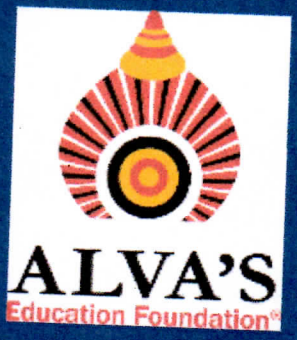

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ENVISION LAB – TECHNICAL TALK REPORT

MAY-2023

ENVISION LAB REPORT

Alvas Institute of Enginnering and Technology

ENVISION LAB

TECHNICAL TALK ON "ADDITIVE MANUFACTURING AND ITS APPLICATIONS

By

Dr. Roopa S

Associate Professor

JSSSTU, Mysore

On

27th May 2023

@

11 a. m

Venue:

Skill and responsiveness of the instructor

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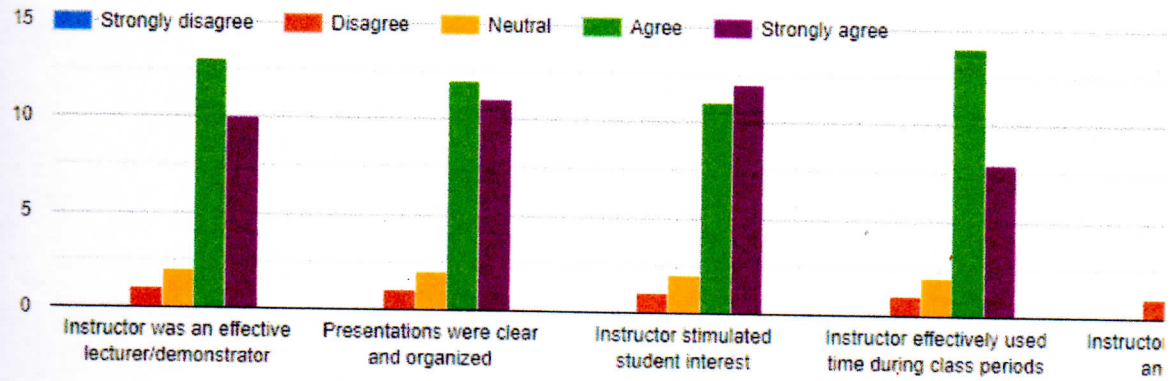

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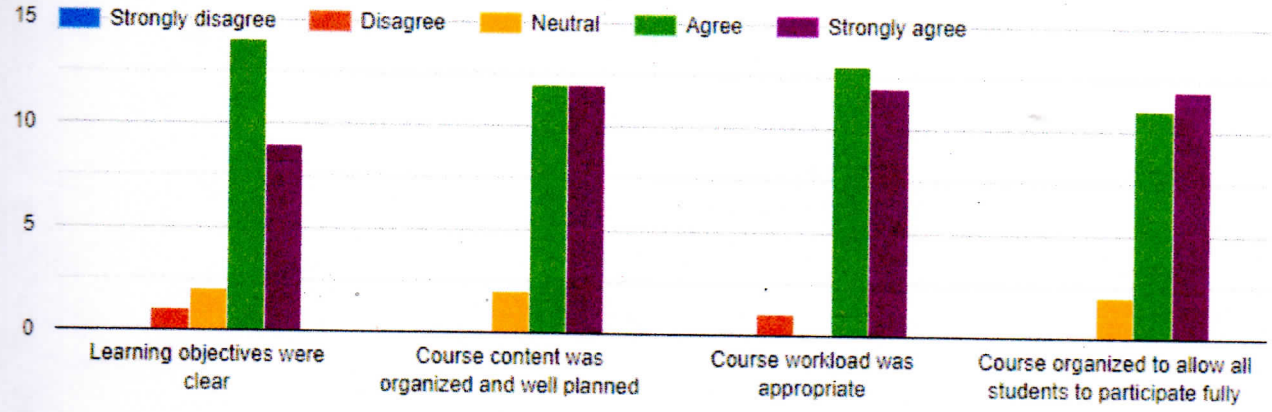

Siddesh

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Alva's Institute of Engg. & Technology
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a. Digital Design: The process begins with a digital model of the object, created using computer-aided design (CAD) software or obtained from a 3D scan.

b. Layer-by-Layer Construction: The object is divided into cross-sectional layers, and the printer adds material layer by layer, fusing or curing it to create the final product.

c. Material Selection: Additive manufacturing employs a wide range of materials, including plastics, metals, ceramics, and composites, depending on the application requirements.

d. Post-Processing: After printing, the object may require post-processing steps, such as curing, polishing, or painting, to achieve the desired final properties and appearance.

- Applications of Additive Manufacturing: The talk explored the extensive applications of additive manufacturing in various engineering domains:

a. Prototyping: Additive manufacturing enables rapid prototyping, allowing engineers to quickly produce and test designs before committing to large-scale production.
b. Aerospace: The aerospace industry utilizes additive manufacturing for lightweight and complex component production, reducing material waste and improving fuel efficiency.
c. Biomedical Engineering: Additive manufacturing plays a crucial role in creating patient-specific medical devices, prosthetics, implants, and even human tissue scaffolds.
d. Automotive: Additive manufacturing finds applications in automotive manufacturing for producing lightweight parts, custom components, and specialized tools.

e. Architecture and Construction: Large-scale 3D printers can create complex architectural models, building components, and even entire structures using various materials.
f. Consumer Products: Additive manufacturing allows for personalized and customizable consumer products, including jewelry, fashion accessories, and home decor.
g. Electronics: Additive manufacturing techniques are used to fabricate electronic components, circuit boards, and even functional prototypes of devices.

- Advantages and Limitations: The talk discussed the advantages and limitations of additive manufacturing:

a. Advantages:

- Design Flexibility: Complex geometries and intricate designs can be easily fabricated.
- Rapid Prototyping: Accelerated product development and reduced time-to-market.
- Customization: Tailoring products to specific user needs or preferences.
- Material Efficiency: Reduced material waste compared to traditional manufacturing.
- On-Demand Manufacturing: Cost-effective production of low-volume or niche products.

b. Limitations:

- Limited Material Selection: Certain materials may not be suitable for additive manufacturing.
- Size Constraints: Large-scale objects may pose challenges due to printer size limitations.
- Surface Finish: Achieving high-quality surface finish may require additional post-processing.
- Cost: Initial setup costs and material expenses can be relatively high.

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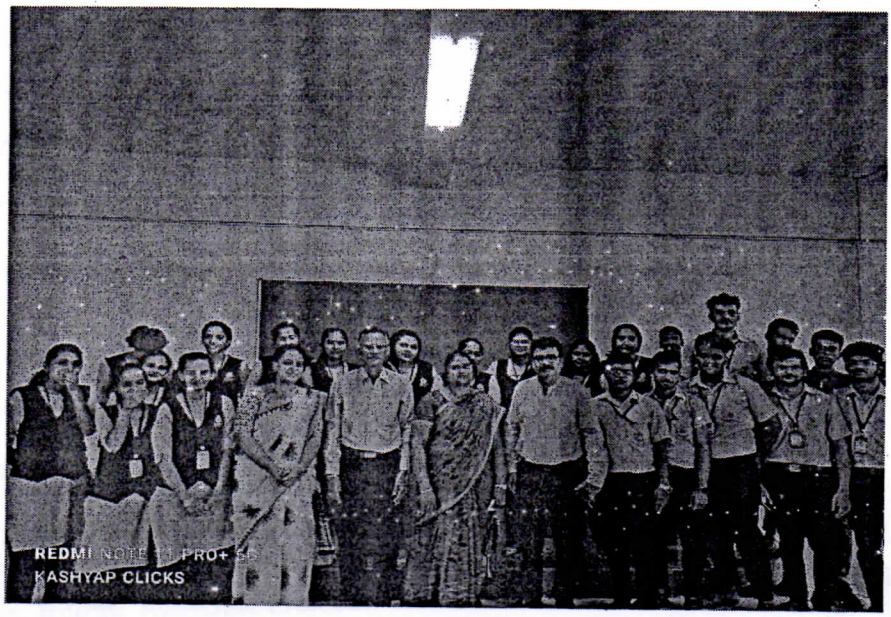
Mob:722262724,7026262725,mail:principalaiet08@gmail.com



Outcome: The technical talk on additive manufacturing provided engineering students with a comprehensive understanding of the principles, applications, advantages, and limitations of this transformative technology. By exploring various industries benefiting from additive manufacturing, the talk aimed to inspire students to leverage its potential in their future engineering careers.

Mrs. Shwetha M.S
Faculty Coordinator
Envision Lab of AIET

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Ph: 08258-262725; Mob:722262724,7026262725,mail:principalaiet08@gmail.co

28-03-23

To,

The Principal

AIET

Moodbidri

Respected Sir,

SUB: Permission to conduct technical talk

As a part of **ENVISION LAB**, planned to conduct technical talk in the month of May-2023 on "Additive Manufacturing and its applications" by the external resource person **Dr. Roopa**, Associate Professor from JSS University (formerly SJCE), Mysore.

This will help the students to know the need of AM and to attend the training further in GTTC and thus to continue with best projects.

In this regard, I seek your kind permission to conduct the technical talk.

Thanking you,

Yours Sincerely

Mrs. Shwetha M.S

ENVISION LAB Coordinator

Noted 28/3/23

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Mob:722262724,7026262725,mail:principalaiet08@gmail.com

25/05/2023

To,
Mr. Vivek Alva
Managing Trustee
Alvas Education Foundation
Moodbidri

Through
The Principal
AIET, Moodbidri

Respected Sir,

SUB: approval of budget for the technical talk by Dr. Roopa on 27th May 2023 from ENVISION LAB of AIET reg.

As a part of **ENVISION LAB**, planned to conduct technical talk on 27th May-2023 on "Additive Manufacturing and its applications" by the external resource person **Dr. Roopa**, Associate Professor from JSS University (formerly SJCE), Mysore. In this regard the budget is set for resource person's travel plan, commercials and miscellaneous expenditure for the event. We request you to kindly approve for the same.

Sl no	Particulars	Description	Amount
1.	Bus ticket for resource person	Mysore to Moodbidri 27th May 2023	1000/
2.	Cottage	One day stay for resource person	As per norms of AEF
3.	Bus ticket for resource person	Moodbidri to Mysore 28th May 2023	1000/
4.	Remuneration	Remuneration for resource person	2500/
5.	Momentum	One momentum for resource person	---

ENVISION LAB Coordinator

Mrs.Shwetha M.S
Dept of ECE
AIET

Siddesh

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Alva's Institute of Engg. & Technology
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DEPARTMENT OF MECHANICAL ENGINEERING

Semester : 4th semester

Sl no.	Name	USN	Sign
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2	AKHIL SHARMA K	4AL21ME002	
3	AKSHAY KRISHNA M	4AL21ME003	
4	CHARAN KUMAR	4AL21ME004	
5	DHARSHITH A	4AL21ME005	
6	MELVIN VINAY SERA	4AL21ME006	
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11	PAIGAMBAR S NADAF	4AL21ME011	
12	SHASHWATH R GOWDA	4AL21ME013	
13	SUDESH D SHETTY	4AL21ME015	
14	KARTHIK VISWANATH DHANNUR	4AL22ME401	
15	PRAVEEN VEERAPPA CHAVADI	4AL22ME402	
17	KRISHNA KYADGIHALLI	4AL22ME403	
18	KARTHIK GOWDA B C	4AL22ME400	

Forum Coordinator

HOD
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TECHNICAL TALK ON
"ADDITIVE MANUFACTURING & ITS IMPORTANCE"
Dept. of Mechanical Engineering

Please submit feedback regarding the course you have just completed, including feedback on course structure, content, and instructor.

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Contribution to learning

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Skill and responsiveness of the instructor

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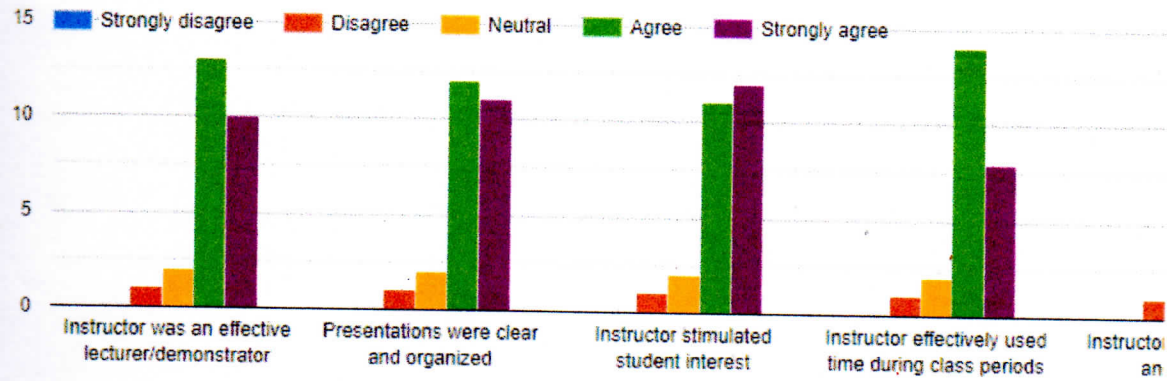

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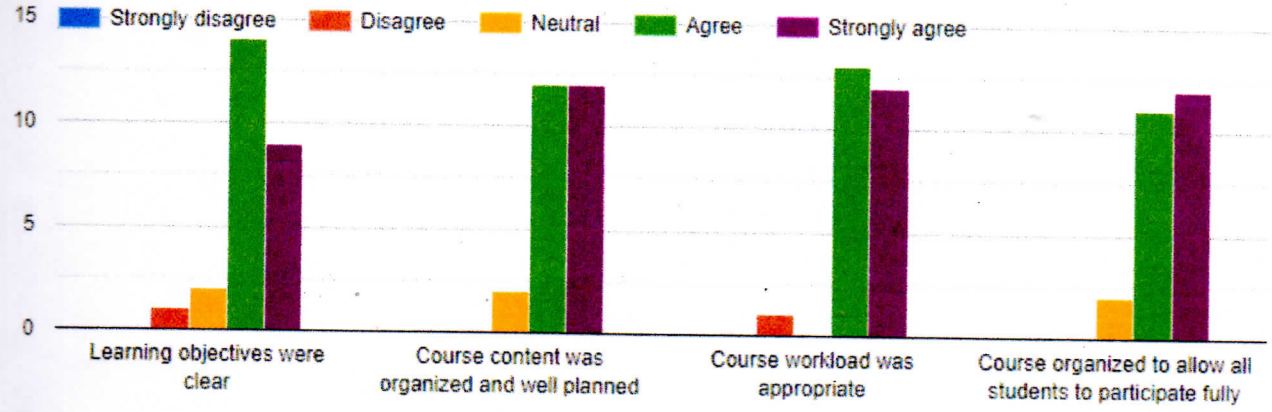

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