

VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University)
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

CIRCULAR

Ref No: 24-25/Even/Mech/Sem 04

Date: 26.03.2025

The Department of Mechanical Engineering is organising a One Day Workshop on “Focusing on Future Fuels: Navigation of Emerging Trends in IC Engine Technology” on 28.03.2025. All the students are requested to participate and register for the seminar. The invitation is herewith attached.



HOD

Circulated to:	1. All the faculty members 2. All the students
Copy to	1. Principal Office 2. Department Notice Board



AVIT
AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY



**VINAYAKA MISSION'S
RESEARCH FOUNDATION**
Deemed to be University under section 3 of the UGC Act 1956



**DEPARTMENT OF MECHANICAL ENGINEERING
ASSOCIATION OF MECHANICAL ENGINEERS OF AVIT (AMEA)**

Cordially invites you all for

**One Day Workshop on
“Focusing on Future Fuels: Navigation of Emerging Trends in IC
Engine Technology”**

DATE & TIME: 28.03.2025 @ 10.00 am.

Resource Person



Dr. Laxman Kumar Malla

Assistant Professor
Department of Mechanical Engineering
Sri Sivasubramaniya Nadar (SSN) College of Engineering



Mr. Karthik Anandan

Assistant Manager / Project Lead
Capgemini India Ltd

Welcome Address

Dr.M.Prabhakar/ HOD MECH, AVIT

Coordinator

Dr. S. Prakash, Assoc Prof / MECH/AVIT



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AVIT
ASSOCIATION OF VEDU INSTITUTES OF TECHNOLOGY
Vinayaka Mission's Chennai Campus



Cordially welcomes you all to a

One-day Workshop on

Focusing on Future Fuels

Navigation of Emerging Trends in IC engine Technology



Resource Persons



Dr. Laxman Kumar Malla

Assistant Professor
Department of Mechanical Engineering
Sri Silvasubramaniya Nadar (SSN) College of Engineering



Mr. Karthik Anandan

Assistant Manager/Project Lead
Capgemini India Ltd

Mr. B. Musthafa

Research Associate
Department of Mechanical Engineering
Aarupadai Veedu Institute of Technology

Mr. Velan

Service Engineer
Apex India Pvt Ltd



28th March 2025
10:00 AM - 03:30PM



**Bosch Lab/ Alternate
fuel testing Research Lab**

13 CLIMATE
ACTION



Organized by
Department of Mechanical Engineering in association with AMEA

Program Brochure



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DEPARTMENT OF MECHANICAL ENGINEERING

ASSOCIATION OF MECHANICAL ENGINEERS OF AVIT (AMEA)

One Day Workshop on “Focusing on Future Fuels: Navigation of Emerging Trends in IC Engine Technology”

PROGRAMME AGENDA

Event Date & Time: 28.03.2025 (Friday) & 10.00 am

Time	Description	Presented by
10.00 am	Start of the session by Moderator	Mr.DHANUSH M Third Year Department of Mechanical Engineering, AVIT
10.05 am	Welcome Address	Dr.M.PRABHAHAR PROFESSOR / HOD Department of Mechanical Engineering, AVIT
10.10 am	Hydrogen Powered Internal Combustion Engines	Dr. Laxman Kumar Malla Assistant Professor, Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (SSN) College of Engineering
11.15 am	Modern Engine Calibration Techniques	Mr. Karthik Anandan Assistant Manager/Project Lead, Capgemini India Ltd
2.30 pm	Live Demonstration on CRDI, EGR in VCR Engine	Mr. B. Musthafa & Mr. Velan
11.30 am	Vote of Thanks	Mr. B. Musthafa Research Associate/AVIT

AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

Ref: 24-25/Even/Mech/Sem 04

Date:01.04.2025

From

Dr. S. Prakash,
Associate Professor,
Department of Mechanical Engineering,
Aarupadai Veedu Institute of Technology,
Paiyanoor.

To

The Principal,
Aarupadai Veedu Institute of Technology,
Paiyanoor.

Respected Sir,

Sub: Submission of Mechanical Engineering Department Event-Report- Reg.

The Department of Mechanical Engineering has organized a One Day Workshop on “**Focusing on Future Fuels: Navigation of Emerging Trends in IC Engine Technology**”. The report of the programme is herewith attached for your kind perusal.

Thanking you,

With regards,



Event Coordinator



HOD



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**VINAYAKA MISSION'S
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Deemed to be University under section 3 of the UGC Act 1956



DEPARTMENT OF MECHANICAL ENGINEERING

Organizes

Workshop on Focusing on Future Fuels: Navigation of Emerging Trends in IC Engine Technology

Date: 28th March 2025

Organized by: Department of Mechanical Engineering in association with the Association of Mechanical Engineers of AVIT (AMEA)

Convenor: Dr. M. Prabhahar, HoD/Mech

Coordinators: Dr. S. Prakash, Assoc Prof

Venue: Bosch Lab/Alternate Fuel Testing Research Lab

Program Brochure

The brochure features logos for Vinayaka Mission's Research Foundation, AVIT, and NAAC. It warmly welcomes attendees to a one-day workshop. The title 'Focusing on Future Fuels' is prominently displayed with a green fuel nozzle icon. Below the title, the subtitle 'Navigation of Emerging Trends in IC engine Technology' is shown. The 'Resource Persons' section includes portraits and details for Dr. Laxman Kumar Malla (Assistant Professor, Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (SSN) College of Engineering), Mr. Karthik Anandan (Assistant Manager/Project Lead, Capgemini India Ltd), Mr. B. Musthafa (Research Associate, Department of Mechanical Engineering, Aarupadai Veedu Institute of Technology), and Mr. Velan (Service Engineer, Apex India Pvt Ltd). The event is scheduled for 28th March 2025, from 10:00 AM to 03:30 PM, at the Bosch Lab/Alternate fuel testing Research Lab. It is organized by the Department of Mechanical Engineering in association with AMEA. A green box in the bottom right corner highlights '13 CLIMATE ACTION' with a globe icon.

Sustainable Development Goals (SDG) Alignment

This workshop aligns with SDG 13: Climate Action, emphasizing the need for sustainable energy solutions and cleaner fuel alternatives to mitigate environmental impacts. Discussions on hydrogen-powered IC engines and emission reduction technologies contribute towards a more sustainable future in automotive and energy sectors.

Resource Persons:

- **Dr. Laxman Kumar Malla**
Assistant Professor, Department of Mechanical Engineering, Sri Sivasubramaniya Nadar (SSN) College of Engineering
Topic: Hydrogen Powered Internal Combustion Engines
- **Mr. Karthik Anandan**
Assistant Manager/Project Lead, Capgemini India Ltd
Topic: Modern Engine Calibration Technique
- **Mr. B. Musthafa**
Research Associate, Department of Mechanical Engineering, Aarupadai Veedu Institute of Technology
Topic: Live Demonstration on CRDI, EGR in VCR Engine
- **Mr. Velan**
Service Engineer, Apex India Pvt Ltd
Topic: Live Demonstration on CRDI, EGR in VCR Engine

Workshop Overview

A one-day workshop titled "**Focusing on Future Fuels: Navigation of Emerging Trends in IC Engine Technology**" was organized by the **Department of Mechanical Engineering** in association with the **Association of Mechanical Engineers of AVIT (AMEA)** on **28th March 2025**. The workshop aimed at providing insights into the latest advancements in internal combustion engine technology, focusing on future fuels and sustainable innovations.

The event commenced with a welcome address by **Dr. M. Prabhakar**, Head of the Department, who emphasized the significance of exploring future fuel technologies for sustainable energy solutions. He highlighted the workshop's objective of familiarizing students and researchers with emerging trends in IC engine technology.

Following the inaugural session, **Dr. S. Prakash** provided an introduction to the event, outlining the importance of hydrogen-based engines, modern calibration techniques, and emission reduction strategies in IC engines.

The first technical session was delivered by **Dr. Laxman Kumar Malla**, who presented an in-depth lecture on **Hydrogen Powered Internal Combustion Engines**. His session covered the potential of hydrogen as an alternative fuel, challenges in implementation, and advancements in hydrogen engine technology.

Next, **Mr. Karthik Anandan** from Capgemini India Ltd provided valuable insights into **Modern Engine Calibration Techniques**, detailing the role of digitalization, AI-based optimizations, and real-time adjustments in improving engine performance and reducing emissions.

The hands-on demonstration sessions were conducted by **Mr. B. Musthafa and Mr. Velan**, who provided live demonstrations on **CRDI (Common Rail Direct Injection) and EGR (Exhaust Gas Recirculation) in a VCR (Variable Compression Ratio) Engine**. These sessions enabled participants to gain practical knowledge on the working and tuning of modern IC engines for improved efficiency and emissions control.

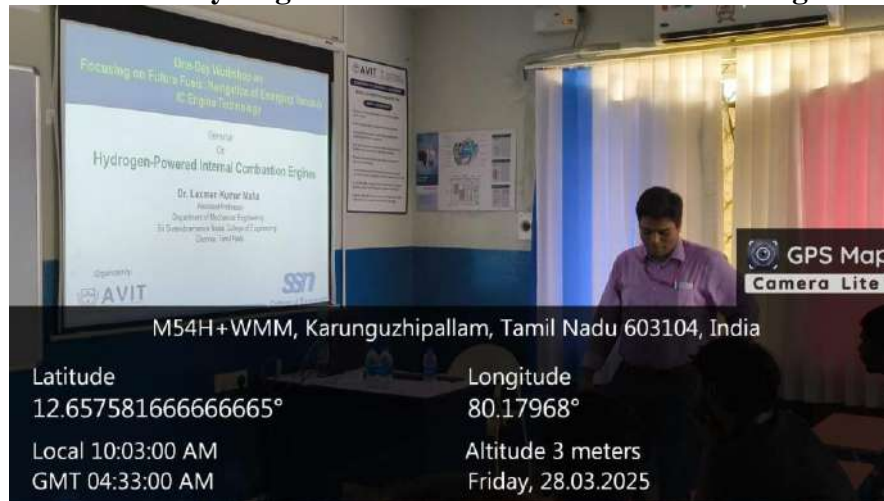
The workshop concluded with an interactive **Q&A session**, where students and faculty engaged with the resource persons to discuss various challenges and future research opportunities in the field of IC engine technology.

The event ended on a high note with a **vote of thanks** delivered by **Mr. B. Musthafa**, Research Associate who acknowledged the contributions of the resource persons, faculty, students, and organizing committee members for making the workshop a grand success.

Workshop Photos



Session 1: Hydrogen Powered Internal Combustion Engines



Session 2: Modern Engine Calibration Techniques



Session 3: Live Demonstrations on CRDI, EGR in VCR Engine



Outcome:

The workshop successfully provided students and faculty with in-depth knowledge of future fuel technologies and advancements in IC engine calibration techniques.

Key outcomes include:

- Understanding the role of hydrogen as a sustainable fuel for internal combustion engines.
- Exposure to modern engine calibration techniques used in industry.
- Hands-on experience with CRDI and EGR systems in a VCR engine.
- Enhanced awareness of emission reduction strategies and sustainable energy solutions.



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one-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"

Association of Mechanical Engineers of AVIT (AMEA)

28-03-2025

Sl No	Name	Reg No	Year	Sign
1.	C. MUKILAN	3442320503	3 rd YEAR	C. Mukilan
2.	J NAVEEN ANAND	3442220504	3 rd year	J. N. And
3.	V. praveen	3442113510	3 rd year	v. praveen.
4.	S. IYAPPAN	3442320502	"	S. Iy
5.	R. Surya	3442210511	3 rd Year	R. Surya
6.	NILESH KUMAR MURUGAN	3442210507	3 rd year	Nilesh
7.	PRABHAT KUMAR	3442210509	3 rd year	P. K.
8.	NITHISH KUMAR	3442210508	3 rd year	Nithish
9.	P. JAMES ANDREWS	3442210505	III rd years	P. James
10.	DEVAK RAJ. K	3442455502	III rd YEAR	Devak Raj
11.	DHANUS H. M	3442210502	III rd year	Dhanus
12.	S. Rohith	3442455504	III rd year	S. Rohith
13.	KRISHNA KUMAR	3442210506	III rd year	Krishna Kumar
14.	Sukumar Roy	3442210510	III rd Year	S. Roy



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one-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"

Association of Mechanical Engineers of AVIT (AMEA)

28-03-2025

Sl No	Name	Reg No	Year	Sign
16	Anand Kumar Ram	3442110501	IV Year	Anand
17.	R. Dhanush	3442453501	II yr	R.D.
18.	A. AKASH	3442310501	II-Yr	Akash
19.	R. HAVISH	3442420501	II Year	R. Havish
20	P. JAGADEESH KARAN	3442420502	II yr	P. Jagadeesh
21.	S. Seralathan	3442420504	II - year	S. Seralathan
22.	H. Lawrence Joshua	3442420503	II-year	H. Lawrence
23.	Then Kumar D	3442420505	II year	Then Kumar
24	K. SURIYA	3442310502	II YEAR	K. Suriya
25	BEKASH BASFORE	3442220502	Final year	Bekash
26	VASANTH KUMAR. J	3442220512	IV YEAR	J. Vasanth Kumar
27.	A. Logesh	3442220508	IV year	A. Logesh
28.	V. Rajith	3442220508	IV year	V. Rajith
29.	M. SRIRAM	3442124515	IV / year	M. Sri Ram

AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
VINAYAKA MISSIONS RESEARCH FOUNDATION

AVIT/GLSFBS/29(b)

GUEST LECTURE / SEMINAR FEEDBACK FROM SPEAKER

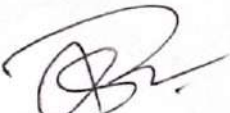
SEMESTER: EVEN

ACADEMIC YEAR: 2024 - 25.


DEPT : MECHANICAL ENGG.

DATE: 28.03.2025

Name of the Speaker	Dr. Laxman Kumar Malla
Designation & Organisation	Assistant Professor
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"
Date & Time	28.03.2025
Venue	Bosch Lab/ Alternate fuel testing Research Lab
Beneficiary	Students
Duration of the Lecture	1 hr
Suggestions of Speaker	Good work. Keep it up
Signature	Laxman Kumar Malla


Reviewed by Faculty In charge

[Dr. S. PRAKASH]


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AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
VINAYAKA MISSIONS RESEARCH FOUNDATION

AVIT/GLSFBS/29(b)

GUEST LECTURE / SEMINAR FEEDBACK FROM SPEAKER


SEMESTER: EVEN


ACADEMIC YEAR: 2024-25

DEPT : MECHANICAL

DATE: 28.03.2025

Name of the Speaker	A. KARTHIK.
Designation & Organisation	PROFESSIONAL-2 / CAPGEMINI.
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"
Date & Time	28.03.2025
Venue	Bosch Lab/ Alternate fuel testing Research Lab
Beneficiary	STUDENTS.
Duration of the Lecture	1 HOUR.
Suggestions of Speaker	EXPECTING MORE STUDENTS INTERACTION.
Signature	A. Karthi.


Reviewed by Faculty In charge
Dr. S. PRAKASH


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AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
VINAYAKA MISSIONS RESEARCH FOUNDATION

AVIT/GLSFBP/29(c)


GUEST LECTURE / SEMINAR FEEDBACK FROM PARTICIPANTS

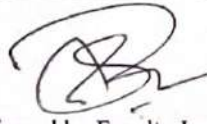
SEMESTER: EVEN

ACADEMIC YEAR :2024-2025

DEPT :MECHANICAL ENGINEERING

DATE: 28.03.2025

Name of the Participant	NILESH KUMAR MAHARAJA												
Prog., Branch, Sem & Sec (If Applicable)	B.E - MECH / 4 TH SEM												
Designation & Organisation (If Applicable)													
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"												
Name of the Speaker(s)	Dr. Laxman Kumar Malla, Mr. Karthik Anandan, Mr. B. Musthafa, Mr. Velan												
Date & Time	28.03.2025												
Venue & Duration of Lecture	Bosch Lab/ Alternate fuel testing Research Lab – 6 hr												
<p>Feedback from Participant (Maximum Marks 5)</p> <table><tr><td>1. Communication</td><td>S</td></tr><tr><td>2. Interaction</td><td>S</td></tr><tr><td>3. Presentation</td><td>S</td></tr><tr><td>4. Content</td><td>S</td></tr><tr><td>5. Learning Value</td><td>S</td></tr><tr><td>Total</td><td>2.5</td></tr></table>		1. Communication	S	2. Interaction	S	3. Presentation	S	4. Content	S	5. Learning Value	S	Total	2.5
1. Communication	S												
2. Interaction	S												
3. Presentation	S												
4. Content	S												
5. Learning Value	S												
Total	2.5												
Any other Suggestions	NIL												
Signature of the Participant													


Reviewed by Faculty In charge


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VINAYAKA MISSIONS RESEARCH FOUNDATION

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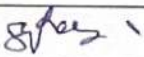
GUEST LECTURE / SEMINAR FEEDBACK FROM PARTICIPANTS


SEMESTER: EVEN

ACADEMIC YEAR :2024-2025

DEPT :MECHANICAL ENGINEERING

DATE: 28.03.2025

Name of the Participant	Sukumar Ray .												
Prog., Branch, Sem & Sec (If Applicable)	B.E. Mech. 3 rd year .												
Designation & Organisation (If Applicable)													
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology												
Name of the Speaker(s)	Dr. Laxman Kumar Malla, Mr. Karthik Anandan, Mr. B. Musthafa, Mr. Velan												
Date & Time	28.03.2025												
Venue & Duration of Lecture	Bosch Lab/ Alternate fuel testing Research Lab – 6 hr												
Feedback from Participant (Maximum Marks 5) <table><tr><td>1. Communication</td><td>5</td></tr><tr><td>2. Interaction</td><td>5</td></tr><tr><td>3. Presentation</td><td>5</td></tr><tr><td>4. Content</td><td>5</td></tr><tr><td>5. Learning Value</td><td>5</td></tr><tr><td>Total</td><td>25</td></tr></table>		1. Communication	5	2. Interaction	5	3. Presentation	5	4. Content	5	5. Learning Value	5	Total	25
1. Communication	5												
2. Interaction	5												
3. Presentation	5												
4. Content	5												
5. Learning Value	5												
Total	25												
Any other Suggestions													
Signature of the Participant													


Reviewed by Faculty In charge


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GUEST LECTURE / SEMINAR FEEDBACK FROM PARTICIPANTS


SEMESTER: EVEN

ACADEMIC YEAR :2024-2025

DEPT :MECHANICAL ENGINEERING

DATE: 28.03.2025

Name of the Participant	DHANUSH M												
Prog., Branch, Sem & Sec (If Applicable)	REG MECHANICAL SVITH												
Designation & Organisation (If Applicable)	-												
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"												
Name of the Speaker(s)	Dr. Laxman Kumar Malla, Mr. Karthik Anandan, Mr. B. Musthafa, Mr. Velan												
Date & Time	28.03.2025												
Venue & Duration of Lecture	Bosch Lab/ Alternate fuel testing Research Lab – 6 hr												
<p>Feedback from Participant (Maximum Marks 5)</p> <table><tr><td>1. Communication</td><td>5</td></tr><tr><td>2. Interaction</td><td>5</td></tr><tr><td>3. Presentation</td><td>5</td></tr><tr><td>4. Content</td><td>5</td></tr><tr><td>5. Learning Value</td><td>5</td></tr><tr><td>Total</td><td>25/25</td></tr></table> <p>V. Good</p>		1. Communication	5	2. Interaction	5	3. Presentation	5	4. Content	5	5. Learning Value	5	Total	25/25
1. Communication	5												
2. Interaction	5												
3. Presentation	5												
4. Content	5												
5. Learning Value	5												
Total	25/25												
Any other Suggestions													
Signature of the Participant	M. B. S.												


Reviewed by Faculty In charge


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GUEST LECTURE / SEMINAR FEEDBACK FROM PARTICIPANTS

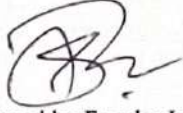
SEMESTER: EVEN

ACADEMIC YEAR :2024-2025

DEPT :MECHANICAL ENGINEERING

DATE: 28.03.2025

Name of the Participant	K. SURIYA.
Prog., Branch, Sem & Sec (If Applicable)	Mechanical / III sem / II year.
Designation & Organisation (If Applicable)	AVIT, student.
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"
Name of the Speaker(s)	Dr. Laxman Kumar Malla, Mr. Karthik Anandan, Mr. B. Musthafa, Mr. Velan
Date & Time	28.03.2025
Venue & Duration of Lecture	Bosch Lab/ Alternate fuel testing Research Lab – 6 hr
<p>Feedback from Participant (Maximum Marks 5)</p> <p>1. Communication — (5)</p> <p>2. Interaction — (5)</p> <p>3. Presentation — (5)</p> <p>4. Content — (5)</p> <p>5. Learning Value — (5)</p> <p>Total (25)</p>	
Any other Suggestions	It was wonderful and valuable session and valuable time.
Signature of the Participant	


Reviewed by Faculty In charge


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AARUPADAI VEEDU INSTITUTE OF TECHNOLOGY
VINAYAKA MISSIONS RESEARCH FOUNDATION

AVIT/GLSFBP/29(c)

GUEST LECTURE / SEMINAR FEEDBACK FROM PARTICIPANTS

SEMESTER: EVEN

ACADEMIC YEAR :2024-2025

DEPT :MECHANICAL ENGINEERING

DATE: 28.03.2025

Name of the Participant	Krishna Balaji S												
Prog., Branch, Sem & Sec (If Applicable)	B.E MECH, VIII th												
Designation & Organisation (If Applicable)	Student												
Title of the Lecture / Seminar	One-day Workshop on "Focusing on Future Fuels: Navigation of Emerging Trends in IC engine Technology"												
Name of the Speaker(s)	Dr. Laxman Kumar Malla, Mr. Karthik Anandan, Mr. B. Musthafa, Mr. Velan												
Date & Time	28.03.2025												
Venue & Duration of Lecture	Bosch Lab/ Alternate fuel testing Research Lab - 6 hr												
<p>Feedback from Participant (Maximum Marks 5)</p> <table><tr><td>1. Communication</td><td>5</td></tr><tr><td>2. Interaction</td><td>5</td></tr><tr><td>3. Presentation</td><td>5</td></tr><tr><td>4. Content</td><td>4</td></tr><tr><td>5. Learning Value</td><td>4</td></tr><tr><td>Total</td><td>23</td></tr></table>		1. Communication	5	2. Interaction	5	3. Presentation	5	4. Content	4	5. Learning Value	4	Total	23
1. Communication	5												
2. Interaction	5												
3. Presentation	5												
4. Content	4												
5. Learning Value	4												
Total	23												
Any other Suggestions	Not From us												
Signature of the Participant	S. Krishna Balaji												

Reviewed by Faculty In charge

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