

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



**OLDEST STUDENT BODY OF  
RGIT**

# **RGIT'S MESA ACTIVITIES REPORT BOOK**

**ACADEMIC YEAR JULY 2023 – June 2024**

## **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.**

# INDEX

<b>SR NO.</b>	<b>CONTENTS</b>	<b>DATE</b>	<b>PAGE NO.</b>
1.	Our Current Team	-	4
2.	Our Achievements	-	5
3.	Our Member's Achievements	-	6
4.	Our Alumni Success	-	8
5.	Teachers Day Celebration	05/09/2023	10
5.	CAD Software Workshop	09,10/09/2023	12
6.	Central Railway Industrial Visit	29, 30/09/2023	15
7.	IMS WORKSHOP	11/10/2023	29
8.	Donation Drive for Orphanage Children and Street Kids	13, 14/11/2023	32
9.	IV to URAN Gas Power Station	06/03/2024	38
10.	IV to MAHANAND Dairy	14/03/2024	47
11.	Departmental Day Celebration	07/05/2024	56
12.	Our Digital Media Handles	-	59
13.	Our Upcoming Events	-	62

# OUR CURRENT TEAM

## OUR CONVENER

Prof. Rehan Siddiqui

## OUR CORE TEAM

NAME	DESIGNATION	NAME	DESIGNATION
Shubham Dixit	President	Sahil Khatri	Vice-President
Yash Madkaikar	General Secretary	Nikhil Poojari	Jt. General Secretary
Aakash Gonde	Treasurer	-	Jt. Treasurer
Aman Baddella	Operations Secretary	Sahil Dhamane	Jt. Operations Secretary
Akbar Sayyed Prity Nath	Event Management Secretary	Tanuj Tandel	Jt. Event Management Secretary
Suraj Doiphode	Marketing Secretary	Luvkumar Bura	Jt. Marketing Secretary
Yash Pednekar	Publicity Secretary	Pranjal Polekar	Jt. Publicity Secretary
Mandar Khanvilkar	Digital Creative Secretary	Zaka Shaikh	Jt. Digital Creative Secretary
Saigan Bhagat	Editorial Secretary	Ridhesh Jethwa Saqlain Rizvi	Jt. Editorial Secretary
Anish Salvi	Documentation Secretary	Shreyas Datta Darshan Chorghade	Jt. Documentation Secretary
Arya Pawar	Social Media Secretary	Kalyani Anumalla Esha Ahire	Jt Social Media Secretary
Ekta Bhowad	Web Master	-	Jt Web Master
Hrishikesh Bandgar	T.E Co-ordinator	Sanket Dorugade Nikhil Jadhav	S.E Co-ordinator

- Total Team Strength: 70

# OUR ACHIEVEMENTS

## ➤ **SILVER JUBILEE COMPLETION**

RGIT's MESA, the oldest student body of RGIT was established on 17<sup>th</sup> March 1997 under the coordinatorship of former principal Dr. B. Kolhe with a goal of providing internships, conducting industrial visits & organising knowledge/skill-based events for its students to provide industrial exposure & develop practical skills in them.

On 27<sup>th</sup> March 2022, MESA completed its 25 years tenure (silver jubilee) & is the only committee in RGIT to achieve this milestone.

## ➤ **ONLY COMMITTEE TO ORGANISE OFFICIAL I.V**

MESA conducted an Industrial Visit to CENTRAL RAILWAY WORKSHOP at MATUNGA, Maharashtra on 29<sup>th</sup> & 30<sup>th</sup> of September 2023 to provide its students' knowledge about Maintenance Strategies and various other Processes.

MESA is the first student body in RGIT to organize an official industrial visit post the COVID period also.

## ➤ **ICEI 4.0 CONFERENCE SPONSORER**

In April 2022, RGIT Organized an International Conference on emerging trends in Industry 4.0 under which various events were conducted.

MESA is one of the very few student bodies of the institute, to provide highest financial sponsorship to the college for organizing the conference. Team MESA also received an award & felicitation for their kind gesture.

## ➤ **BEST COMMITTEE AWARD WINNER**

On 15<sup>th</sup> September 2021, Team MESA was declared as the Best Committee of the Mechanical Department & was awarded with a Trophy for its work done by the Academic Year 2020-2021 Team.

# OUR MEMBER'S ACHIEVEMENT'S

## ➤ Pranav Hare

- **ACHIEVEMENT TYPE:** Internship
- **DOMAIN:** Regenerative Engineering
- **COMPANY:** SimpliForge Creations
  
- **ACHIEVEMENT TYPE:** Internship
- **DOMAIN:** Design Engineering, Softwares
- **COMPANY:** Sepadu Tech Pvt. Ltd.

## ➤ Apurva Vichare

- **ACHIEVEMENT TYPE:** Internship
- **DOMAIN:** Manufacturing, Designing, Analysis, Maintenance
- **COMPANY:** Central Railways & Western Railways Locomotive Workshop
  
- **ACHIEVEMENT TYPE:** Research Paper Publication
- **NAME OF JOURNAL:** International Journal of Engineering Research & Technology (IJERT)
- **TITLE OF PAPER:** Design & Fabrication of Aqua Silencer
- **PAPER NO:** ISSN: 2278-0181

## ➤ Sahil Khatri

- **ACHIEVEMENT TYPE:** Internship
- **COMPANY:** RELIANCE

## ➤ Yagnik Patel

- **ACHIEVEMENT TYPE:** Research Paper Publication
- **NAME OF JOURNAL:** International Journal of Innovation in Engineering Research & Technology (IJIERT)
- **TITLE OF PAPER:** Bike Working on Water
- **PAPER NO:** ISSN (E): 2394-3696

➤ Aishwary Kakodkar

- **ACHIEVEMENT TYPE:** 2nd Runner- Technical Paper Presentation Competition
- **NAME OF ORGANISER:** CALIBRE – FCRIT, Vashi
- **TITLE OF PAPER:** Rapid Prototyping: Kids Ankle Foot Orthotics

➤ Aditya Kurte

- **ACHIEVEMENT TYPE:** Research Paper Publication
- **NAME OF JOURNAL:** International Research Journal of Engineering & Technology (IRJET)
- **TITLE OF PAPER:** Aerodynamics Study of LCV (Light Commercial Vehicle) and Ways to Improve it.
- **PAPER NO:** ISSN (e): 2395-0056 & ISSN (p): 2395-0072

➤ Prity Nath

- **ACHIEVEMENT TYPE:** Promotion – From ‘Cadet’ to ‘Leading Cadet’
- **NAME OF EMPLOYER:** NCC (National Cadet Corps)

➤ Yash Madkaikar

- **ACHIEVEMENT TYPE:** Internship
- **COMPANY SERVICES:** Digital Analytics & Insights Centre
- **NAME OF THE COMPANY:** Larsen & Toubro.

➤ Shubham Dixit, Prity Nath, Aakash Gonde, Akbar Sayyad

- **ACHIEVEMENT TYPE:** Internship
- **DOMAIN:** Locomotive Production
- **COMPANY:** Central Railway Workshop

➤ Aman Baddella

- **ACHIEVEMENT TYPE:** Internship
- **COMPANY SERVICES:** Condition Monitoring (Maintenance & Planning department.)
- **NAME OF THE COMPANY:** Adani
- **PRIZES:** 2<sup>ND</sup> Rank in National Level Project Competition ‘Shodh24’

# OUR ALUMNI SUCCESS

## ➤ **Ankeeta Nevrekar**

- **BATCH:** 2020-2021
- **DESIGNATION:** Technical Secretary
- **ACHIEVEMENT:** Cracked GATE 2022 with AIR-7919. Currently pursuing Ms. in Materials Technology from NIT Warangal.

## ➤ **TRUPTI BOARDE**

- **BATCH:** 2020-2021
- **DESIGNATION:** General Secretary
- **ACHIEVEMENT:** Secured Admission from Top Universities around the Globe like TU Delft, Columbia University, Stanford University, EIT InnoEnergy, University of Maryland, KTH Royal Institute. Currently pursuing final year in MSc. In Renewable Energy from EIT InnoEnergy.

## ➤ **SUSHMIT CHAUDHARY**

- **BATCH:** 2017-2018
- **DESIGNATION:** President
- **ACHIEVEMENT:** Assistant Manager of Planning at Audi

## ➤ **RISHABH RANE**

- **BATCH:** 2017-2018
- **DESIGNATION:** Vice-President
- **ACHIEVEMENT:** Msc. in Sustainable Management from RWTH Aachen, Politecnio di Milano. Sustainable Finance & ESG Associate in PwC, Germany.



## ➤ **SOHAM KARKHANIS**

- **BATCH:** 2016-2017
- **DESIGNATION:** General Secretary
- **ACHIEVEMENT:** MA. in Entrepreneurial Studies from SRH Berlin University of Applied Sciences.

## ➤ **ANUJKUMAR PRAJAPATI**

- **BATCH:** 2015-2016
- **DESIGNATION:** General Secretary (2014-2015)
- **ACHIEVEMENT:** GATE AIR-1. Senior Operations & Maintenance Engineer at IOCL.

## ➤ **AMIT GHULE**

- **BATCH:** 2014-2015
- **DESIGNATION:** President
- **ACHIEVEMENT:** Founder of India's First Robotic 3D Printing Construction Company- SimpliForge Creations Pvt Ltd. MSc. in Engineering Management from Northeastern University.

# EVENTS

## ADADEMIC YEAR 2023-24

### TEACHER'S DAY CELEBRATION

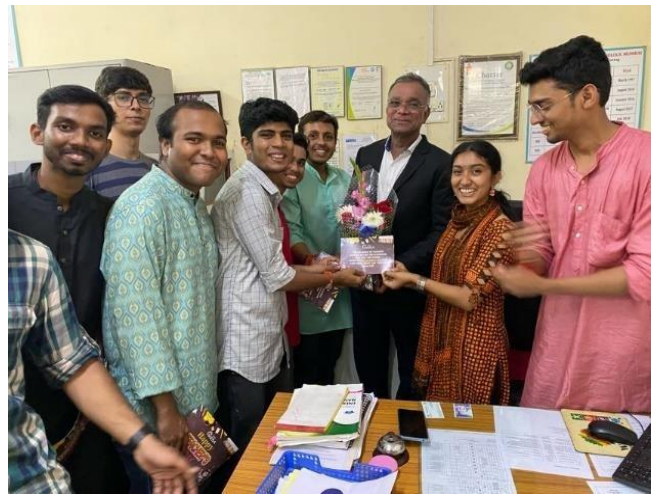
**Date:** 5th September, 2023

**Venue:** Rajiv Gandhi Institute of Technology

On the auspicious day of September 5th, we celebrated Teacher's Day at RGIT (Rajiv Gandhi Institute of Technology). Under the presence and guidance of our esteemed teachers and professors, this special occasion was commemorated. We were privileged to have many professors, including the highly respected Principal, Dr. Sanjay Bokade, the Head of the Mechanical Department, Prof. Rajesh Kale, and Prof. Kiran Choudhary. Our teachers, the architects of knowledge, guide us on a journey of discovery and growth, inspiring us to dream, learn, and evolve. On this momentous day, let us pay tribute to our teachers for their invaluable contributions as they continue to light the path to success. The celebration also included a delightful cake cutting session on the second floor, with the honor of our Principal, Dr. Sanjay Bokade, doing the honors. The event was organized by the students and the members of MESA, led by President Shubham Dixit and Vice President Sahil Khatri.



From traditional classrooms to digital platforms, teachers seamlessly adapt and innovate to ensure effective learning in a rapidly changing world. On the auspicious occasion of Teacher's Day, we come together to acknowledge and celebrate the dedication of these remarkable individuals. They are not just facilitators of knowledge, but also catalysts for our personal growth and success. Their unwavering commitment to education inspires us to value learning as a transformative force in our lives. As we honor our beloved teachers, let us also take a pledge to continue supporting and cherishing the invaluable impact they have on shaping our future.



**"Teachers inspire minds, ignite imaginations, and instill a love for learning. They are the true architects of our future."**



# **CAD SOFTWARE WORKSHOP**

**Date :- 9<sup>th</sup> & 10<sup>th</sup> September 2023**

**Time :- 10 am to 5 pm**

**Venue :- College Class room**

**Speakers :-**

- **Shubham Dixit** (President Of Mesa)
- **Akbar Sayyad** (Event Management Head Of Mesa)
- **Yash Madkaikar** (General Secretary Of Mesa)

## **Day 1:**

At 10:00, the event commenced with a brief introduction, outlining its objectives and expected outcomes. Subsequently, the fundamentals of engineering graphics were presented, including guidance on reading engineering drawing sheets. Attendees were then introduced to third -angle projections. The instructional content expanded to cover various modelling techniques, including solid geometry modeling, features based modeling, and wireframe modeling.





The session delved into different optimization methods, encompassing topological optimization, geometrical optimization, and weight optimization. Following this, essential features of Autodesk

Inventor were elucidated, encompassing extrusion, revolve, loft, shell, sweep, rib, thread, hole, fillet, chamber, among others. To reinforce these concepts, participants engaged in practical exercises where they crafted parts of an internal combustion engine (IC engine), such as a piston, connecting rod, piston ring, crankshaft, gudgeon pin, and connecting rod cap. While some parts were demonstrated during the workshop, others were assigned as homework. The day concluded with a brief overview of the agenda for Day 2.



## **Day 2:**

At 11:00 on the second day, the activities commenced with a review of basic Computer-Aided Design (CAD) software interfaces. The previously taught parts, assigned as homework, underwent revision, preparing attendees for the subsequent assembly session. Participants were guided on assembling various parts and introduced to different constraint features



Towards the end of the day, the focus shifted to creating drawing sheets for the assembled parts, incorporating dimensions and diverse views such as isometric, section, and breakout views. A dedicated doubt-solving session provided attendees with an opportunity to seek clarification. Closing the workshop, Shubham Dixit, President of MESA, imparted knowledge about the basics of 3D printing and delivered a gratitude-filled closing speech.

# **INDUSTRIAL VISIT TO CENTRAL RAILWAY** **CARRIAGE WORKSHOP**

**DATE: - 29 & 30 SEPTEMBER 2023.**

**VENUE: - CENTRAL RAILWAY CARRIAGE WORKSHOP,  
MATUNGA.**

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**THIS REPORT PROVIDES A DETAILED OVERVIEW OF THE CENTRAL RAILWAY CARRIAGE WORKSHOP BASED ON AN INDUSTRIAL VISIT. IT INCLUDES A TOUR OF THE WORKSHOP, OBSERVATIONS AND FINDINGS, INTERACTIONS WITH WORKSHOP STAFF, AND IMPLICATIONS FOR THE INDUSTRY. THE REPORT CONCLUDES WITH RECOMMENDATIONS FOR IMPROVEMENT**



# **INTRODUCTION**

On 29 & 30 September, A group of 100 students from Rajiv Gandhi Institute of Technology embarked on industrial visit to the Central Railway carriage workshop By the RGIT'S MESA. The purpose of this visit was to gain practical insights into the manufacturing and maintenance process involved in railway carriage production, to understand safety measure & quality control procedure in place, learn about technical advancements in railway industry.





# **INDUSTRIAL HISTORY**

Carriage Workshop, Matunga was set up in 1915 as a repair workshop for broad gauge and narrow gauge coaches and wagons of the erstwhile Great Indian Peninsula (GIP) Railway. The workshop covers a triangular piece of land/area, skirted by the Central Railway suburban corridors on the east and the Western Railway corridors on the west.

Matunga Workshop is headed by Chief Workshop Manager and is assisted by five JA Grade officers of Mechanical, Electrical, EMU, Personnel and Accounts departments. Store Depot is attached to the Workshop.

The workshop capacity has since been expanded and developed and over a period of time the target outturn of the workshop has been increased to the current level of 149 Non-AC Coaches, 36 AC Coaches POH, 7.5 LHB and 99 EMU Coaches POH per month. LHB coaches schedule maintenance is started in Matunga Workshop since December 2018. Matunga Workshop is proud of becoming the first Railway Workshop to start the industrial use of CNG since March 2017. Matunga Workshop is certified with IMS (ISO 9001:2015, ISO 14001:2015, ISO 45001:2018); ISO 50001:2011; ISO3834-2:2006; 5S & GREENCO

## **OVERVIEW OF RAILWAY CARRIAGE**

After all students gather at workshop main gate, roll call was taken at approximately 8:45. It was a two day Industrial visit (I.V) on first day Prof.Gupta & Prof.Gawade & On second day Prof.Bhosterkar & Prof.Siddiqui sir were the supervisor besides us. The entire crowd was club into 2 groups. One faculty and 4 club members were appointed to each group. We arrived at workshop at 9:00 a.m and rendezvoused with SSE/SSMr.Pandey sir.

After that , each group visit different workshops. The Workshop plays a pivotal role in the maintenance, repair, and manufacturing of railway carriages, contributing significantly to the seamless operation of the country's rail transport network. Throughout our visit, we had the chance to witness the skilled craftsmanship, advanced technologies, and dedication of the workforce that keep this crucial aspect of the railway system running smoothly. The workshop area spread over 35 hectors was established in 1915.



# **TOUR OF THE WORKSHOP**

There were Many workshop in it like Trimming workshop , heavy corrosion workshop , lifting part workshop , EMU REHAB workshop, Traction motor section, Trolly workshop , Air break system, Wheel shop , etc.

There are some workshops where students visited as follows :-

## **Trimming workshop:**

A trimming workshop in a railway context is responsible for maintaining and repairing rail components, such as switches, crossings, and other infrastructure. The working process typically involves the following steps: Inspection: The process begins with a thorough inspection of rail components to identify damage, wear, or defects that require attention.

Planning: After inspection, the maintenance team plans the necessary repairs and decides on the tools, equipment, and materials needed.

Dismantling: If a rail component is severely damaged or worn, it may need to be dismantled for repair or replacement. This involves removing rails, switches, or crossings from the track. Repair or Replacement:

Damaged components are either repaired or replaced with new ones, depending on the extent of the damage and the workshop's capabilities.

& also there seat making process is done the material is used for making is brown or blue sheet (resin). And sponge in it is made by (DTPB – DENSIFIED THERMALLY POLYESTER BLOCK).





## **Heavy corrosion workshop (HCR WORKSHOP) :-**

Rust is the result of oxidation of metal. Any prolonged contact of water and salts leads to corrosion of the metal. Any metal which contains iron bonds with oxygen found in water molecule and forms iron oxide or rust. Rust will speed up the corrosion process so proper upkeep is required. Corrosion is a chemical phenomenon of oxidation of iron which results in loss of section and therefore of strength. Oxidation takes place only when steel is in contact with atmosphere in presence of moisture. So in order to stop corrosion we have to prevent the contact of atmosphere with the steel. In order to do so the coaches are painted by inhibitive zinc chromate red oxide primer. Mild steel used in ICF & LHB. Two types of vehicles 1.PCV – Passenger coaching vehicle 2.OCV – Other coaching vehicle. Types of coaches – NMG (Newly Modified Good ) , VBH (Navy Good Carrying) , VPH (Heavy Parcel Carrying).





### Lifting workshop :-

Lifting and lowering of coaches is used to dismantle the shell and bogie of a coach in order to be sent to their respective shops for POH. This is done by removing the centre pivot and attachment of the bogie by using a crane. The shell is then rested on the tracer and bogie is sent to the trolley section by using traverse of capacity 80T. There are 6 lines and in each line 3 cranes are mounted from which any 2 are used for lifting the shell. Maximum 4 coaches can be lifted and rested on tracer in each line.

TYPES	ICF (Integral Coach Factory)	LHB (Link Hoffman Bush)
Maintenance Period	1. 18 months 2. 18 months	1. 18 months 2. 3 yrs 3. 6 yrs
Suspension	Two springs are used	Bellow are used
Bearing Types	Center pivot & side bearer	Center bearer



## **EMU (ELECTRIC MULTIPLE UNIT ) REHAB WORKSHOP :-**

An electric multiple unit or EMU is a multiple-unit train consisting of self-propelled carriages using electricity as the motive power. An EMU requires no separate locomotive, as electric traction motors are incorporated within one or a number of the carriages. An EMU is usually formed of two or more semi-permanently coupled carriages, but electrically powered single-unit railcars are also generally classed as EMUs. The great majority of EMUs are passenger trains, but versions also exist for carrying mail. In it DC motor is used . Some steps are used 1.Trailor Coach 2. Striping (pulling rod) 3.Dewheeling (Remove wheel ). In EMU coach names are given as letter A-Trailor Coach , B- Motor coach , C-Driver End. In EMU only 4 traction motor are used.



## **Trolley workshop :-**

This shop is responsible for the inspection and repair of trolley of the Main Line and EMU coaches. After the shell of the coach is lifted in the Lift and Under Frame shop, the lower part of the coach called trolley is sent to the trolley repair shop. Here the suspension and wheels are dismantled from it. This workshop consists of two sections:

1. Main Line trolley repair section.
2. EMU line trolley repair section

Types of trolleys:

1. Main Line trolley.
  - A. 13 ton trolley
  - B. 16 ton trolley.
2. EMU Line Trolley:
  - A. Motor Coach trolley.
  - B. Trailer Coach trolley

In this workshop there was automatically bogie wash plant is present after washing dismantling of parts are done.

**Bogie Frame:** A 4- or 6-wheeled truck used in pairs under long-bodied railway vehicles. The bogie has a central pivot point which allows it to turn as the track curves and thus guide the vehicle into the curve. Here it has to carry the motors, brakes and suspension systems all within a tight envelope. It is subjected to severe stresses and shocks.



## **Wheel workshop :-**

The Wheel Shop is one of the most important shops in the Workshop. The wheel shop is responsible for the inspection and repair of the wheel which is the most important part of a bogie. The wheels are dismantled from the trolley and sent to the wheel shop. Depending on the Amount of damage, either normal or heavy repair is done.



Types of Axles: 1. 16T-Dia 152 mm for AC Coach  
2. 13T-Dia 145 mm for Sleeper Coach

Main Activities carried out at the Workshop:

3. Re-Disking of wheel.
4. Normal Repairing
5. Re-Axeling of wheel
6. Re-Gearing of wheel

Components of Wheel Set: The wheel set assembly is made up of the following components- .

1. Wheel Discs on both sides of axle
2. An axle to hold these wheel discs in position

## Pantograph :-

A pantograph (or “pan” or “panto”) is an apparatus mounted on the roof of an electric train, tram or electric bus[1] to collect power through contact with an overhead line. The term stems from the resemblance of some styles to the mechanical pantographs used for copying handwriting and drawings. The pantograph is a common type of current collector; typically, a single or double wire is used, with the return current running through the rails. Other types of current collectors include the bow collector and the trolley pole



## **OBSERVATION & FINDINGS**

During visit students were observed several things as :-

**Safety Measures:** The workshop prioritizes safety, with employees wearing appropriate personal protective equipment (PPE) and well- marked safety zones.

**Manufacturing Processes:** I observed the step-by-step process of carriage manufacturing, from the design phase to the assembly of various components, emphasizing precision and quality.

**Machinery and Tools:** The workshop is equipped with a range of modern machinery and tools essential for the construction and maintenance of railway carriages.

**Materials and Inventory:** Efficient inventory management systems are in place to ensure a steady supply of materials and parts for production.

**Quality Control:** Rigorous quality control measures are in place, including inspections and testing, to ensure that carriages meet safety and performance standards.

**Workforce:** The workshop employs a skilled workforce of engineers, technicians, and laborers who play vital roles in the production process.

**Environmental Practices:** Sustainable practices and eco-friendly initiatives are evident in the workshop's operations.

**Maintenance and Repairs:** I learned about the procedures for carriage maintenance, including overhauls, refurbishments, and component replacement.

**Safety Standards:** The workshop adheres to strict railway safety standards and regulations, ensuring the safety of passengers and the reliability of their carriages.

**Innovations and Technology:** I noted the use of innovative technologies and automation systems to enhance efficiency and quality.



## CONCLUSION

The conclusion of an industrial visit to a railway carriage workshop typically involves summarizing the key takeaways and insights gained during the visit. This may include:

**Understanding the manufacturing process:** Explain how the visit provided insights into the various stages of railway carriage production, from design to assembly.

**Technology and machinery:** Discuss the advanced machinery and technology used in the workshop, highlighting their role in improving efficiency.

**Safety and quality standards:** Mention the emphasis on safety measures and quality control practices observed during the visit.

**Skill and workforce:** Recognize the skilled workforce and their contribution to the production process.

**Environmental considerations:** If applicable, comment on any eco- friendly practices or sustainability initiatives within the workshop.

**Importance of rail transport:** Reflect on the vital role of rail transport in a country's economy and transportation infrastructure.

**Future prospects:** Consider how the insights gained might influence the future of the railway industry and the potential for innovation.

Overall, emphasize the educational and practical value of the industrial visit and express gratitude to the workshop staff for their time and insights.



**Batch 1**



**Batch 2**

# **IMS EVENT : Strategy to secure Global Admit**

**Date: 11<sup>TH</sup> OCTOBER 2023**

**Time: 2:30 PM TO 4.15 PM**

**Venue: Seminar Hall, 1<sup>st</sup> Floor, RGIT**

**Speaker: Ranjana Mam, Vignesh Sir**

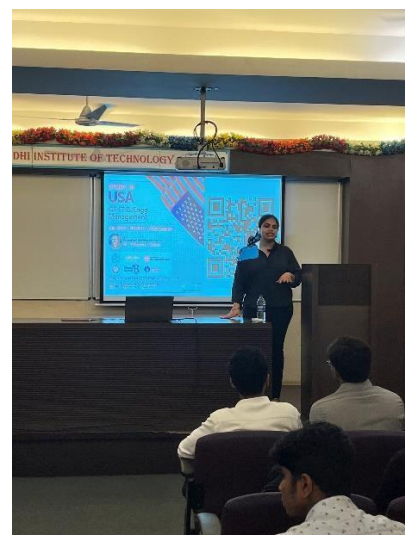
On October 11th, 2023, RGIT'S MESA organized a seminar on "**Strategy to secure Global Admit**" in collaboration with an IMS Initiative venturi global admissions simplified. The chief guests and speakers of the seminar were Ranjana Mam, Vignesh Sir, Rahul sir from IMS (this session was a gateway to pursuing management & engineering programs internationally.)

As the chief guests arrived at the institute for the event, they were received by the Team RGIT'S MESA. The crowd gathered in large number in the seminar hall and the stage was all set for the commencement of the event. The chief guests Ranjana Mam, Vignesh Sir, Rahul sir were then called upon on the stage and were greeted by the Team by giving them Bouquet as a token of gesture. The hosts for the event Ms. Prity Nath (Event Management Secretary) & Ms. Pranjal Polekar (Jt. Publicity Secretary) of Team MESA warmly welcomed the Respected HOD, professors and all the participants. The hosts then handed over the mike to the President of RGIT'S MESA Mr. Shubham Dixit for welcome speech and a short introduction about Team Venturi (IMS).



The hosts then handed over the mike to Ranjana Mam for a short Q&A session. The questions like: which country do the attendees desire to study in? Are they willing to migrate abroad after bachelors? served as the scene setter for the rest of the seminar. As the talk progressed by, the volunteers took the pictures and recorded videos, covering all the key moments of the talk. Ranjana Mam then discussed with the work-study, programs session, the requirements for management & engineering programs at Global Level.

Ranjana Mam explained the various options to migrate into different nations around the globe for work purposes on a work visa and, at the same time, fulfil one's dream of studying abroad by studying part-time. She then discussed different internship options, practical training programs in Europe and the USA related to the field of previous study, Career Opportunities (for exploring global job prospects) etc. She also pioneered the weekday job and weekend study pattern in European countries, allowing people to legally study and work in other countries. Later, the rules and regulations, employer/governmental allowances, perks, costs, duration, domains, and eligibility criteria were explained to the participants. This ended the work-study session & then hosts passed on the mic to Vignesh Sir for discussion on the study-work program.





Vignesh Sir started the talk by explaining the university application procedure (they gave valuable tips on the application process), university shortlisting, visa process, personal interview, Statement of Purpose writing, obtaining Letter of Recommendations, etc. in different nations in-short. He also spoke about the Ph. D. options, stipend & work allowance in the USA, and research opportunities that allow an individual to gain practical experience along with achieving his/her study abroad goals. The talk was then followed by tuition fees, loan facilities, accommodation and mess options available in that respective country. Later, he also explained the eligibility criteria and the institute's code of conduct/honor with which he concluded the study-work session



The last few minutes were reserved for doubt clearing, wherein participants asked various questions related to the services offered by the company, the application process, the life of students abroad, etc. The seminar concluded with a thanking speech by the event hosts. The refreshments were distributed among the Guests and all the participants present.

The event was conducted successfully and it was an excellent knowledge gaining session because it revealed the various opportunities that abroad universities/institutions of higher education have and how interested students can take the advantage of those resources for getting admissions into such universities and continue to achieve great heights.

# **Donation Drive for Orphanage Children and Street Kids**

## **Day 1**

**Date: 13th November 2023**

### **Celebrating Diwali with the Orphanage and Street Kids:**

It was a heart-warming experience to celebrate the auspicious festival of Diwali with the children of Ankur Bal Vikas Kendra Orphanage in Dombivli East on 13<sup>th</sup> of November'23.



### **Warm Welcomes and Introductions:**

We arrived at the orphanage around 10.00 am and were greeted with the bright smiles of the children. We decorated the space with festive lights to add to the joyful atmosphere.





## **Starting with Prayer:**

A prayer rose like a gentle breeze, a quiet moment of shared reflection nestled within the joyful chaos. Introductions danced on the tip of laughter, giggles erupting like bursts of firecrackers as we learned each other's names, weaving threads of connection through the vibrant canvas of the day.



## **Games, Gifts, and Growing Together:**

The air crackled with anticipation as we introduced ourselves and the children, eager to embark on a day of joy. Laughter erupted as we launched into a whirlwind of games, each one designed to spark smiles and create lasting memories. From Ball passing to Dance, the room buzzed with friendly competition and pure delight. But amidst the fun, we also carved out a space for learning, conducting a quick session on Poetry that sparked curious minds and ignited imaginations.



## **Sharing, Sweetness, and Saying Thank You:**

The highlight of the day arrived in the form of gifts and clothes, carefully chosen to bring warmth and joy to each child. The sparkle in their eyes as they unwrapped their presents was a priceless treasure. We then shared a delicious lunch, the aroma of home-cooked food filling the air with comfort and togetherness. As the day drew to a close, we gathered for a joyous cake-cutting ceremony, sweet treats melting on tongues and hearts alike. Finally, we captured the day's magic in a group photo, a lasting reminder of the bonds forged and the smiles shared.





## **Day 2**

### **Children's Day Celebration with Street Kids and Underprivileged Communities in Andheri**

Team: RGIT's MESA

Date: 14th November

Location: Street children's community and nearby underprivileged areas in Andheri

#### **Summary:**

Team RGIT's MESA organized a meaningful Children's Day celebration for the street children of Andheri, followed by distribution of clothes and sweets to underprivileged residents in the surrounding areas

#### **Introductory Session:**

The day began with a brief welcome and introductions, helping build rapport with the children



#### **Learning Session:**

Mesa members conducted a short educational session, engaging the children through interactive activities.





## **Poetry Recitation:**



The children showcased their talent by reciting poems they had learned, fostering a love for language and expression.

## **Gift Distribution:**

Study kits and sweets were distributed to all the children, ensuring essential tools for learning and bringing joy to their day.



## **Photo Session:**

Pictures were clicked with the children and teachers, capturing the smiles and memories of the celebration.



## **Community Outreach:**

Team members distributed clothes and sweets to the underprivileged residents in nearby areas, spreading the spirit of sharing and caring.



**RGIT'S MESA KHUSHIYON KI DIYALI WAS MUCH MORE SPECIAL & HEARTWARMING**



## IV To Gas Turbine Power Plant, URAN

Date of Visit:- 6<sup>th</sup> MARCH 2024.

Place:- Gas Turbine Power Station, URAN.

No of Students:- 88 (TE-A, TE-B).

Faculty In Charge:- Dr Rajesh Kale & Prof. Atul Londhekar, Prof. J.M Hajare.

### INTRODUCTION

What is Gas Turbine?

A **gas turbine**, also called a **combustion turbine**, is a type of continuous and internal combustion engine. The main elements common to all gas turbine engines are:

- an upstream rotating gas compressor
- a combustor
- a downstream turbine on the same shaft as the compressor

A fourth component is often used to increase efficiency (on turboprops and turbofans), to convert power into mechanical or electric form (on turboshafts and electric generators), or to achieve greater thrust-to-weight ratio (on afterburning engines).

The basic operation of the gas turbine is a Brayton cycle with air as the working fluid.

Atmospheric air flows through the compressor that brings it to higher pressure. Energy is then added by spraying fuel into the air and igniting it so the combustion generates a high-temperature flow. This high-temperature high-pressure gas enters a turbine, where it expands down to the exhaust pressure, producing a shaft work output in the process. The turbine shaft work is used to drive the compressor; the energy that is not used for compressing the working fluid comes out in the exhaust gases that can be used to do external work, such as directly producing thrust in a turbojet engine, or rotating a second, independent turbine (known as a power turbine) which can be connected to a fan, propeller, or electrical generator. The purpose of the gas turbine determines the design so that the most desirable split of energy between the thrust and the shaft work is achieved. The fourth step of the Brayton cycle (cooling of the working fluid) is omitted, as gas turbines are open systems that do not use the same air again

## **1. ABOUT GTPS, URAN POWER PLANT:**

### **Capacity:**

The Uran power plant consists of four gas turbines and two steam turbines generating around 672 MW of electricity. (4 x 108 GT + 2 x 120 ST)



Gas Turbine Power Plant, Uran

### **108 MW gas turbine:**

- The air filtration system consists of 2-3 micro filters for air inlet.
- The gas turbine consists of 16 stage compressor and 4 stage turbine.
- Two air fuel mixing chambers in each gas turbine consisting 8 burners in each chamber.
- Flanged manhole is provided on each combustion chamber for inspection
- Lubrication system is provided with SERVO PRIME 46 oil for maximum performance.
- The oil used in lubrication is of best quality it does not need replacement
- Four bearings in which two of them are thrust bearings.
- The fuel used for combustion is natural gas which is transported from ONGC.
- Waste heat recovery plant is coupled with turbine flue gas to use the waste heat which drives the steam turbine.
- The turbine is air cooled by providing baffles around the turbine
- Three out of four is generally active while one is kept on standby mode for emergency or sometimes due to availability of natural gas.
- For safety two blowoff valves are provided for depressurization of turbine
- The inlet temp of combustion chamber is around 1000-1200°C and the exit temperature of flue gas is about 500°C
- The cycle time of the turbine is only 13 mins.

- The prime mover moves with the output speed of 1200-3000rpm
- By using the WHRP the cost of generation of electricity can go upto 1-2.3rs per unit
- The efficiency of gas turbine is around 21% in open system mode and 42% by using WHRP
- To avoid sagging of shaft due to elevated temperatures the prime mover is maintained continuously at 100rpm even in off state.

## 2. Gas Turbine



### Gas arrangement for GTPS

- Gas skid 3x60MW
  - Gas skid 4x 108MW
  - Gas skid is provided by GAIL
  - The inlet to the turbine is provided by 12inch pipes.
  - The pipelines are underground
  - The gas skid is made available on the contract basis for any extra gas requirement it is charged according to the market value
  - Extra gas requirement is fulfilled by Reliance or GAIL
  - The gas skid control system consists of 3 pipelines out of which 2 are active and 1 is on standby mode
  - The system is isolated in case of emergency by tripping the systems using pneumatic valves.
  - The valves are controlled automatically from the control room of the powerplant
  - Pneumatic valves are used to maintain the critical pressure required for the turbines
- The gas skid consists of steam bath and filters



- The filters help to make cyclone action which separates the unwanted elements from the gas before delivering it to the turbine inlet
- The gas skid of the Uran power plant is designed by Siemens.

#### **Lubrication system:**

- It consists of four pumps for proper lubrication
- Pumps are usually axial piston pump and along with that lift oil pump is used to help in starting of generator

#### **Boiler of steam turbine:**

- The steam turbine is used with WHRP
- The boilers used are vertical, non fire, water tube forced boilers.
- The boiler have bypass damper and inlet damper
- The flue gas heat is utilized by water to convert it into high pressure superheated steam and low pressure steam
- The high pressure steam is at around 78bar and 425C
- The low pressure steam is at around 8-10 bar and 108C
- A Condenser preheater is add at the top to absorb further heat and reduces the temp to 78C
- The steams are stored in two different HP and LP tanks and transmitted further to the turbine

#### **Condenser system:**

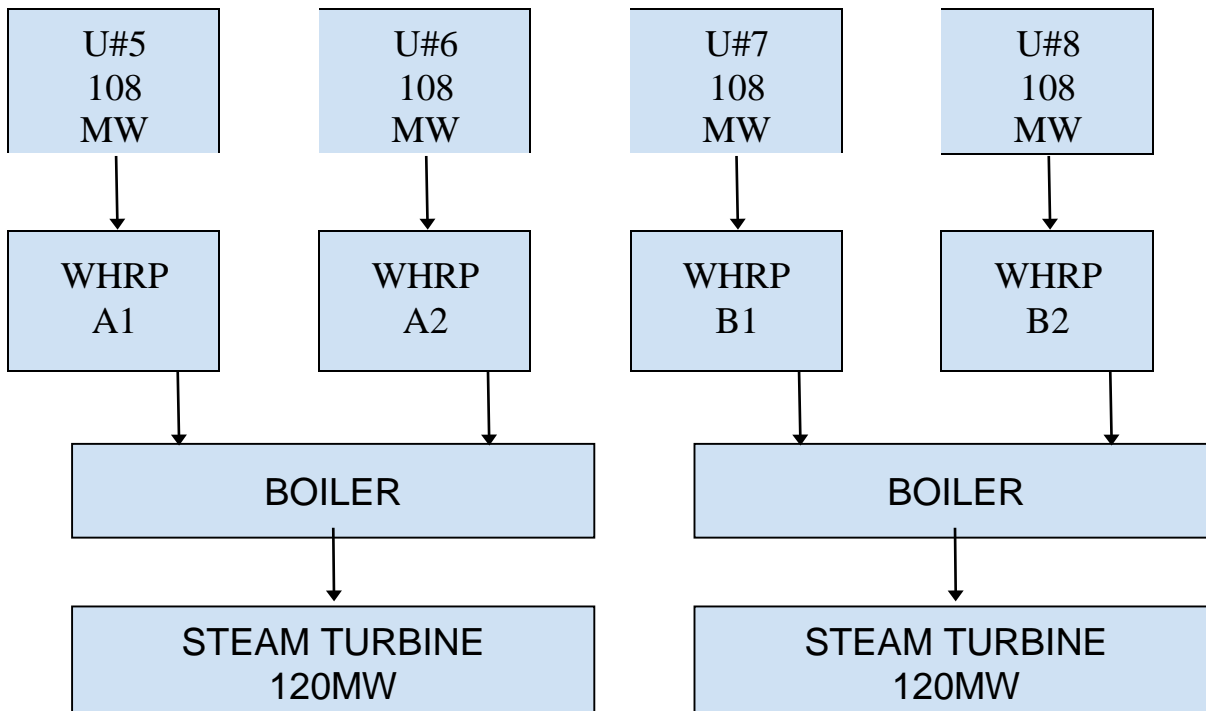
- The condenser system consists of condenser tank, vacuum pumps, condensate extraction pumps, feedwater tank, feed water pumps, etc.
- The condensed steam is collected into the condenser tank which is cooled by forced four-way circulation with the help of fans
- The condensate is further passed into the feed water tank by through the condensate extraction pumps
- The replenishment water is around 2%

All the auxiliary systems require around 1-2% of the total power output generated

### Control room:

The output generation on the visit day was 396MW 50Hz.

### Schematic of the Uran powerplant:



### OUTCOMES FROM INDUSTRIAL VISIT:

The gas turbine power plant obtains its power by utilizing the energy of burnt gases and air, which is at high temperature and pressure by expanding through several rings of fixed and moving blades. It thus resembles a steam turbine. To get a high pressure (of the order of 4 to 10 bar) of the working fluid, which is essential for expansion a compressor, is required.

The quantity of the working fluid and speed required are more, so, generally, a centrifugal or an axial compressor is employed. The turbine drives the compressor and so it is coupled to the turbine shaft.

If after compression the working fluid were to be expanded in a turbine, then assuming that there were no losses in either component the power developed by the turbine would be just equal to that absorbed by the compressor and the work done would be zero.

But increasing the volume of the working fluid at constant pressure, or alternatively

increasing the pressure at constant volume can increase the power developed by the turbine. Adding heat so that the temperature of the working fluid is increased after the compression may do either of these.

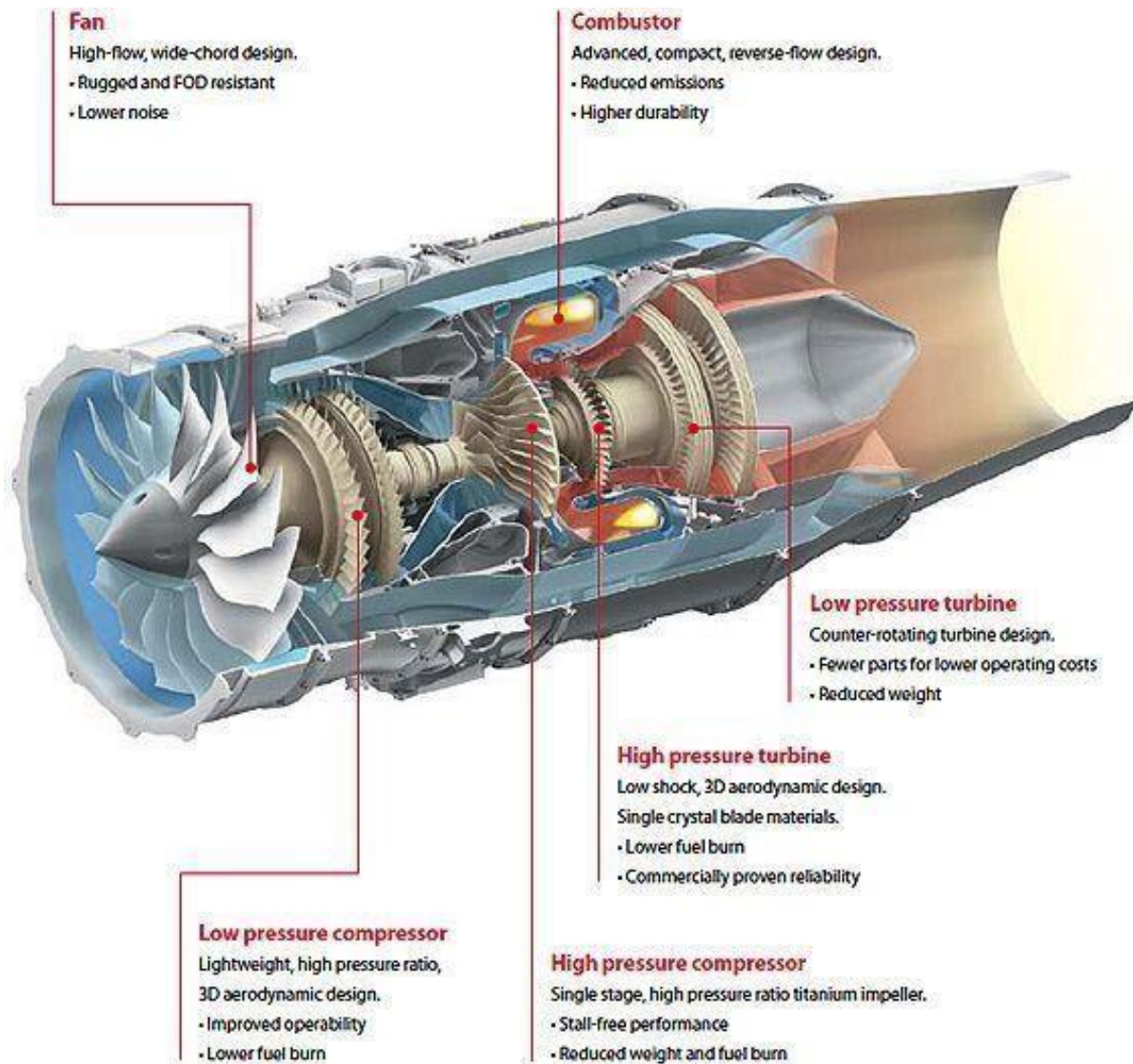
To get a higher temperature of the working fluid a combustion chamber is required where the combustion of air and fuel takes place giving temperature rise to the working fluid.

Thus, a simple gas turbine cycle consists of

- a. a compressor**
- b. a combustion chamber and**
- c. a turbine**

Since the compressor is coupled with the turbine shaft, it absorbs some of the power produced by the turbine and hence lowers the efficiency. The net work is, therefore, the difference between the turbine work and work required by the compressor to drive it.





## Classification of Gas Power Plant:

The gas turbine power plants which are used in the electric power industry are classified into two groups as per the cycle of operation.

**Open cycle gas turbine.**

**Closed cycle gas turbine.**

A simple **open cycle gas turbine** consists of a compressor, combustion chamber, and a turbine. The compressor takes in ambient air and raises its pressure. Heat is added to the air in the combustion chamber by burning the fuel and raises its temperature.

**The closed-cycle gas turbine** plant was originated and developed in Switzerland. In the year 1935, J. Ackeret and C. Keller first proposed this type of machine and the first plant was completed in Zurich in 1944. In a closed-cycle gas turbine plant, the working fluid (air or any other suitable gas) coming out from the compressor is heated in a heater by an external source at constant pressure.

## **CONCLUSION**

The industrial visit at Gas Turbine power plant, Uran was very successful, we got the very good inside of all the plant utility system, accessories and other equipment's details as well. We got the knowledge of overall power generation from gas turbine. How to do the maintenance of the various plant system and overhauling of the whole system.

## **GROUP PHOTO**



## **IV TO MAHANAND DAIRY, GOREGOAN**

Date of Visit:- 14<sup>th</sup> MARCH 2024.

Place:- MAHANAND Dairy, Aarey Colony, Goregaon (East), Mumbai. No of

Students:- 54(TE-A).

Faculty In Charge:- Prof. Ajay Gawade & Prof. P.R. Paul



(Group Photo at MAHANAND Dairy)



# **MAHANAND Dairy :-**

## **Introduction**



Mahanand Dairy was constructed in 1982 and was commissioned in 1983. It is situated at Western Express Highway, Goregaon East, Mumbai. Starting capacity of dairy is 500 litre per day and increased to 6500 litre per day by the end of that year with the progress over years capacity of the plant is 8 lakhs litres per day.

The Indian Dairy Industries scenario has made rapid progress. Since Independence a large number of modern dairy plants have been established. Since the time of White Revolution and establishment of dairies that use modern technologies, there has been drastic rise not only in production of milk but also in the quality of milk and milk products. Similarly the quantity of products manufactured in Mahanand Dairy has improved various organised dairies have engaged in commercial production of market milk and various western and Indian dairy products

## MILK PROCESSING

Methods of Milk Processing of Mahanand Dairy for maintaining quality of milk, necessary steps must be taken to stop bacterial growth from the milk is taken out in the farm and till it reaches the dairy. In this dairy, further processing is done various purposes. Two stage of milk

1. Cooling
2. Milk Treatment
3. Cooling

Artificial cooling is done the farm and during transport from the farm by the dairy. Milk is therefore, chilled to 4°C soon after milking. The cooling of the milk is done by the following methods:

1. By keeping milk in can and then keeping it in another vessel containing the cooling medium. The cooling medium may be cold water, chilled brine or chilled water. In this method, milk must be continually stirred to obtain uniform cooling.
2. By keeping milk in a special type of can provided with an inner cylinder filled with ice. This method is widely used in many parts of our country especially during summer.
3. By keeping milk in storage tank and by circulating a cooling medium. The cooling medium may be melted ice from an ice tank or chilled brine water from a brine water tank. Cooling also may be done directly with the help of directly expanding refrigerant. In all the cases, a mechanical refrigeration system is necessary to chill the cooling medium.
4. By using a special type of cooler in which cooling medium flows through tubes and the milk flows in a thin film over the exterior of these tubes. The cooling medium may be chilled water, brine or directly expanding refrigerant.
5. By using a -plate-heat exchanger and maintaining temperature of milk to within 4° to 6°C. The plate-heat exchanger is made, up of a number of stainless-steel plates fitted closely (0.69 cm apart) and the liquid can flow as a colder or warmer medium through the plates in such a way that one plate represents the heat exchanging dividing wall between the two streams.

### **Milk Processing Stages**

Milk processing is included method Clarification, Homogenization, Standardization, Pasteurization, Aseptic filling, and Sterilization. The various stages of operation for processing milk are as follows:

- 1) Clarification: It is the first stage of milk treatment in the dairy. It is the process by which sediments present in the milk are removed in a centrifugal clarifier. During clarification, some cells and bacteria may also be removed.
- 2) Homogenization: It is process by which fat globules are subdivided into smaller globules so that the creaming property of the milk is lost. It is done by heating milk to about 60°C so as to inactivate the lipase and then pumped through a small orifice at a very high pressure. By homogenization, the viscosity of milk is increased.
- 3) Standardization of milk: In some cases, as in 'toned milk', a standard composition of milk must be maintained. It may be required to standardize the fat content of quite a large proportion of the cream. To obtain the required standardization, the whole milk and the skim milk are mixed in a particular proportion for the improvement of milk SNF and Fat percentage.
- 4) Pasteurization:

The milk is known to be one of the most perishable foods and if it is not maintained at sufficient low temperature, it gets spoiled due to the growth of bacteria and other organisms. Some kind of rapidly multiplies in number at temperature of 21 C to 38 C (297 K to 311K) and the milk gets spoilt and sour. As the temperature of the milk is reduced, the bacterial growth decrease and practically ceases at 0 C to 5 C (273 K to 278 K), though the bacilli are not killed even at the very low temperatures. The bacterial content can be eliminated to a great extent by heating the milk to 62 C (335 K) and holding it at that temperature for about 30 minutes. Thereafter to minimize the bacterial growth and preservation, the milk is cooled to 4 C to 5 C (277 K to 278 K). This process of heating and immediately cooling the milk for controlling the bacterial growth is known as Pasteurization.

The pasteurization is generally done in a batch type process. In this process the raw milk is heated by hot water or steam to 62 C. In case the heating is done by hot water, it is sprayed around the outside lining of the vat by a distributor, which gets collected in a sump at the bottom of the vat, reheated and once again sprayed. The steam heating is carried out by flowing steam in the space provided between lining and the casing of the vat. The heated milk is then cooled, first by cooling tower water and then by the chilled water or brine to 4 C to 5 C, which is desire temperature for filing the milk in bottles. The heating and cooling is done by passing the milk (by milk pump) through the heat exchange plates. The milk flows between the two plates and the hot water, cooling tower water or chilled water (brine) is circulated through alternate pairs of plates. The direction of flow of heating or cooling fluids is opposite to that of milk to obtain better heat transfer.

In order to control the fat content of milk, it is desired to churn the milk. Such milk is retained as 'toned milk'. The fat thus removed is processed as butter and stored at 4 C to 5 C. The cheese is another product from milk and is stored at about 4 C.



## Fully Computerized CIP (Cleaning in Place)



CIP (cleaning in-place) is the commonly used method for plant cleaning during the production process where hygiene is, of course, paramount. Process piping and vessels used in the dairy and food industry require periodic Cleaning without disassembly to remove residue from previous batches and to sanitize both the process piping and vessels. The cleaning can involve alternately

Complete CIP system includes tanks, valves, PHE's, pipelines, dosing system, packing machine CIP through injection tube and road tanker CIP has been provided by Dairy Automation Pvt. Ltd. on turn-key basis.

This State-of-the-art CIP system is having 04 Nos. of tanks and 03 circuits which mean simultaneously CIP of 03 destinations can be done at a time. All operations of this CIP system can be done through computer screen like configuration of CIP recipe kitchen, start and stop operations, auto-dosing, chemical recovery settings, CIP supply flow control, operation of return pumps, level control of each tanks etc.

CIP system is capable of generating miscellaneous tabulated and graphical reports related to CIP traceability, effectiveness, recipe formation, recovery settings and usage of water and chemical done for conducting a specific CIP.

### **BENEFITS OF CIP -**

- A modern CIP system will not only save money in terms of higher plant utilization but also due to significant savings in CIP liquid (by recycling cleaning solutions), water (the system is designed to use the optimum quantity of water) and man-hours.
- Improved cleaning effectiveness
- Enhanced product quality

Documentation and Process Optimization - Allows simultaneous recording of measured values and switching statuses and thus creates the necessary transparency for process optimization. Recording of measured data is supplemented by a database-supported event log with practice-oriented evaluation features. The history recorded is optimally suited for tracking individual batches or entire productions.

- Less downtime, less resource consumption, and an all-round cleaner and better functioning plant.
- Provides recycling capabilities, resulting in huge cost savings for: water, hot water, caustic, sanitizer and acid. Recipe based system supports different types of cleaning requirement in typical dairy plant and cleaning objectives can be re-defined as per requirement or seasonal implications to optimize the returns.

### Integrated Cip Control System



All CIP operations can be performed from the computer screen and it also displays the real-time status of complete CIP operations including valve positions, pumps, level, concentrations, temperature, destinations etc.

By utilizing high-tech, high-quality instrumentation in CIP, valves, pneumatics and process automation services. It facilitates all the CIP related requirements to formulate into Recipes to fulfill all the cleaning requirements.

The operation of CIP system is very easy and user-friendly only minimal training is required for existing operators. User has to only select the pre-defined recipe and click on START button to initiate cleaning operation.

The computer also records operating data that can be reviewed. For example, if operator wants to review CIP cycles, the system will display previous records for CIP conducted like CIP circuit, cycle duration, minimum wash time, temperature, concentration, destination cleaned etc.

### Technical Specifications

Machine	: Nichrome Prodo-Pak PV Series-215
Bagger Output	: 1000 pouches per min.
Quantity (Up to)	: 5g to 2.5kg
No. of Tracks	: Up to 12
Min. Pouch Size (WxL) mm	: 25 mm x 50 mm
Max. Pouch Size (WxL) mm	: 475 mm x 625 mm
Pouch Formats	: 4 Side Seal
Max. Web Width	: 1040 mm
Max. Roll Diameter	: 500 mm
Core Diameter	: 75 mm
Cycle Speed (Up to)	: 70 per min.
Air Consumption	: 1.1 m <sup>3</sup> /min @7 bar
Packaging Material	: Heat Sealable Laminate, Co-extruded films
Supply Voltage	: Stabilized 415 V-AC, 3-Phase, 50 Hz

## **Part B :- Cold Storage**

Cold Storage details

Introduction to cold Storage details-

Temperature: 5<sup>0</sup>C

Storage capacity: 2.5 lakhs Total no of

cold storages: 3

Refrigerants used: Ammonia NH<sub>3</sub>, Propylene glycol + water. Whole

refrigeration plant -700 TR

Flooded type evaporator used



## Water cooled condenser

## Reciprocating screw compressor, two cylinder reciprocating compressor

The following main advantages accrue by cold storage of fruits, food stuffs and vegetables:

1. Substances such as potatoes, butter etc., can be stored when their supply is plentiful but which can be sold during the period of short supply.
2. Due to reduction of spoilage great saving is affected.
3. Transportation of perishable commodities from distant places is made possible. The

cold stores are of two types:

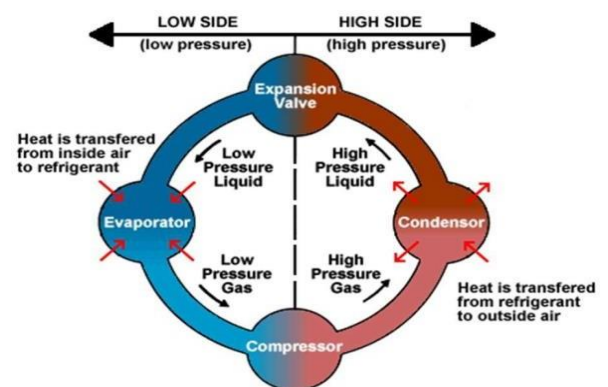
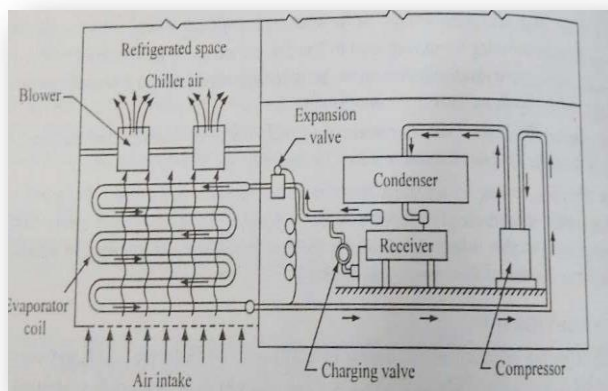
- a) Long term ware houses with the product in frozen or unfrozen state.
- b) Short-term ware-house or retail storage with production usually not frozen. Foods

are quickly frozen to get the following advantages:

- i. It limits the growth of bacteria and wild growth during the freezing period.
- ii. It reduces the size of ice crystals formed.
- iii. It reduces the separation of water from the cell. Quick freezing is accomplished by the use of cold air blast, brine spray or contact evaporators or double contact plate freezers.

Types of cooling plant for cold storage are as follows :

1. Brine coils placed parallel to and near the centre of the ceiling.
2. Unit conditioner with the condensing unit outside the store.
3. Small ceiling mounted units.



### Reciprocating Compressor:

3 cylinder single stage compression

50ton capacity

Total 4 nos. of compressor out which 3 are running on regular basis and 1 standby

Motor rating -55kW



1. This pressure build-up can only be accomplished by having a restriction in the high pressure side of the system. This is a small valve located in the expansion valve.

The compressor has reed valves to control the entrance and exit of refrigerant gas during the pumping operation. These must be firmly seated.

1. An improperly seated intake reed valve can result in gas leaking back into the low side during the compression stroke, raising the low side pressure and impairing the cooling effect.
2. A badly seated discharge reed valve can allow condensing or head pressure to drop as it leaks past the valve, lowering the efficiency of the compressor.

Two service valves are located near the compressor as an aid in servicing the system.

1. One services the high side, it is quickly identified by the smaller discharge hose routed to the condenser.
2. One is used for the low side, the low side comes from the evaporator, and is larger than the discharge hose

The compressor is normally belt-driven from the engine crankshaft. Most manufacturers use a magnetic-type clutch which provides a means of stopping the pumping of the compressor when refrigeration is not desired.

### Refrigerant –NH<sub>3</sub>

Ammonia is a chemical consisting of one atom of nitrogen and three atoms of hydrogen. It is designated in chemical notation as NH<sub>3</sub>. Ammonia is extremely soluble in water and is frequently used as a water solution called aqua ammonia. Ammonia chemically combines with water to form ammonium hydroxide. Household ammonia is a diluted water solution containing 5 to 10 percent ammonia. On the other hand, anhydrous ammonia is essentially pure (over 99 percent) ammonia. "Anhydrous" is a Greek word meaning "without water;" therefore, anhydrous ammonia is ammonia without water.

Refrigerant grade anhydrous ammonia is a clear, colourless liquid or gas, free from visible impurities. It is at least 99.95 percent pure ammonia. Water cannot have a content above 33 parts per million (ppm) and oil cannot have a content above 2 ppm. Preserving the purity of the ammonia is essential to ensure proper function of the refrigeration system.

### CONCLUSION OF VISIT:

At MAHANAND Dairy, we have successfully learned the heating system and the refrigeration system.

## DEPARTMENTAL DAY CELEBRATION

**Date: 07 May 2024**

**Time: 12:00 PM TO 4:00 PM**

**Venue: RGIT lawn and Cafeteria**

On May 07th, 2024, RGIT'S MESA organized Departmental Day celebration. A cultural type mini fest. The chief guests and speakers were **HOD Mechanical Department and Mesa convenor Prof. Rehan Siddiqui.** As the chief guests arrived at the institute for the event, they were received by the Team RGIT'S MESA. The crowd gathered in large number in the RGIT's Lawn and the stage was all set for the commencement of the event. The chief guests HOD Mechanical Department and Mesa convenor Prof. Rehan Siddiqui sir was then called upon on the stage and were greeted by the Team by giving them Bouquet as a token of gesture. The hosts for the event Mr. Sahil Khatri (vice president) of Team MESA warmly welcomed the Respected HOD, professors and all the participants. The hosts then handed over the mike to the President of RGIT'S MESA Mr. Shubham Dixit for welcome speech and a short introduction about MESA.





The hosts then handed over the mike to HOD Mechanical Department and Mesa convenor Prof. Rehan Siddiqui for speech.



Then Cake cutting is done by HOD, Convenor and faculty members from all branches. After this A wonderful performance by TEAM RGIT RHYTHM to grace the cultural program. They were then honoured with a memento as a small token of gesture.



Following with these performances several fun activities were done games like Pictionary were played by all the students. They were several teams participating and having fun. They all enjoyed the game with an outstanding participation. They had an amazing time playing the games

At last the most awaited time arrived finally a disco jamming session with all the students. All were waiting to rock the stage and having a last time fun and jamming with all. The students enjoyed this session a lot.

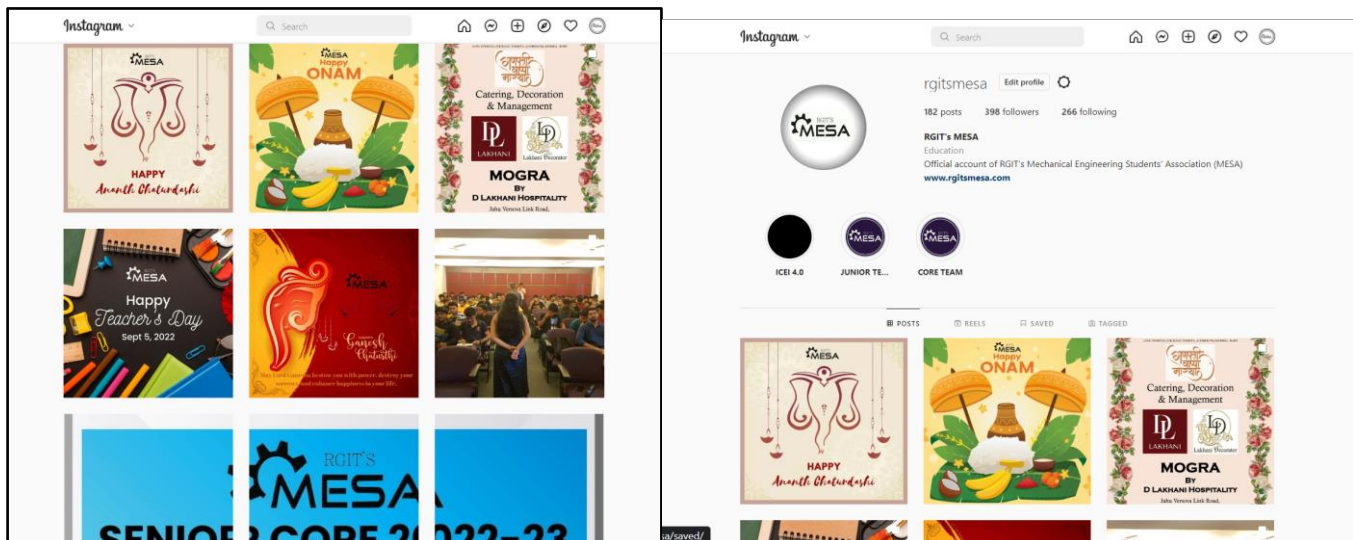


The event was conducted successfully and it was only possible because of the support from respected Principal, HOD Mechanical Department and Mesa convenor Prof. Rehan Siddiqui & supporting Faculties, our hardworking MESA team and the number of students who supported us throughout the event. All have enjoyed this day with fun

# OUR DIGITAL MEDIA HANDLES

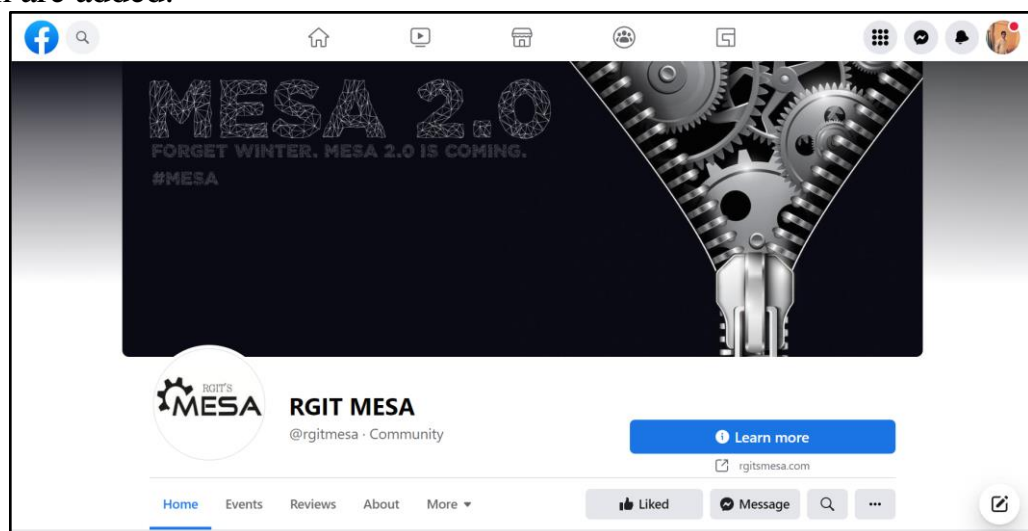
## ➤ INSTAGRAM

MESA also has an official Instagram handle '[rgitsmesa](https://www.instagram.com/rgitsmesa)' wherein posts about upcoming events, festival posters & wishes, past workshops, team information are posted regularly.

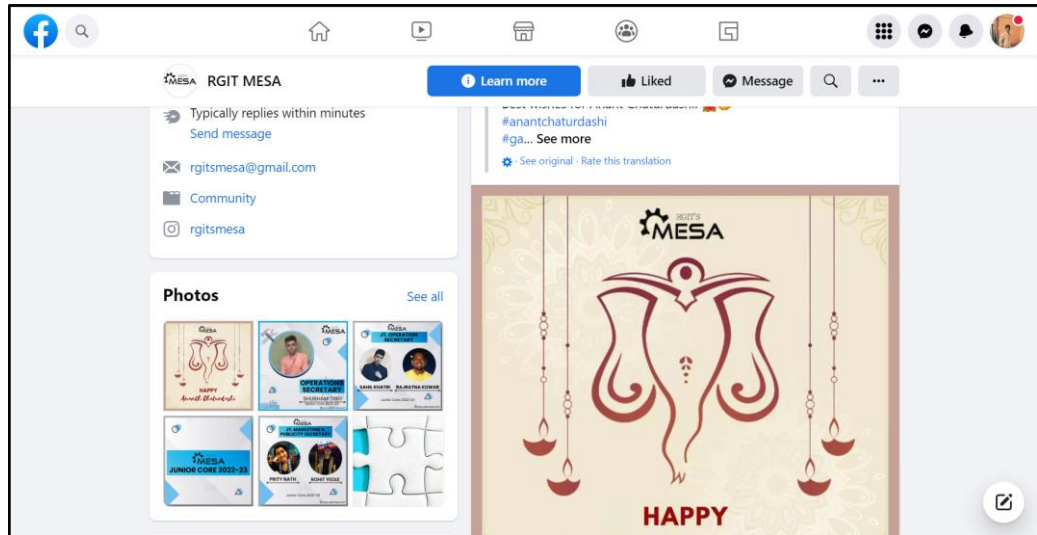


## ➤ FACEBOOK

The [facebook page](#) supports the Instagram account for those folks who don't use Instagram. Facebook also contains a closed group in which old members of RGIT's MESA Team are added.

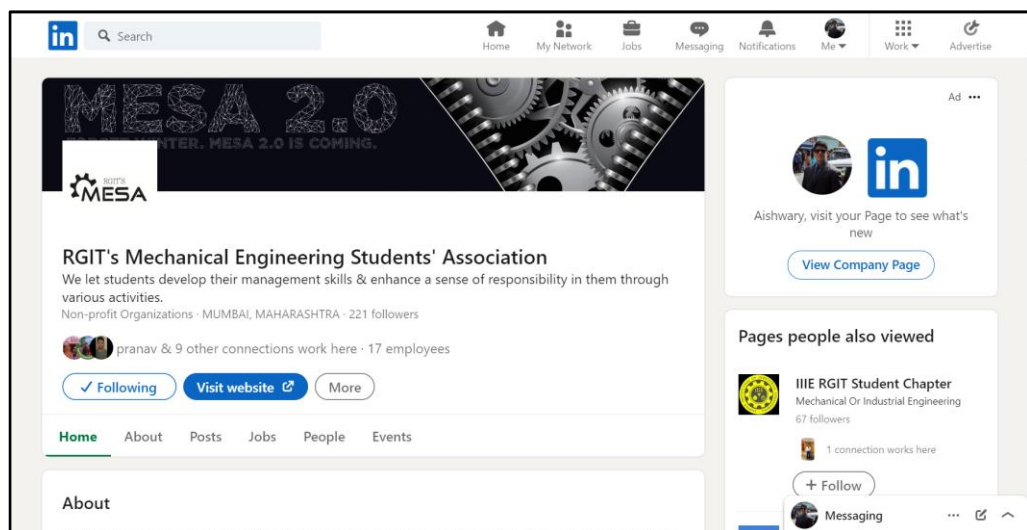






## ➤ LINKEDIN

All updates pertaining to upcoming events, new teams are posted on [LinkedIn Account](#) in a professional manner by members of the D.C team.





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# OUR UPCOMING EVENTS

- GATE & GRE Preparation Seminar - in collaboration with Admit Abroad.
- KLT Automotives, Pune Industrial Visit.
- Launch of 'MechaDrive' - A Job & Recruitment Notification Platform.
- Student Development Program – in collaboration with IFCAI IBS Institute.
- 2-Wheeler Fabrication Internship– in collaboration with Sky Riders Institution.
- Design & Fabrication of Bluetooth Car Module in collaboration with ROBOTIC'S CLUB.
- Technical Poster & Technical Project Presentation Conference