JSS MAHAVIDYAPEETHA
JSS ACADEMY OF TECHNICAL EDUCATION, BENGALURU
Affiliated to Visvesvaraya Technological University, Belagavi, Karnataka, INDIA
Approved by All India Council for Technical Education, New Delhi
UG programs accredited by NBA: CIVIL, CSE, ECE, E & IE, ISE, MECHANICAL ENGG.
Accredited by NAAC with A+ Grade

INDUSTRIAL VISIT: RAJAMANE INDUSTRIES

Department: Mechanical Engineering
Date: 02/02/2023
Visited Industry: M/s. Rajamane Industries Pvt. Ltd, Dabaspete, Karnataka
Students present: 3RD Semester (29 members)
Co-Ordinators: Dr. Siddappa P.N. & Dr. J.S. Srikantamurthy, Asst. Professor,
Facilitated by: Mr. Manjunath, Indian institute Foundrymen, Bengaluru

Rajamane Industries are India's largest Coolant Pump Manufacturing Company, with a backward integrated foundry. The Company is a Large Volume Auto-Electric component manufacturer This Industries has the expertise to Design and Manufacture BLDC motors for EV applications. **ISO 9001:2015** certified and the products are CE Marked,

Students make into two groups for the safety of the student on the shop floor. Students saw the melting of the metal in an induction furnace and the pouring of molten metal into sand mould They understand the preparation of mould with the help of pattern and core. Students are understanding the Nonferrous casting process and its differences from the ferrous casting process. The students found this industrial visit very useful. This visit improved the student's knowledge of various foundry process practices and equipment presently being used in foundry the industry.

Industry Visit: Ace Manufacturing Systems Ltd., Bengaluru

Date : 03.12.2022

Event: Industrial Visit to **Ace Manufacturing Systems Ltd., Peenya Bengaluru**

Faculty co-coordinator: Mr Nagaraja T K.

Students: VII Sem students;

No. of students attended: 12

Ace Manufacturing Systems Ltd - Company Profile

Ace Manufacturing Systems Ltd., is one of the largest CNC machine tool builders in India. It was started by Mr. P Ramadas in 1994, along with promoters of Ace Designers Limited. The company has expertise in manufacturing CNC Vertical Machining Centers, Horizontal Machining Centers, Twin Spindle Machining Centers and Drill Trap Machining Centers. AMS also offers tooled up, jigs & fixtures and automation manufacturing solutions centered around these products. Ace Manufacturing Systems Ltd has three manufacturing plants in Bengaluru.

7th semester, Mechanical Engineering, 12 students visited **Ace Manufacturing Systems Ltd.**, **Peenya Bengaluru** on 3rd December 2022.

We left for Ace Manufacturing Systems Ltd, Peenya at 1:00 PM from the college campus and reached the Plant by 2:30 PM and we were offered refreshments before we got a tour of the manufacturing plant. The Plant had different units for the manufacture, finishing and assembly of different types of CNC Machine. The first unit had the manufacturing, assembly and testing area where a machining components, spindle, horizontal column, ball screw assembly etc., The shop floor in-charge gave a brief on the working and assembly of CNC components in the shop floor.

Industry Visit: Yuken India Ltd., Bengaluru

Course/Course code: Fluid Mechanics (18ME43)

Date: 03.06.2022
Event: Industrial Visit to **YUKEN INDIA LTD,** Malur Road, Kolar Dist. 63130
Faculty co-coordinators: Dr. Siddappa P.N.& Dr. J.Srikantamurthy.
FPSI co-coordinator: Mr. Joseph Mathew.
Students: VI sem students;
No. of students attended: 36

Need for visit:

Industrial visits are an essential part of the academic curriculum. Being a part of interactive learning, such educational visits give students a major exposure to real working environments along with a practical perspective of a theoretical concept relevant to their domain. In addition to that, industrial visits bridge the widening gap between theoretical learning and practical exposure.

Given below are a few significant benefits of industrial tours:

- Opportunity to interact with Industry Experts
- Educational tours to industries provide an opportunity to see and experience real workstations, plants, machines, systems, assembly lines, and interact with highly trained and experienced personnel.
- Industrial realities are opened to the students through industrial visits.
- The employee contacts are precious especially when the students wish to pursue the same career.
- The Industrial visit makes student's choices easier
- Helps to enhance their interpersonal skills.

YUKEN INDIA LIMITED - Company Profile

YUKEN INDIA LIMITED (YIL) was born in 1976 in Technical and Financial Collaboration with YUKEN KOGYO COMPANY LIMITED, JAPAN (YKC), leaders in Oil Hydraulic Equipment. YIL is certified ISO-9001: 2015 for all its manufacturing facilities. The manufacturing facilities are located in Malur, (near Bangalore) spread across sprawling 18 Acres of lush green environment. In the last 40 years, Yuken is a Japan-based industry known for its top-notch quality in the manufacture of hydraulic products such as pumps, valves, hydraulic power units, etc. Yuken has seven manufacturing plants in India and three of which are based in Bengaluru.



4th semester, Mechanical Engineering, 36 students visited **YUKEN INDIA LIMITED, Malur road, Kolar Dist.** on 3rd June 2022.

We left for Yuken plant, Malur at 8 AM from the college campus and reached the Plant by 10:30 AM and we were offered refreshments before we got a tour of the manufacturing plant. The Plant had different units for the manufacture, finishing and assembly of different hydraulic products. The first unit had the assembly and testing area where a massivehydraulic power pack unit which consists of pumps, motors, accumulator, cooler, control valves, etc., and pressure units were present, the Shop Manager gave a brief on the working and a demonstration on the power pack unit, which were going to be used in steel plants and hydel power plants.

We were then taken to the second unit in the plant where the waste products like chips were compacted. The engineer present in the field explained that the chips from the finished products were collected and fed to the chip compacting machine where the chips were compressed using the compacting machine into small circular bricks, which are used in a recycling process where they are melted in a furnace andfurther used to the required purpose.

The third unit in the plant was the finishing and assembly of Pumps, we were introduced to the types of pumps they manufactured i.e., the piston pumps, vane pumps and gear pumps. The engineer explained the working of the vane pump bytemporarily assembling the pump and demonstrating its working, we were also shown how the rotors in the pumps were accurately given finishing by the use of CNC machines.

The Fourth unit in the plant was a complete house of CNC machines and robot arms where the finishing of valves was taken place, the unit in charge explained how the CNC is programmed to acquire the required finished valves. And to which the tour of the plant came to an end.

We were treated to a lunch by the HR representative Mr. Sagara who had accompanied us throughout the tour of the plant, to which thetime had come for us to start our journey back.

We reached back to the campus by 5 PM where we alldispersed.

Outcome:

Students are exposed to the manufacture, finishing and assembly of different hydraulic products like pumps, motors, accumulator, cooler, control valves etc. students have learnt the importance of CNC machine in manufacturing to improve the precision of pump.

SAE (Society of Automotive Engineers) https://saeindia.org INDIA mainly focuses on mobility professionals at all levels across our nation from Automobile, Aerospace and off Highway sectors. SAEINDIA has built over these years several flagship events caters to both working professionals and engineering students. SAEINDIA being fully supported by OEMs, Tier1, Tier2 Suppliers and Government Institutions in providing technical content for the events.

Scope & objectives

This SAE forum gives a platform to students, to exhibit their technical skills, design and fabrication skills, presentation skills, and communication skills in organizing various events for students in the automobile field.

Following are the office bearers of SAE Collegiate Club of JSSATEB:

Sl No	Name	Designation	Department	Role
1	Dr. Devappa	Assistant Professor	Mechanical Engineering	Faculty Coordinator /Mentor
2	Dr. Sathish Seth	Assistant Professor	Electronics & Communications Engineering	Faculty Coordinator /Mentor
3	Mr. PrabhushankarMR	Assistant Professor	Industrial Engineering & management	Faculty Coordinator /Mentor

Benefits to Students and faculty:

Following programs are offered for faculty and students by SAE. Refer the web link for more details. https://saeindia.org

1. BAJA SAEINDIA
2. SUPRA SAEINDIA
3. A World in motion (AWIM)
4. Skill India Program
5. MANOVEGAM
6. Electrifying Green Aspiration (EGA)

7. TIFAN
8. Efficycle
9. SAEINDIA Foundation
10. AERO Design
11. Tractor Design Competition

Activities under SAE India (2018 - 19) from JSSATEB.SAE

Range Extended Electric Vehicle. (REEV)

The preparation of the project started in April-2018, and its continuous process of Research and Analysis. A Multi-disciplinary team consisting of Mechanical Engineering and Electronics and Communication Engineering was formed to design and fabricate a Hybrid Car and participate in REEV 18-20. The team was divided into various subsystems in preparation of the REEV Virtual.

SAE REEV VIRTUAL2019 WINNERS

The JSS REEV Team took part in the virtual round of the event in the month of February of 2019 hosted by SAE - General Motors at Acharya College and secured 1st place among several other prominent colleges across the Nation.

Receiving the winner's trophy from Mr. Brian McMurray, Vice President, General Motors

UNVEILING OF REEV CAR at JSSATEB.

The car was unveiled at the campus in the presence of our respected principal, Dr. Mrityunjaya V Latte, Mentors Dr. Bhimasen Soragaon and Dr. Siddesh G K, Faculty Advisors Dr. Devappa and Dr. Sathish Shet K, Mr. Mahadeviah from Accounts Department and other respected staff members on 5thFebruary 2020.

The REEV Car unveiled to the faculty and staff.

SAEREEV FINALS 2020 WINNERS

The JSS REEV Team successfully completed the fabrication of the Hybrid Car and participated in theREEV-2020 Finals event held at Meco Kartopia, Bangalore on 7th and 8thof February 2020 and secured the first place. The team was also awarded a cash prize of Rs. 60,000 for their stellar performance. TVS, General Motors, Continental,

Math Works, Dassault Systems, Faurecia and other large companies were part of the event, helping the students interact and get an insight into the automotive world. Some students of the team were also given recruitment opportunities by the automotive company Faurecia and General Motors. The Honourable Home Minister, Mr. Basavaraj Bommai graced the event as the Chief Guest and shared his personal experience as a Mechanical Engineer.

Hon'ble Home Minister, Mr. Basavaraj Bommai with judges for vehicle inspection

Receiving the winner's trophy and cheque from Mr. Brian McMurray, Vice President, General Motors

JSS REEV Team presenting the Winner's trophy to HOD-ME, Dr. Bhimasen Soragaon

REEV TEAM MEMBERS

USN	Name	Responsibility
1JS16ME057	PRATHEEK SUDI Team	Captain, Chassis Head, Power train
1JS16ME059	R NANDANV.	Captain, Suspension Head, Brakes, Powertrain
1JS16ME435	S PRAVEEN KUMAR	Team Manager, Power train, Marketing Head
1JS16EC002	AHANA SHETTY	EC Head, MCM, Sensors
1JS16EC051	DEEPALI N M	MCM, Generator, Engine control
1JS16ME059	NUTHAN S	Suspension design and Power train
1JS16ME017	CHANDAN KUMAR B S	Brakes, Regen braking
1JS16ME016	CHANDAN B S	Chassis design and skin
1JS16ME071	REUBEN QUADROS	Brakes and part design
1JS16ME012	B P VASUDEVA RAO	Suspension design and analysis
1JS16ME015	BRIJESH KAMATH	Chassis Analysis, Brakes
1JS16ME087	SRIKANTH A K	Steering design and calculations
1JS16EC003	AJAY S KASHYAP	Display, 12V circuit, sensors
1JS16EC039	KOMAL K	Sensors, Generator, Display
1JS16EC021	DEEPAK R BHOJANI	Display
1JS16EC029	HARSHITA BHOJANI	Engine RPM Control
1JS16EC054	NAVYA PRASAD	Ignition kill switch
1JS16EC019	CHINMAYA ARUN	V wiring
1JS16EC012	ASHVIN M	Fuel sensor
1JS16EC014	B BHAGAVANTU	12V wiring

Faculty Coordinator for REEV

1. Dr Siddesh G K, HOD , ECE , Mentor.
2. Dr. Bhimasen Soragaon, HOD, ME, Mentor.
3. Dr. Devappa , Faculty Mentor, ME Dept.
4. Dr. Sathish Shet K, Mentor, ECE Dept.

Other Activities under SAE INDIA

1. MANOVEGAM 2017-A team of 7 students from IEM and Mechanical Engineering. Developed a GLOW ENGINE AIRCRAFT and took part in MANOVEGAM 2017. The team won a cash prize of Rs 10,000 for the BEST DESIGN REPORT. 14th and 15th April 2017.
2. AERO MODELLING WORKSHOP-An Aero Modeling workshop was organized in association with Happy Landings India Pvt. Ltd. 9th and 10th Sept 2017.
3. FFS INDIA 2017-A team of 21 students competed in FFSINDIA 2017 at KARI MOTOR SPEEDWAY, COIMBATORE. For The team manufactured a STUDENT FORMULA CAR. 6th to 10th Oct 2017.
4. HYBRID TWO-WHEELER CHAMPIONSHIP 2017-A team of students are worked on a two wheeler, two passenger engine and electric motor hybrid vehicle. They took part in virtual round held at TVS Institute of Quality andLeadership, Hosur. 14th Oct2017
5. About 15 students of Mechanical & Electronics Engineering Departments students & Faculty adviser Mr.G.M.Swamy Asst.Professor , Department of Mechanical Engineering attended for TVS MAVERICS Hybrid (Hybrid scooter- Petrol run & Electrical drive).Our students clear the virtual round & got 4^{th} place out of 19 teams participating across the country at TVS Co. Attibele Bangaloreon 14^{th} October 2017. After that JSS Management sanctioned Rs.1,70,500 to design a TVS Jupitor scooter for final competition & TVS Company sponsored TVS new vehicle for the final design. This vehicle is petrol start & electrical run. Students designed & attended the competition with vehicle & won the first prize & with cash amount of Rs.25,000 & awarded with certificates on 15^{th} & 16^{th} June 2018 ,The total 12 selected teams are participated & our team has won the first prize at TVS Company, Attibele ,Bangalore .Design with hub motor, sensors & Electrical circuits changes & small chassis design. Now further students can use further research to this TVS Jupiter vehicle & can run with in the campus.

Students Team

Sl No	Students Name
1	Bharani S Anand
2	Suraj S
3	Nikhil Singh
4	Arvind G
5	Aditya Saurav Vijay
6	Srinivasa Sai Bharath
7	Basavakiran M
8	Sathta Pratyush K S
9	Ambarish Tirumalai
10	Skanda Bharadwaj H S
11	Sai Krishan G
12	Supreeth A Gowda
13	Yashaswin Mayya
14	Vishal Venkatesh
15	Anuroop P Das

Faculty Adviser

Dr. G.M.SWAMY

Assistant Professor,

Department of Mechanical Engineering.

INSTITUTE OF INDIAN FOUNDRYMEN (IIF)-JSSATEB

The IIF was set up in 1950 to promote education, research, training and development to Indian foundrymen and to serve as a nodal point of reference between the customers and suppliers of the Indian foundry industry on a global scale. With its Head Quarter in Kolkata, IIF presently services the entire country through its 26 Chapters under four Regional Offices located at Kolkata, Delhi, Mumbai & Chennai. The IIF is a member of the World Foundrymen Organisation (WFO) and Confederation of Indian Industry (CII). A student of engineering or science from a recognized school, college or institute or a technical trainee in foundry can qualify for student membership for a maximum of three years.

Objectives

The students of Mechanical engineering have the privilege to:

- Visit Industries and interact with the industrialists,
- Invite experts from industries for guest lectures, technical talks and interaction,
- Undergo internship training , which is a part of the curriculum,
- Conduct workshops and seminars jointly,
- Carryout project work and placement opportunities,
- To support foundry related courses in educational institutions.
- Attend talks & exhibition organized by IIF at reputed places

Office Bearers

Following are the office bearers of IIF chapter of JNNCE for the year 2019-20:

Sl No	Name	Designation	Dept	Role
1	Dr. B P Mahesh	Professor	Mechanical	Coordinator

Events/Activities Conducted

Invited talk on **"Opportunities for Mechanical Engineers in Foundry Industries"** was organized by Department of Mechanical Engineering on 10.04.19 between 10:00 AM to 01:00 PM in Seminar Hall 2. Dr. Gnanamurthy K, Foundry Industry consultant, Bengaluru, and Dr. Siddaraju, Chairman, Bengaluru Chapter, IIF were the speakers on this occasion. The talk was organized by Dr. B P Mahesh, Professor and Dr. Prashanth B G. Assistant Professor, with the

objectives of setting up of a student chapter with an Institute of Indian Foundry-man and the current opportunities for fresh Mechanical Engineers in various industries within India and abroad. Around 150 students attended the Programme. Dr. Bhimasen Soragoan, Professor and HOD, Dept. of Mechanical Engineering welcomed the gathering. Dr. Prashanth B G. Asst. Professor. Dept. of Mechanical Engineering proposed the vote of thanks.

CO‟s, PO‟s and PSO‟s Correlation:

CO No.	**CO Defined**	**BLL**	**Relevance to POS and PSOs**
CO#	Discuss the opportunities for fresh mechanical engineers, especially in foundry industries, worldwide.	L6	PO6, PO7, PO8, PO9,PO10,PO11,PO12

Benefits:

The Dept. of ME is engaged in industry-institute interaction through IIF and make sure that the students will be benefited in the form of practical knowledge in latest and advanced technologies, skill development, connecting to industrialists, training and placement.

Tachyon Motorsport Club:

The department has a student club “Tachyon Motorsport” which is involved in fostering such skills among students as design thinking, team building, leadership skills , etc.. the following is the list of students who designed and built a race car and participated in the contest called RCDC-2019. The team has won second prizes in different categories.

No	Name	Designation	Semester
1	Niranjan V	Captain	VII
2	Ishan Mishra	Vice Captain	VII
3	Pramukh H S	Team Manager	VII
4	Prithvi P Deshpande	Chassis Head	VII
5	Dilip R Mohite	Powertrain Head	VII
6	Anirudh S	Suspension Head	VII
7	Karthik K	Brakes Head	VII
8	Yashwanth D	Steering Head	VII
9	Pradhyumna R	Team Member	VII
10	Ganesh S V		VII
11	Gowtham S		VII
12	Abhishek Tripathi		VII
13	Naveen J J		VII
14	Rakshith Kallur		V
15	Nithin Raj		V
16	Pratheek M Goutham		III
17	Shilpa		VII
18	Pradyumna C Bhat		VII
19	Rahul S		VII
20	Abhishek R		V
21	Akash S		V

No	Name	Designation	Semester
22	Giridhar D S		V
23	Rakesh Gowda		VII
24	Rithvik Nanda Kishore		VII
25	Sachin D Souza		VII
26	S Gagan Deep		VII
27	Bharadwaj Mantha		V

Event: Rally Car Design Challenge (RCDC) - 2019' held at Bikaner, Rajasthan, from2nd to 4th October 2019.

Organizers: M/s. AMK Industries and M/s. AMZ Automotives, Jaipur.

Prizes won: First place in Manoeuvrability, First place in Static event, Second place inCAE Second place in Business presentation

FLUID POWER SOCIETY OF INDIA®

FLUID POWER SOCIETY OF INDIA

The Fluid Power (Oil hydraulics and Pneumatics) Industry has evolved comprehensivelyover the last century and has generated intensive research, efficient production systems and integrated applications.

The fluid power industry has three large segments: mobile hydraulics, industrial hydraulics and pneumatics. Historically, the mobile hydraulic segment has been the largest, accounting for about 50% of total fluid power sales. The industrial hydraulic and pneumatic segments are nearly the same size, each with about 25% of total fluid power sales.

The major sectors in which fluid power finds applications are:

- Construction and Mining Equipment
- Industrial Process Equipment & Control
- Aerospace & Defence
- Steel plants
- Agri-machinery
- Automotive
- Marine equipment
- Machine tools
- Textile machinery
- Material handling equipment

The Fluid Power Society of India (FPSI, https://www.fpsindia.net/about-us) is a not-for- profit professional body committed to promoting Fluid Power knowledge and technology in the country.

Various activities such as „technical talks, industrial visits for the students, webinars, project contests and exhibitions, conclaves, professional day“, etc. are conducted by

FPSI throughout the year. A quarterly magazine „Fluid Power" is also published coveringa variety of technical articles on hydraulics and pneumatics.

JSSATEB is an institutional member of FPSI from the past four years. Variousactivities are conducted for our students in the past 3 years.

Objectives:

- To create awareness on developing skills in the area of Fluid Power.
- To recognize Industry – Academia link as a unifying activity.
- To disseminate the tremendous potential that the fluid power industry has, to theyoung engineers

Following faculty member looks after the FPSI activities in JSSATEB:

Dr. Gowreesh S S., Associate Professor, Dept. of Mechanical Engineering

Benefits to the students and faculty:

- Students are made aware of the potential job opportunities in Fluid Power area.
- Students can do their internship programme in fluid power companies.
- It facilitates industrial visit to FPSI member institutes.
- Students can work on live projects in the industries.
- It develops leadership qualities among students.
- Faculty can be trained on fluid power area
- Faculty and students can participate in Fluid Power expos, conferences and conclaves with reduced registration fee.

Activities Conducted in the Dept. of Mechanical Engineering:Industry Visit

Date and Time: 03/05/2019

Industries visited: Walvoil, Electronic city Bangalore and Hydax, Electronic city,Bangalore

Participants: Final and Pre-Final Mechanical Engg. students.

Faculty co-ordinator: Dr. Gowreesh S S

FPSI co-ordinator: Mr. Subhadeep

Walvoil

Walvoil

Hydax

Technical Talk

Topic: IIoT Applications in Fluid Power

Resource person: Dr. Prasanna Kumar**,** Advisor FPSI and Former President FPSI

Date and Time: 28/02/2019, Thursday, 10:00 to 11:00 AM

Venue: Seminar Hall-1

Participants: Final and Pre-Final Mechanical Engg. students.

Dr. Prasanna Kumar