangabad, Maharashtra.
- MAN Diesel, Waluj, Aurangabad.
- Goodyear, H-18, Waluj, Aurangabad, Maharashtra.
- Godrej & Boyce Mfg. Co. Ltd. Vikhroli West Mumbai 400079.
- Sanjeev Auto Ltd. MIDC, Waluj, Aurangabad.
- Leser INDIA , D3, MIDC, Aurangabad.
- TATA Motors LTD. Telco road , Near KSB Chowk, Pimpri, Pune.
- Grind Maser Machines Pvt. Ltd. B11/14, Railway st. Aurangabad

## Major Companies for PLACEMENT

- NRB Bearings Ltd., Aurangabad
- Triveni Turbines Limited, Bangalore
- Parason Machinery (I) Pvt. Ltd , Aurangabad
- Osborn Lippert India Pvt. Ltd., Aurangabad
- Varroc Engineering Group, Aurangabad
- Videocon Industries, Aurangabad
- Tragen Technology Pvt. LTD. Aurangabad

## WARM WISHES FROM INDUSTRIES

It is a great pleasure and pride to appreciate the students and Management staff of Mechanical Engineering Department of MIT for the initiatives, Involvement and Participation in various projects related to enrichment of Environment, Society and Technology. This will enrich the knowledge and keep them in touch with new technologies. These initiatives are nothing but polishing the Pebbles and Dimming of Diamonds. This budding will develop cultured, Intelligent and Tranquil batch of Engineers which will results into highly responsible citizens of our Nation. Wish you all Best Luck for your blooming future and I am sure that you will become Idols for society and to next upcoming generations. With Warm Regards-

Mr. A. P. Mahulikar,  
Production Manager,  
Bajaj Auto, Ltd, Waluj, A'bad.



# MESA - INAUGURATION



MESA stands for( MECHANICAL ENGINEERING STUDENTS ASSOCIATION) .MESA plays a very vital role in development of students personality as in leadership, team spirit, management skills and provides platform for students to organize various event s like women day, engineering day, teachers day, cultural events, technical event, sports event.

The innaguation of MESA event took place on 24<sup>th</sup> Feb 2017 which was graced by chief guest Mr. Abhay Deshmukh, Principal Dr.Santosh Bhosle, Head of Dept Dr.A.J.Keche.

In his speech the president of MESA emphasized on the individual development and team spirit among all the students. MESA has been established for developing team work and leadership quality in students which helps them to organize events.

The MESA committee members are Kishor Navghare-President , Mohit Kabra - Treasurer, Joaquim Fernandes - Secretary, Siddharth Machiwal - Sports Secretary ,Komal Jaiswal and Madhumita Joshi - Ladies Representative from Third year and Kiran Bidarkar - vice president, Anand Chinchane - Cultural Secretary from Second Year.

It was followed by the oath of allegiance was taken by all the MESA COMMITTEE members .The presence of principal Dr. Santosh Bhosle, Head of Department Dr. Ashok keche, Prof. M. N. Farooqui, Prof. Trishul Kulkarni , Prof. Shantanu Joshi and students of Mech engg has encouraged the members of MESA. The program was anchored by Master. Abhishek Harne and Miss. Sharayu Samrit. The event brought lots of encouragement and enthusiasm amongst students.

## Introduction to DEC.ASIA (Asian Centre for Development Engineering)

Marathwada Institute of Technology (MIT), Aurangabad is the parent organization of Asian Centre for Development Engineering. Asian Centre for Development Engineering is an initial startup organization of MIT which focuses on working in multidisciplinary field that integrates the principles of engineering with economics, geography, social aspects.

The Vision of DEC.ASIA is find appropriate solutions or technology interventions that is economically viable and can improve human development.

The Mission is to drive the projects, provide training & consulting, provide incubation facility, certify professionals, provide coaching and mentoring in the field of Development Engineering.

The Objective of DEC.ASIA is to involve students in real time projects and analyze socio-economic development problems and foster technological innovations by utilizing the technological output of an academic institute.

DEC.ASIA's interventions are categorized into four main areas:

1. Greens
2. Nest
3. Rural Development
4. Cluster Approach.

So far, DEC concept has been introduced to all the students of MIT and 1000+ students have registered to participate in DEC projects. DEC is currently working on:

- Solid Waste Management project in Kasliwal region and MIT campus.
- Solar Panel Cleaning machine.
- Electrical street light assessment.

# WOMEN'S DAY

**8**<sup>th</sup> March 2017, The International Women's Day was celebrated in Maharashtra Institute Of Technology, Aurangabad under MESA (Mechanical Engineering Students Association) which was organised by ladies representative Miss. Komal Jaiswal and Madhumita Joshi.

International Women's Day also known as International Working Women's Day is celebrated to facilitate women and recognize their achievement. It is the day on which we celebrate women's rights, spirit, achievement, freedom, courage, passion and many more.

On 8<sup>th</sup> March, at 1pm a program on woman's day was organised in department of mechanical engineering (hall no.324) , MIT B-Tech. The program was a great success due to presence of huge female students and staff.

The female teacher staff was felicitated by the girls volunteer. The program started with the motivational speech given by Miss. G. Awankar , which encouraged the students and gave them self confidence to be strong and bold in the society.



**P**ravin Vaidya, student of 3<sup>rd</sup> year mechanical engineering gave fire blasting speech on great women personalities in Indian history. After such energizing speech, Miss Maithili Deshmukh of 3<sup>rd</sup> year mechanical engineering gave the presentation on health issues faced by teenage girls now a days.

The topic was appreciable, since it covered all the different problems and disorders that are prone to suffer from hypothyroidism and PCOD. During the presentation she also conducted a small activity in which all the students participated very eagerly.

The program winded up by the vote of thanks given by the anchors. The program was great success, special thanks to Dr. Ashok Keche sir (HMED) for giving opportunity and permission to execute such a motivational and enthusiastic program.

The program was swiftly carried by the anchors Miss Bhagyashree Chaudhari and Miss Vedashree Borgaonkar.

# IMTEX - 2017



Machines are to Mechanical Engineers what water is to life and best way to experience machines, is to visit different industries. But what if you get to see all important industries under one roof . Yes it possible at Indian Machine Tool Exhibition i.e IMTEX .

IMTEX is a annual trade fair organised by Indian Machine Tool Manufacturers Association in Bangalore at BIEC Bangalore International Exhibition Centre. Leading companies from across 25 countries were exhibiting their machines and products. IMTEX is one of the largest metal-cutting machine tool exhibitions in South East Asia. It showcases the exhaustive range of innovations and technological refinements in the complete product segment of metal-cutting machinery. It is an ultimate platform for the manufacturing sector to forge strategic alliances, enter into new partnerships, exchange technology know-how and develop vendor bases. IMTEX attracts a large domestic and international participation and is held alongside the trade fair Tooltech for industrial tools.

Students of 3<sup>rd</sup> year and 2<sup>nd</sup> year of Mechanical Department of MIT Aurangabad got the opportunity to visit IMTEX from 26<sup>th</sup> January to 1<sup>st</sup> February 2017. Faculty coordinators Prof. P. T. Borlepwar ,Prof. A. C. Gorte, Prof. A. G. Mapari, Prof. Sayyed Siraj , Prof. S. S. Lahane,were there with the students for all the help and guidance. We would like to thanks all the faculty coordinators, HOD Dr. A. J. Keche and Principal Dr. S. P. Bhosle for providing such a great opportunity to the students .

**Rahul Bhure**  
TY-A

# MY CITY, SAFE CITY

A workshop “My City, Safe City” was organized by Divya Marathi at MIT-Btech. MIT took the initiative to launch this program first.

If anyone is teasing you then you can make a complaint without fear. We will give you full protection nobody will be able to harm you this type of confidence was given by Aurangabad Police Commissioner Mr. Amitesh Kumar.

Be confident and fearless we all are always there with you and we will definitely take the corrective action against culprits. The intension of this workshop was to build confidence among female faculties and girls students for security point of view and to show sympathy that they are not alone. The police department has launched smart security apps for women which can be of use in difficult situations.

On behalf of Mechanical Engineering Department female faculties and female students Prof. Ms. G. B. Awankar represented and participated in this workshop. The workshop was social awareness, responsibility jointly undertaken by MIT, Divya Marathi and commissioner of police. This event was conducted in the presence of Director General of G. S. Mandal Prof. Munish Sharma Sir, Dr. Santosh Bhosle Principal MIT, Mr. Amitesh Kumar Commissioner of Police Aurangabad. This event was attended by all female faculties and girl students of MIT B-Tech.

**Miss. G. B. Awankar**  
Assistant Professor



# MICRO MACHINING

On the 24<sup>th</sup> of February, the ceremony for inauguration of MESA took place in the main auditorium of MIT BTech, in the presence of honourable chief guest Mr. Abhay Deshmukh, Director, Shilpin Machine Tools Pvt. Ltd.

The inauguration was followed by an expert talk by him on the topic of Micromachining. Second and third year students attended this interactive talk. Sir explained the basics of micromachining, engraving and micromilling machines. He stressed the importance of possessing practical skills and also told the students about the various expectations that industries have from them. Further, booklets showcasing the specifications and applications of the Shilpin micromilling-cum-engraving machines were distributed among everyone, and sir held an interactive session in order for the students to learn how to read and understand information related to the machine.

Lastly, he ended the expert talk by making the students aware of all the exciting opportunities in store for them in the near future. We thank Mr. Deshmukh sir for his valuable time and guidance. It truly was an informative session !

Maithili Deshmukh  
TY-A



# MOCK SSB

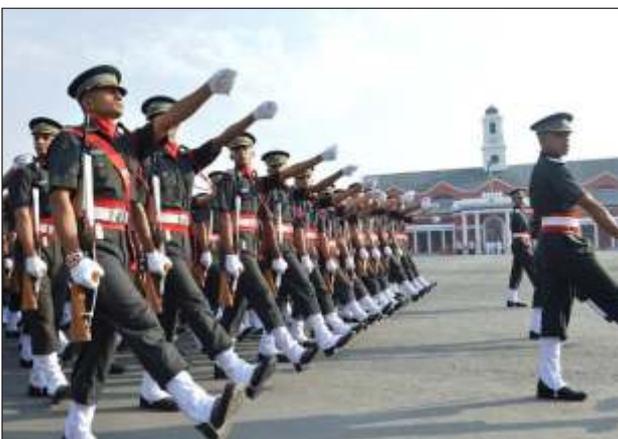
SSB is called as one of the toughest selection process in India. SSB is the process used by Army, Navy and Air force of India to select suitable candidates to post as an officer. It includes of 3 main parts that are psychology test, Group task and Personal interview.

Psychology test includes word association test (WAT) in this test each candidate are shown with a word for 15 seconds and he have to write his reaction to the word, in such way 60 words are shown. The second test is situation reaction test (SRT) in this test each candidate is provided with a booklet, this booklet have 30 situations and the candidate have to write his reaction to it. Next test is picture perception and discussion test (PP&DT). Then group discussion (GD) is arranged.

In personal interview there are two steps. First step is filling of personal interview questioner (PIQ). Second step is the interview which can go as long as 1 hour. Lt col (Retd) Uday S. Pol was the guest of honour and the assessor of the event at NIEIT.

Mock SSB was arranged at National Institute of Electronics and Information Technology in the event LE-CHROME. This event was organised from 22<sup>nd</sup> march to 24<sup>th</sup> march. Kishor Navghare from 3<sup>rd</sup> year mechanical department MIT secured 3<sup>rd</sup> position and Rahul Bhure from 3<sup>rd</sup> year mechanical department secured 1<sup>st</sup> position .

**Rahul Bhure  
TY-A**



# KALAVIHANGAM 2K17

When the word "Kalavihangam" strikes to our mind we reach in a world where there is excitement, joy, passion, zeal, brotherhood. Kalavihangam is a part of engineering life where students are exposed and explored to the best of the cultural skills and abilities which they wish to show. Kalavihangam is a stage which helps to show out talent excluding academic activities. Efforts are taken to make the event a grand one.

This year kalavihangam was celebrated for 2 days, Traditional day and cultural night, Bollywood retro day and cultural night. It gives joy to see various students outshining in various traditional wardrobe to be specific in Bajiroa Peshwa, the typically Maharashtraian, The Goans, The South Indians, The Northeastern and many more. The cultural night included songs, dances and various skit in which students as well as the faculty enjoyed alot.

The second day was Bollywood Retro Day where the students were dressed up like various movie stars, Vampires, Etc. These events helps us to hone our abilities to act and imbibe values of society.



# WIN, BY LOSING



Maintaining a healthy body weight is an important part of your health, wellness, and quality of life. But that doesn't mean it's easy. More than one-third people are overweight or obese. Many are trying to lose that excess weight through diet, exercise, and other lifestyle changes. Losing weight is difficult, no matter what your circumstances. But you should know you're not alone in trying to meet your goals. So it's not as hard as you think.

## **Eliminate sugar.**

Sugar is the main culprit in weight fat gain. Sugar does not give any nutritional benefits to the body rather it increases calories in your food. Ever thought how many tea/coffee cups you drink in a day or the sweets we eat as "Prasad" or when someone offers us. Ever thought why we grab more than 2-3 ladoos at once. The reason is sugar is very easy to digest, it gets digested almost in 5-7min once you eat it. That's why our body loves sugar that's the reason we are addicted to it.

## **Eat more lose more.**

Starving is the worst idea to lose weight. Eating 5 small meals rather than eating 2-3 heavy meals will help you to lose weight. Eating 5 smaller meals or taking 2-3hrs gap between meals will keep your metabolism running throughout the day. The idea is to burn energy to gain energy by digesting the food. Use of small plates and bowls to serve your food which will help to be conscious on what you are eating and how much you are eating.

## **Accelerate results by exercising.**

By doing exercise you can increase your calories output by almost 25%. Thereby creating a bigger calorie gap in the day. Dedicating just 30min of the day to exercise will help you to achieve your goals even faster. The combination of cardio + strength is very beneficial to lose weight. Doing cardio for 10min will increase blood flow in the body and keeps the heart healthy. Doing strength exercise (i.e. push ups, pull ups, sit ups) will help you to gain/maintain strength that you will be losing with weight. If you can give more time to yourself try joining a gym. Doing Suray-namaskars will also help.

## **Reward yourself.**

Don't torture yourself by eating healthy and almost non-tasty food. Let yourself loose once in a while in a week. Add a cheat meal in the week. Eating what you want once a week will help you to stay motivated throughout your weight loss journey.

So that's it what you need to start your weight loss journey. Try being the better version of yourself. Get in shape and get the appreciation you always wanted. Keep Hustling

**Abhishek Harne  
TY-A**

# DREAM DESTINATIONS

## LONDON



London, the capital of England and the United Kingdom, is a 21st-century city with history stretching back to Roman times. At its centre stand the imposing Houses of Parliament, the iconic 'Big Ben' clock tower and Westminster Abbey, site of British monarch coronations. Across the Thames River, the London Eye observation wheel provides panoramic views of the South Bank cultural complex, and the entire city.

Population: 8.674 million (2015)

What to see :

### **London Eye:**

The London Eye is a giant Ferris wheel on the South Bank of the River Thames in London. Also known as the Millennium Wheel, it has also been called by its owners the British Airways.

The structure is 443 feet (135 m) tall and the wheel has a diameter of 394 feet (120 m). When erected in 1999 it was the world's tallest Ferris wheel. Its height was surpassed by the 520 feet (158 m) tall Star of Nanchang in 2006, the 541 feet (165 m) tall Singapore Flyer in 2008, and the 550 feet (168 m) High Roller (Las Vegas) in 2014. Supported by an A-frame on one side only, unlike the taller Nanchang and Singapore wheels, the Eye is described by its operators as "the world's tallest cantilevered observation wheel".

It is Europe's tallest Ferris wheel, and offered the highest public viewing point in London until it was superseded by the 804 feet (245 m) observation deck on the 72nd floor of The Shard, which opened to the public on 1 February 2013. It is the most popular paid tourist attraction in the United Kingdom with over 3.75 million visitors annually, and has made many appearances in popular culture.

The London Eye adjoins the western end of Jubilee Gardens (previously the site of the former Dome of Discovery), on the South Bank of the River Thames between Westminster Bridge and Hungerford Bridge, in the London Borough of Lambeth.



## THE IVY CAFÉ

### **Where to Eat:**

Ivy Café St John's Wood: Opening in October 2016, Ivy Cafe, St John's Wood will be an exciting addition to the sophisticated North London neighbourhood: a relaxed yet stylish dining experience offering an accessible all-day menu in a friendly, neighbourly environment.

Open seven days a week, The Ivy Cafe, St John's Wood will include an outdoor dining terrace and aims to bring some of the familiarity and charm of The Ivy brand to the already fashionable St John's Wood.

### **English High tea:**

English High Tea usually involved a mug of tea, bread, vegetables, cheese and occasionally meat. Variations on high tea could include the addition of pies, potatoes and crackers.

### **Tower of London:**

The Tower of London, officially Her Majesty's Royal Palace and Fortress of the Tower of London, is a historic castle located on the north bank of the River Thames in central London. It lies within the London Borough of Tower Hamlets, separated from the eastern edge of the square mile of the City of London by the open space known as Tower Hill. It was founded towards the end of 1066 as part of the Norman Conquest of England. The White Tower, which gives the entire castle its name, was built by William the Conqueror in 1078 and was a resented symbol of oppression, inflicted upon London by the new ruling elite. The castle was used as a prison from 1100 (Ranulf Flambard) until 1952 (Kray twins), although that was not its primary purpose. A grand palace early in its history, it served as a royal residence. As a whole, the Tower is a complex of several buildings set within two concentric rings of defensive walls and a moat. There were several phases of expansion, mainly under Kings Richard the Lionheart, Henry III, and Edward I in the 12th and 13th centuries. The general layout established by the late 13th century remains despite later activity on the site.



### Harwood Arms:

The Harwood Arms re-opened in September 2008 after some much needed refurbishment. This rural haven in the middle of Fulham is a collaboration between Brett Graham of the famed Ledbury restaurant, Mike Robinson of the acclaimed Pot Kiln pub in rural Berkshire and Edwin Vaux from the famous Vaux brewery.

The idea is to provide Londoners with a really relaxed venue for eating the finest British produce, cooked amazingly well, accompanied by excellent beer and wine at a great price.

### Where to shop:



Harrods is a luxury department store located on Brompton Road in Knightsbridge, London. It is owned by the state of Qatar. The Harrods brand also applies to other enterprises undertaken by the Harrods group of companies including Harrods Bank, Harrods Estates, Harrods Aviation and Air Harrods, and to Harrods Buenos Aires, sold by Harrods in 1922 and closed as of 2011, with plans announced to reopen in 2013.

The store occupies a 5-acre (20,000 m<sup>2</sup>) site and has 330 departments covering one million square feet (90,000 m<sup>2</sup>) of retail space.

The Harrods motto is Omnia Omnibus Ubique, which is Latin for "all things for all people, everywhere". Several of its departments, including the seasonal Christmas department and the food halls, are well known.

The most common landmarks to come across there are the London bus and the telephone box.

So happy traveling .....see you there.....

**Prof. M. N. Farooqui.**  
**Asst. Prof. and Executive Editor,**  
**Mechzine,**  
**Dept. of Mech. Engg. MIT-T**