

EAS VVAKI ENGINEERING COLLEGE

An AUTONOMOUS Institution
Affiliated to ANNA UNIVERSITY

RAMAPURAM CHENNAI

DEPARTMENT OF

MECHANICAL ENGINEERING

CHEIF EDITOR:

Dr. S.Prasanna Raj Yadav Associate Professor and Head

FACULTY EDITOR:

Dr. K R Suresh Kumar Assistant Professor

NEWS

LETTER

JANUARY
TO
MARCH
2024

STUDENT EDITORS

Balaji V 310620114<mark>314</mark>

Siddhesh Pillai G 310620114072



















<u>VISION</u>

To be an acknowledged leader in imparting Mechanical Engineering education, research and be a recognized resource center for industry and society

MISSION

- M1:To make the students understand the basic and advanced Engineering concepts in the core fields of Mechanical Engineering through Under-Graduate and Post-Graduate Courses.
- **M2**:To prepare the students and expose them to the basic and applied research, thus fostering creativity through recognized research canters.
- **M3**:To make the students undergo training in the Industries, identify the current problems and solve them with multidisciplinary and professional approach.
- **M4**:To prepare the students to integrate Engineering with business that encourages technological commercialization by inviting eminent entrepreneurs for seminars and workshops.
- **M5**:To make the students do application oriented projects which identify the current problems, solving them and thus contribute to the societal needs.
- **M6**:To inculcate the value of ethics, lifelong learning and widening the knowledge frontiers through long term interaction with other academia and industry.

PROGRAM OUTCOMES (PO)

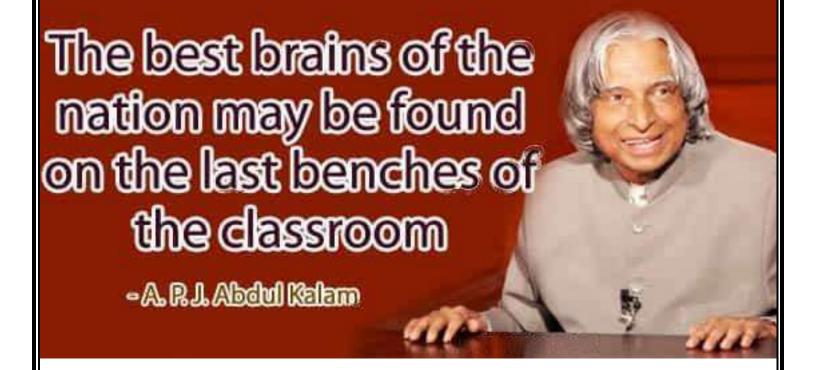
- **PO1:** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2: Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3: Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **PO4:** Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5: Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6:** The Engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent
- **PO7:** Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- **PO8:** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9:** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10: Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11: Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12: Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1**: Our graduates will have fundamental technical knowledge and develop core competency in diversified areas of Mechanical Engineering along with Mathematics, Science and other allied engineering subjects in a view to expand the knowledge horizon and inculcate lifelong learning.
- **PEO2:** A fraction of our graduates will pursue advanced studies, research and develop products in the field of Mechanical engineering by developing partnerships with industrial and research agencies thereby serving the needs of the industry, government, society and scientific community.
- **PEO3:** Our graduates will be capable of building their own career upon a solid foundation of knowledge and with a strong sense of responsibility serve their profession and society ethically.
- **PEO4:** Our graduates will be prolific professionals with effective communication, leadership, teaming, problem solving, decision making skills by understanding contemporary issues and improve their overall personality for career development

PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO1**: Students will be competent in design and analysis of thermal and fluid systems.
- **PSO2**: Students will possess the skill to apply design concepts for mechanical structures and systems.
- **PSO3**: Students will be able to design and develop industrial products using modern machines in the field of manufacturing.
- **PSO4**: Students will be able to use software to solve structural, thermal, fluid and manufacturing problems.



List of Events (Jan 2024 – March 2024)

Event No	Date	Event	Remarks
EEC/DME/074	09.01.2024	Brand Building Event School Outreach program	Dr. S.Prasanna Raj Yadav Asso. Prof and Head / Mech., Dr.C.Joel, Asst. Professor/Mech.
EEC/DME/075	05.02.2024	Brand Building Event	Dr. M.Nareshbabu, Asso. Prof. / Mech., Dr.K.Thavasilingam, Asst. Professor/Mech.
EEC/DME/076	02.03.2024	Alumni Talk on Overview of manufacturing Industries and expectations from graduate Engineers	Mr.V.Aravindh Dr.M.Vetrivel Sezhian Mr.K.Karthikeyan Dr.K.Giridharan
EEC/DME/077	06.03.2024	Core teaching lecture Power train Mechanical Design	Mr.A.Mohamed Saahil Dr.K.G.Ashok Dr.A.Praveen Kumar
EEC/DME/078	08.03.2024	Alumni Talk on Women's Empowerment	Ms.Shrinidhi Shetty of Sarvam safety Equipments Pvt Ltd Dr.M.Vetrivel Sezhian Mr.K.Karthikeyan Mrs.K.K.Naga Chandrika
EEC/DME/079	11.03.2024	Guest lecture on Composite materials towards engineering applications	Dr.L.Poovazhagan, Associate Professor, SSN Engineering College Dr.K.G.Ashok Dr.A.Praveen Kumar
EEC/DME/080	13.03.2024 15.03.2024	Three days hands-on workshop on "Advancements in IOT & Drone Technology"	Techknots Academy LLP, Chennai Dr. A. Praveen Kumar Mr. K. Karthikeyan Dr. M.S Jagatheeswaran Dr. S. Sathyanarayanan
EEC/ME/081	19.03.2024	Guest lecture on "Campus Corporate Connect"	Mr. Ignicious Xavier, Full Stack Engineering Analyst, Accenture Pvt., Ltd. Dr. D. Sakthimurugan Dr. K. Thavasilingam Dr. K.G Ashok Dr. A. Praveen Kumar

BRAND BUILDING EVENT

EventTitle: "Discussion on Emerging Engineering Courses"

Date: 09.01.2024

Time: 2 pm to 3 pm

Venue: St.Johns Matric. Higher Secondary School,

Alwarthirungar, Chennai

Event Convenor: Dr. M. Vetrivel Sezhian, Professor &

Head/Mech.

Event Coordinator: - Dr. S.Prasanna Raj yadav Asso. Prof./

Mech., Dr.C.Joel, Asst. Professor/Mech

No. of Participants: 100



EVENT REPORT

Department of Mechanical Engineering, Easwari Engineering College organized a Student Outreach Program for the students of St.Johns Matric. Higher Secondary School, Alwarthirungar, Chennai on 09th January 2024, between 02.00 pm and 03.00pm.

Dr. S.Prasanna Raj yadav Asso. Prof. / Mech., Dr.C.Joel, Asst. Professor/Mech. Our speakers discussed various possibilities and opportunities for students of 11th & 12th standard in Higher Studies and also about their Responsibilities towards our Nation.

The students actively participated in the event and highly interacted with the Resource





BRAND BUILDING EVENT "DISCUSSION ON EMERGING ENGINEERING COURSES

Event Title: DISCUSSION ON EMERGING ENGINEERING COURSES

Date: 05.02.2024

Time: 02 pm to 04 pm

Venue: Kaligi Ranganathan Montfort Matric. Higher Secondary School,

Perambur, Chennai

Event Convenor: Dr. M. Vetrivel Sezhian, Professor & Head/Mech.

Event Coordinator: Dr. M.Nareshbabu, Asso. Prof. / Mech., Dr.K.Thavasilingam,

AP/Mech.

No. of Participants: 100

EVENT REPORT

Department of Mechanical Engineering, Easwari Engineering College organized a Student Outreach Program for the students of Kaligi Ranganathan Montfort Matric. Higher Secondary School, Perambur, Chennai on 05th February 2024, between 02.00 pm and 04.30pm. Dr. M.Nareshbabu, Asso. Prof. / Mech., Dr.K.Thavasilingam, Asst. Professor/Mech. Our speakers discussed various possibilities and opportunities for students of 11th & 12th standard in Higher Studies and also about their Responsibilities towards our Nation. The students actively participated in the event and highly interacted with the Resource Persons.









EASWARI ENGINEERING COLLEGE DEPARTMENT OF MECHANICAL ENGINEERING EVENT REPORT

Event Title: Overview of Manufacturing Industries and Expectations from

Graduate Engineers

Date: 02.03.2024

Time: 10.30 am to 11.30 am

Venue: LH3501

Event Convener: Dr. S. Prasanna Raj Yadav Head-Mechanical

Dr. M. Vetrivel Sezhian, Professor

Event Coordinator: - Mr. K.Karthikeyan , Mr. K.Giridharan

No. of Participants: 60

POSTER/BROCHURE:



RESOURCE PERSON: MR. V. ARAVINDH

Profile of the Speaker: : Lead Engineer, Supplier Development & Integration,

Turbo Energy Private Limited, Chennai

SUMMARY OF THE EVENT:

Department of Mechanical Engineering and Department of Alumni Affairs have organized an Alumni Talk on "Overview of Manufacturing Industries and Expectations from Graduate Engineers" for 3rd and 4th year students of Mechanical Engineering on 02-03-2024, Saturday between 10.30 am to 12.15 pm.

The Alumni Speaker was Mr. V. Aravindh (B.E. Mech Engg of the 2017 – 2021), Lead Engineer, Supplier Development & Integration, Turbo Energy Private Limited, Chennai. Aravind nostalgically recalled his days at Easwari were he was a very active member of at least 7 clubs and societies like, SAE, ISHRAE, SME, etc., and mentoring by faculty in honing his leadership skills. Incidentally, he was part of the Go Kart Teams that took part in the SKDC Go Kart Championship at Hyderabad in February 2020 and brought laurels to the college and department.

He eloquently spoke of about the prevailing situation in the Manufacturing Industries and the attributes a Graduate Engineer should possess. Aravind spoke of the various departments and roles an Engineer will take up in a career in the manufacturing sector. He motivated the students to take up Supply Chain Management and Logistics as an option for their future by doing it as electives or courses. The session was very interactive and very much appreciated by our students.

SCREENSHOTS OF THE EVENT:







PARTICIPANT DETAILS: 60 STUDENTS FROM III YEAR MECHANICAL ENGINEERING SAMPLE

CERTIFICATE: NA

EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



CORE TEACHING LECTURE ON "POWERTRAIN MECHANICAL DESIGN"

Organized

Ву

SOCIETY OF MECHANICAL ENGINEERS

EASWARI ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

06TH MARCH 2024

EVENT REPORT

Topic	:	POWERTRAIN MECHANICAL DESIGN
Туре	:	LECTURE
Date	:	06-03-2024
Time	:	11:30am-12:40 pm
Venue	:	GALLERY HALL 4 th CIVIL BLOCK
Resource person	••	Mr.A.MOHAMMED SAAHIL, GET, RENAULT NISSAN TECHNOLOGY AND BUSINESS CENTRE, CHENNAI.
Target Audience	:	Third year Students
No. of Participants		60
Event Convenor	:	Dr. S. Prasanna Raj Yadav, HOD-Mechanical
Co-Convenors	:	Dr. A. Praveen Kumar

		Dr. K.G Ashok
Coordinators	:	Dr. K. Thavasilingam Dr. D. Sakthimurugan

POSTER/BROCHURE:



Summary of the Event

A Core teaching lecture has been conducted on the topic "Powertrain Mechanical Design" for the third year students of Mechanical Engineering Department of Easwari Engineering College.

Dr. A. Praveen Kumar and Dr. K. G. Ashok, Convenors organized the event. Mr.

Mohammed Saahil, GET, Renault Nissan Technology and Business center, Chennai, has delivered the lecture.

Dr. S. Prasannaraj Yadav, Head of the Department Mechanical Engineering, gave the welcome address and Chief Guest introduction.

Geotagged Photos:





The core teaching lecture on powertrain mechanical design provided a comprehensive overview of the fundamental concepts, methodologies, and considerations involved in the development of powertrain systems for automotive applications. By understanding the key principles discussed in the lecture, students

can effectively design, optimize, and integrate powertrain components to meet performance, efficiency, safety, and reliability requirements in the rapidly evolving automotive industry.

The core teaching lecture on powertrain mechanical design delves into essential concepts vital to automotive engineering. It begins by elucidating the major components of a powertrain system, emphasizing their functions in transmitting power from the engine to the wheels. Various powertrain layouts, including front

wheel drive, rear-wheel drive, and all-wheel drive, are analyzed in terms of their respective advantages and drawbacks. Transmission systems, encompassing manual, automatic, and other variants, are thoroughly examined, focusing on gear ratios and efficiency characteristics. Additionally, the lecture discusses mechanical design principles such as strength, durability, and weight optimization, alongside packaging and integration challenges. It also addresses performance, efficiency, safety, and reliability considerations, emphasizing the significance of future trends like electrification and connectivity. Ultimately, the lecture equips students with a comprehensive understanding of powertrain design, enabling them to navigate complexities and innovate within the evolving automotive landscape. At the end of the

session Mr. Mohammed Saahil interacted with the students and cleared the doubts.

And finally, Dr. K. G. Ashok felicitated the resource person with an Memento and gave the vote of thanks.



Participant details: 100 students from II and III-year Mechanical Engineering

Sample certificate: na

ALUMNI TALK

Event Title: Women's Empowerment

Date: 08-03-2024

Time: 10.00 A.M

Venue: Gallery Hall -2 Civil Block 4th floor

Event Convener: Dr. Prasanna Raj Yadav/HoD

Event Coordinator: Dr.M. Vetrivel Sezhian/Prof

Mrs.Naga Chandrika K

K/AP

Mr. K Karthikeyan/AP

No. of Participants: 45



Resource Person: Shrinidhi Shetty

Profile of the Speaker: Director - Online sales and marketing, Sarvam safety Equipment Pvt Ltd., Chennai

Summary of the Event:

The Department of Mechanical Engineering of Easwari Engineering College conducted a Women's Empowerment Program On occasion of Women's days for first and second year of girls students from Mechanical and Robotics and Automation department was conducted.

Screenshots of the event:

Geotagged Photos



PARTICIPANT DETAILS:

Students of 1^{st} and 2^{nd} year girls from Department Mechanical Engineering and Department of Robotics & Automation

Sample certificate: na

EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



GUEST LECTURE ON

"COMPOSITE MATERIALS TOWARDS ENGINEERING APPLICATIONS"

Organized By

SOCIETY OF MECHANICAL ENGINEERS

EASWARI ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

11TH MARCH 2024

EVENT REPORT

Topic	:	COMPOSITE MATERIALS TOWARDS ENGINEERING APPLICATIONS
Туре	:	GUEST LECTURE
Date	:	11-03-2024
Time	:	11:30am-12:40 pm
Venue	:	GALLERY HALL 4 th CIVIL BLOCK
Resource person	:	Dr. L. Poovazhagan, Associate Professor, Department of Mechanical Engineering SSN College of Engineering, Chennai
Target Audience	:	Second year Students
No. of Participants		65
Event Convenor	:	Dr. S. Prasanna Raj Yadav, HOD-Mechanical
Co-Convenors	:	Dr. K.G Ashok Dr. A. Praveen Kumar

Coordinators	:	Dr. D. Ajith
		Mr. M.Raju

POSTER/BROCHURE:



Summary of the Event:

A Guest lecture has been conducted on the topic "COMPOSITE MATERIALS TOWARDS ENGINEERING APPLICATIONS" for the second year students of Mechanical Engineering Department of Easwari Engineering College.

Dr. K. G. Ashok, and Dr. A. Praveen Kumar Co-convenors organized the event. Dr. L.

Poovazhagan, Associate Professor, Department of Mechanical Engineering, SSN College of Engineering, Chennai has delivered the lecture.

Dr. S. Prasannaraj Yadav, Head of the Department Mechanical Engineering, gave the welcome address and Chief Guest introduction.

Screenshots of the event:

Geotagged Photos:





The guest lecture on composite materials towards engineering applications delivered a comprehensive overview of the significance and potential of these advanced

materials. It commenced with an introduction to composite materials, highlighting their heterogeneous structure and the combination of reinforcements and matrix materials. Key advantages, including high strength-to-weight ratio and corrosion resistance, were emphasized, illustrating the transformative impact of composites across diverse engineering fields. Manufacturing processes were explored, encompassing techniques such as lay-up, filament winding, and injection molding, underscoring the importance of process parameters and quality control in achieving desired material properties.

Furthermore, the lecture delved into engineering applications, showcasing case studies across aerospace, automotive, and infrastructure sectors. Examples demonstrated how composites are employed to create lightweight aircraft components, durable automotive structures, and corrosion-resistant infrastructure. Design considerations, such as material selection and optimization, were discussed in relation to maximizing performance and efficiency in composite structures. Additionally, challenges including manufacturing complexity and sustainability concerns were acknowledged, with a focus on future trends such as nanocomposites and additive manufacturing techniques, suggesting avenues for advancing composite engineering applications and addressing emerging needs in the field. At the end of the session Dr. L. Poovazhagan interacted with the students and cleared the doubts.

Participant details: 50 students from II and III year Mechanical Engineering Sample certificate: na

EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



THREE DAYS HANDS-ON WORKSHOP ON "ADVANCEMENTS IN IOT & DRONE TECHNOLOGY"

ORGANIZED

BY

DEPARTMENT OF MECHANICAL
ENGINEERING EASWARI ENGINEERING
COLLEGE

IN ASSOCIATION WITH

TECHKNOTS ACADEMY LLP,

CHENNAI 13-03-2024 TO 15-03-2024

EVENT REPORT

EVENT REPORT

Topic	:	ADVANCEMENTS IN IOT & DRONE TECHNOLOGY
Туре	:	WORKSHOP
Date	:	13-03-2024 TO 15-03-2024
Time	:	10:30 am-03:40 pm
Venue	:	AV Hall-I, Central Library
Organizer	:	Techknots Academy LLP, Chennai
Target Audience	:	Meritorious Third year Students
No. of Participants		37
Event Convenor	:	Dr. S. Prasanna Raj Yadav, HOD-Mechanical
Co-Convenors	:	Dr. A. Praveen Kumar Mr. K. Karthikeyan
Coordinators	:	Dr. M.S Jagatheeswaran Dr. S. Sathyanarayanan





Report:

Three days Hands-on Workshop has been conducted on the topic "ADVANCEMENTS IN IOT & DRONE TECHNOLOGY" for the meritorious third year students of Mechanical Engineering Department of Easwari Engineering College.

- Dr. A. Praveen Kumar and Mr. K. Karthikeyan, Co-Convenors organized the event.
- Dr. S. Prasanna raj Yadav, Head of the Department Mechanical Engineering, gave the welcome address and Chief Guest introduction.





The three days Hands-on Training on Advancements in IoT (Internet of Things) and Drone Technology is conducted by the Department of Mechanical Engineering, EEC for the third year students. A total of 37 students were attending this workshop. The event aimed to provide practical insights and skills in two cutting-edge fields, namely

IoT and drone technology, offering participants an opportunity to delve deeper into their applications and advancements. The students were divided into 7 batches and trained using a trainer kit inorder to get practical exposure in IOT. This event is organized in association with Techknots Academy LLP, Chennai (A startup registered under the MSME of our final year student).



The three-day hands-on training on advancements in IoT (Internet of Things) and drone technology provided participants with a comprehensive overview and practical experience in these rapidly evolving fields. The training commenced with an introduction to IoT fundamentals, covering topics such as sensors, actuators, communication protocols, and basic data analytics. Participants then delved into advanced IoT applications, exploring platforms, frameworks, and security

considerations. The latter part of the training focused on drone technology, encompassing drone operation principles, regulatory frameworks, and practical flight training. Through a combination of lectures, demonstrations, and hands-on sessions, participants gained valuable insights and skills, equipping them to tackle real-world challenges in IoT and drone applications.



And finally, Dr. M. Vetrivel Sezhian, Professor and Head of the Department, Mechanical Engineering, Easwari Engineering College, discussed the latest innovations in softwares and concluded the lecture with thanking the speaker for spending his time and sharing valuable information.

EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



GUEST LECTURE ON "CAMPUS CORPORATE CONNECT"

Organized By

SOCIETY OF MECHANICAL ENGINEERS

EASWARI ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

19th MARCH 2024

Topic	:	CAMPUS CORPORATE CONNECT
Туре	:	GUEST LECTURE
Date	:	19-03-2024
Time	:	10:00am-11:00 am
Venue	:	MECHANICAL LECTURE HALL - 3302
Resource person	:	Mr. Ignicious Xavier, Full Stack Engineering Analyst, Accenture Pvt., Ltd. Chennai.
Target Audience	:	Third year Students
No. of Participants		65
Event Convenor	:	Dr. S. Prasanna Raj Yadav, HOD-Mechanical

Co-Convenors	:	Dr. D. Sakthimurugan Dr. K. Thavasilingam
Coordinators	:	Dr. K.G Ashok Dr. A. Praveen Kumar







Department of Mechanical Engineering

Present

Guest Lecture on



CAMPUS CORPORATE CONNECT



RESOURCE PERSON Mr. Ignicious Xavier, Full Stack Engineering Analyst, Accenture Pvt., Ltd. Chennai.

19.03.2024 (10:00 AM - 11:00 AM

Venue: Seminar Hall

Convenor

Dr. S. Prasannaraj Yadav, HOD/Mechanical

Co- Convenors

Dr. D. Sakthimurugan Dr. K. Thavasilingam

Coordinators Dr. A. Praveen Kumar

Dr. K. G. Ashok































Report:

A Guest lecture has been conducted on the topic "Campus Corporate Connect" for the third year students of Mechanical Engineering Department of Easwari Engineering College.

Dr. D. Sakthimurugan, and Dr. K. Thavasilingam Co-convenors organized the event. Mr. Ignicious Xavier, Full Stack Engineering Analyst, Accenture Pvt., Ltd., Chennai

has delivered the lecture.

Dr. S. Prasanna Raj Yadav, Head of the Department Mechanical Engineering, gave the welcome address and Chief Guest introduction.



The guest lecture on "Campus corporate connect" would typically focus on bridging the gap between academia and the corporate world, preparing students for the challenges and opportunities they'll encounter in their professional careers. Discuss the current scenario of the relationship between academia and industry. Highlight the existing gaps and challenges. Importance of fostering strong ties between academia and industry for holistic education and workforce development. Discuss the benefits for students, academic institutions, and the industry. Opportunities for collaborative research, internships, and industry projects. Exposure to real-world challenges and experiences.

Furthermore, establishing partnerships and collaborations between academia and industry. Encouraging industry experts to engage in guest lectures, workshops, and



mentorship programs. Facilitating internships, industrial visits, and experiential learning opportunities for students. Incorporating industry-relevant curriculum and skill development programs. Importance of proactive engagement and networking Seeking out internship and job opportunities. Leveraging alumni networks and industry connections. Developing essential skills and competencies valued by employers. At the end of the session speaker _with the students and cleared the doubts.



