LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(Autonomous since 2010)
L. B. Reddy Nagar, Mylavaram – 521 230, N.T.R. District, Andhra Pradesh, India
Affiliated to JNTUK, Kakinada & Approved by AICTE New Delhi, Accredited by NAAC with 'A' grade
Accredited by NBA under Tier – I, An ISO 21001:2018, 500001:2018, 14001:2015 Certified Institution
DEPARTMENT OF AEROSPACE ENGINEERING

FDP-Report
Two-Day Faculty Development Programme (FDP) on "Composite Laminate Hands-on Training"

Date: 15-12-2023 & 16-12-2023

The Department of Aerospace Engineering organized a Two-Day Faculty Development Programme (FDP) on **"Composite Laminate Hands-on Training"** on **15th & 16th December 2023**. The programme was conducted with the objective of providing participants with both theoretical knowledge and practical exposure to composite laminate fabrication, testing, and analysis techniques. The FDP aimed to bridge the gap between classroom learning and industrial practices in the field of advanced composite materials.

Objectives of the Programme

- To introduce the fundamentals of composite materials and laminate structures.
- To provide practical training in composite laminate fabrication techniques.
- To familiarize participants with material selection, stacking sequences, and manufacturing methods.
- To demonstrate testing and evaluation procedures for composite laminates.
- To encourage faculty members to incorporate composite material technologies into teaching and research activities.

Inaugural Session

The programme commenced with an inaugural session attended by faculty members, research scholars, and technical staff. The Head of the Department welcomed the participants and emphasized the growing importance of composite materials in aerospace, Mechanical, automotive, marine, construction, and renewable energy industries. The resource persons outlined the objectives and schedule of the FDP.

Day 1 Activities (15-12-2023)

The first day focused on the fundamentals of composite materials and laminate design. The sessions covered:

- Introduction to composite materials and their classifications.
- Types of reinforcement fibers such as Glass Fiber, Carbon Fiber, and Aramid Fiber.
- Matrix materials and their characteristics.
- Laminate theory, stacking sequence, and design considerations.
- Manufacturing techniques used in composite industries.

Hands-on Training

Participants were provided practical exposure to:

- Material preparation and selection.
- Mold preparation and release agent application.
- Composite laminate fabrication using hand lay-up and Vacuum Bagging techniques.
- Layer stacking and resin impregnation procedures.

The participants actively engaged in the fabrication process and gained valuable experience in handling composite materials and manufacturing equipment.

Day 2 Activities (16-12-2023)

The second day concentrated on testing, evaluation, and applications of composite laminates. The topics discussed included:

- Mechanical properties of composite laminates.
- Common defects and failure mechanisms.
- Quality control procedures in composite manufacturing.
- Industrial applications and recent advancements in composite technology.

Practical Demonstrations

Hands-on sessions included:

- Inspection of fabricated laminates.
- Demonstration of tensile and flexural testing procedures.
- Analysis of test results and interpretation of mechanical properties.
- Discussion on research opportunities and industry-oriented projects involving composite materials.

Participants interacted with the resource persons and clarified their doubts regarding fabrication techniques, testing standards, and research methodologies.

Participant Response

The programme witnessed enthusiastic participation from faculty members, research scholars, and laboratory instructors. The participants appreciated the balance between theoretical concepts and practical demonstrations. The hands-on training sessions enabled them to acquire skills that can be effectively utilized in teaching, laboratory activities, and research projects.

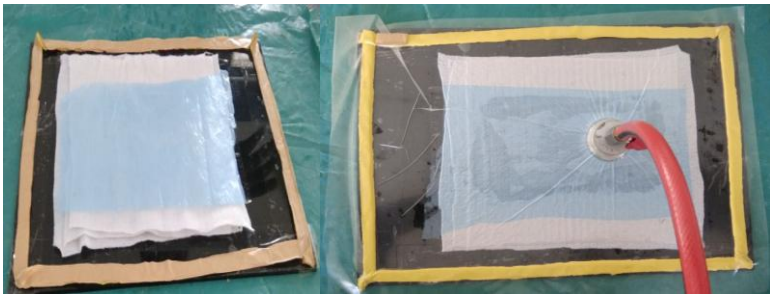
Outcomes of the Programme

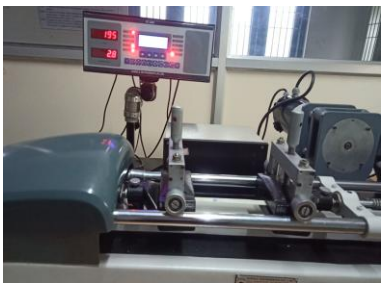
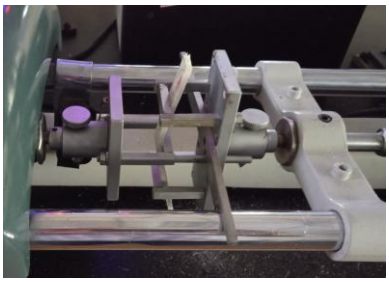
The FDP successfully achieved its objectives. At the end of the programme, participants were able to:

- Understand the fundamentals of composite materials and laminate structures.
- Gain practical knowledge of composite laminate fabrication processes.
- Learn testing and characterization techniques for composite materials.
- Identify common defects and failure modes in composite laminates.
- Explore opportunities for research and industrial collaboration in advanced composite technologies.

Conclusion

The Two-Day Faculty Development Programme on **"Composite Laminate Hands-on Training"** conducted on **15th & 16th December 2023** was highly beneficial and informative. The programme enhanced the technical competencies of the participants and provided valuable practical exposure to composite laminate manufacturing and testing. The FDP contributed significantly to strengthening academic and research capabilities in the emerging field of composite materials.

FDP Brochure

ABOUT THE INSTITUTE

The Lakireddy Bali Reddy College of Engineering (LBRCE) was established in the year 1998 by Lakireddy Bali Reddy Charitable Trust, whose architect is Er. Lakireddy Bali Reddy garu. The institute is established with the sole aim of providing high quality educational opportunities in the field of science, engineering, technology and management. It is spread over 60 acres of sprawling lush green landscape spotted with orchids and grooves. It is approved by AICTE, affiliated to JNTUK, Kakinada and attained autonomous status in the year 2010. It attained NAAC accreditation status with 'A' Grade. The institute is certified by ISO: 9001-2018.

ABOUT THE DEPARTMENT

The Department of Aerospace Engineering was started in the year 2011. The department offers 4 years undergraduate program, B.Tech in Aerospace Engineering. The department has a team of highly qualified, dedicated and motivated faculty and well-equipped laboratories. The department has laboratories, classrooms, faculty rooms, sophisticated lab equipment's and well-versed library. The department has a wide range of teaching activities.

ABOUT THE PROGRAMME

This is a two-day Faculty Development programme on "Composite Laminate Hands on Training" is designed to enhance the knowledge and practical skills of faculty members, researchers, and technical staff in the field of composite materials and laminate fabrication techniques.

Programme Objectives:

- To provide a fundamental understanding of composite materials and laminate structures.
- To familiarize participants with various reinforcement fibers, matrix materials, and manufacturing processes.
- To offer hands-on experience in composite laminate fabrication, testing, and analysis.
- To introduce quality control, defect identification, and performance evaluation Methods.
- To encourage the integration of composite material concepts into teaching, research, and industrial applications.

This FDP bridges the gap between theoretical knowledge and practical implementation, enabling participants to confidently work with composite laminate technologies in academic and industrial environments.

ELIGIBILITY

The programme is open to all Faculty Members, Research Scholars and M.Tech/M.E students of AICTE approved Engineering colleges and Industry personnel working in the concerned/allied areas of Engineering.

RESOURCE PERSONS

Dr. Murahari Kolli
Associate Professor
Department of Mechanical Engineering
Lakireddy Bali Reddy College of Engineering, Mylavaram

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Two Day Faculty Development Programme on
"Composite Laminate Hands-on Training"
15-12-2023 & 16-12-2023

Chief Patrons
Sri Lakireddy Jaya Prakash Reddy
Honorary Chairman

Sri Lakireddy Prasad Reddy
Chairman

Sri Lakireddy Vijay Kumar Reddy
Vice Chairman

Patrons
Sri G. Srinivasa Reddy
President, LBRCT
Dr. K. Appa Rao
Principal

Convener
Dr. P. Lovaraju
Professor & HOD
Aerospace Engineering

Co-Ordinator
Mr. S. Indrasena Reddy
Sr. Assistant Professor
Dept of Aerospace Engineering

Organized by:

DEPARTMENT OF AEROSPACE ENGINEERING
(Accredited by NBA under Tier-I)
LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING(AUTONOMOUS), MYLAVARAM
N.T.R (Dt), A.P.

List of Participants

S. No.	Name of the Faculty	Department
1	S. Indrasena Reddy	ASE
2	Nazumuddin Shaik	ASE
3	G. V. Surya Narayana	ASE
4	A. Pratyush	ASE
5	B. Udaya Lakshmi	ASE
6	Ashutosh Shukla	ASE
7	A. Dhanunjay Kumar	Mech.
8	P. Mounika	Mech.
9	V. Shankara Rao	Mech.
10	K. V. Vishwanadh	Mech.
11	S. Srinivasa Reddy	Mech.
12	J. Subba Reddy	Mech.
13	K. Venkateswara Reddy	Mech.
14	Ch.Shivasankara Babu	Mech.
15	P. Keerthi	Civil
16	J. Eswar Ram	Civil
17	K. Jaya Rao	Civil
18	K. Harish Kumar	Civil
19	B. Rama Krishna	Civil
20	P. Mohana Ganga Raju	Civil
21	R. Padma	EEE
22	A. V. Ravi Kumar	EEE
Non-Teaching		
23	S. V. Narayana	ASE
24	D. Ashok Kumar	ASE
25	G. S. Charyulu	Mech