LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)
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 NBA under Tier – I, Accredited by NAAC with 'A' grade,
An ISO 21001:2018, 500001:2018, 14001:2015 Certified Institution
DEPARTMENT OF AEROSPACE ENGINEERING
Estd.: 1998   Website: **https://www.lbrce.ac.in/ase/index.php** Email: **hodaero@lbrce.ac.in**   Phone:08659-222933 Ext:624/623

Date: 18-09-2023

One-week student certification program on *"HYPER MESH and LS-DYNA"*

PROGRAM DETAILS

Title	One-week student certification program on **"HYPER MESH and LS-DYNA"**
Faculty Coordinator	**Mr.S.Indrasena Reddy** Sr.Assistant Professor Dept of Aerospace Engineering **Mr.Nazumuddin Shaik** Sr.Assistant Professor Dept of Aerospace Engineering
Student Coordinator	KANULLA DINESH BABU (IV Year, Aerospace Engineering)
No. of Participants	41 Students
Event Type:	**Certification program**
Resource Persons	Mr.B.R.M.V. Krishna, Simulation Engineer Mayinkrish Ventures PVT LTD, Hyderabad.
Program Schedule	**25-09-2023 to 30-09-2023**

The objective of the event:

This is a certification program on *"HYPER MESH and LS-DYNA"* and is specially meant for Engineering final students.

Hyper Mesh:

Hyper Mesh is a powerful computer-aided engineering (CAE) software tool used for mesh generation and pre-processing tasks in finite element analysis (FEA). Developed by Altair Engineering, Hyper Mesh is widely utilized for creating high-quality finite element models for various engineering simulations. Its capabilities include geometry cleanup, meshing, and model assembly, allowing engineers to efficiently prepare complex models for structural, thermal, and fluid dynamics analyses. Hyper Mesh is known for its versatility and user-friendly interface, making it a popular choice in the aerospace, automotive, and other industries where advanced simulation and optimization are integral to the design process.

LS-DYNA:

LS-DYNA is a highly advanced finite element analysis (FEA) software package used for simulating complex real-world problems in various engineering disciplines. Developed by Livermore Software Technology Corporation (LSTC), LS-DYNA is particularly renowned for its capabilities in simulating dynamic events, including crash simulations, impact analysis, and explosions. It is widely employed in industries such as automotive, aerospace, defense, and manufacturing to predict and analyze the behavior of structures and materials under dynamic loading conditions. LS-DYNA's versatility extends to multi-physics simulations, allowing users to study interactions between multiple physical phenomena, such as structural mechanics, fluid dynamics, and thermal effects. Its robust capabilities make it a valuable tool for engineers and researchers tackling intricate problems involving nonlinearities and transient dynamics.

The outcome of the event :

Introduce the **HyperMesh** concepts and make familiar with the tools and techniques of its package. This certification program aims at providing **complete hands-on training** on FEA analysis. The program helped the participants to develop expertise in various aspects of HyperMesh and LS-DYNA applications.

This certification program helped the students to apply their knowledge in the basics of finite element analysis (FEA) and how to use it in structural design and analysis covered and Using HyperMesh geometric tools to create and edit nodes, usage of 1D and 2D meshing techniques for different kinds of meshing, such as hexa, shell, and tetra.

Similarly, LS-DYNA helped the students to understand transient dynamic problems which include nonlinearities.

Feedback / Suggestions:

Feedback from students on the program has been overwhelmingly positive, with a high level of satisfaction noted. Students have conveyed a desire to enhance the effectiveness of certification programs through increased hands-on training for skill development.

Students expressed to increase the conductivity of these kinds of certification programs with hands-on training for their technical skill development.

Action Plan:

The action plan involves organizing additional certification programs led by industry experts. This initiative aims to provide students with practical, hands-on experiences to further enrich their skill development and practical understanding.

Certification Program Schedule Day wise:

Day 1: 25-09-2023

- ➢ Introduction and applications of HYPERMESH & Space Claim
- • The basics of finite element analysis (FEA) and how to use it in structural design and analysis are covered.
- • Using Hyper mesh geometric tools to create and edit nodes.
    - • use 1D and 2D meshing techniques.
    - • Different kinds of meshing, such as hexa, shell, and tetra.

Day 2: 26-09-2023

- • Techniques of morphing and macro generation.
- • Sheet metal meshing (BIW parts)
- • Plastic meshing

Day 3: 27-09-2023

- ➢ LS-DYNA
    - • Impact analysis
    - • Crash analysis
    - • Drop test
    - • Static analysis
    - • Meshing

Day 4: 29-09-2023

- ➢ LS- DYNA
    - • System library
    - • Analysis of automotive CRASH BOX

Day 5: 30-09-2023

- • Contacts
- • Large deformation
- • Nonlinear material behaviour
- • Analysis basic definitions
- • Example problems
- • Dr P. Lovaraju addressed the gathering.

Event 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: 9001-2015.

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 and well-versed library. The department has a wide range of teaching activities.

ABOUT THE PROGRAMME

This is a two-week student certification program on "HYPER MESH and LS-DYNA" and is specially meant for engineering final year students. Students have undergone the certification program with different Modules of Hyper Mesh and various meshing Techniques for simple and complex geometrical models such as beams, landing gear,

etc. recent years, the use of Hyper Mesh and LS-DYNA has become an important tool in furthering a variety of fields of Engineering such as Mechanical & Aerospace etc.

Course Contents:
- ➢ **Space Claim**
- ➢ **HYPERMESH**
  - • **Theory of FEA/CAE.**
  - • **Introduction to Hypermesh**
  - • **Creating and Modifying Geometry**
  - • **Geometry Cleanup and Defeature.**
  - • **Introduction to 2D Meshing**
  - • **Element Quality.**
  - • **Mesh Edit.**
  - • **Sheet metal meshing (BIW parts)**
  - • **Plastic meshing**
- ➢ **LS-DYNA**
  - • **Crash analysis**
  - • **Drop test.**

The program covers the complex problems in the analysis with FEM to understand the application to the core

ELIGIBILITY

The program is open for the graduate students of the Dept. of Mechanical Engineering and Dept. Aerospace Engineering. In addition, the PG students of the Dept. of Mechanical are eligible.

RESOURCE PERSONS

Mr.B.R.M.V. Krishna, Simulation Engineer
Mayinkrish Ventures PVT LTD, Hyderabad.

Address for Correspondence & Registration
Mr.S.Indrasena Reddy
E-mail: aero.lbrce@gmail.com
Mobile: +91 -9885449822

One-Week student certification Program on "HYPER MESH and LS-DYNA"

25-09-2023 to 30-09-2023

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
Dr. K. Harinadha reddy
Vice-Principal

Conveners
Dr.P.Lovaraju
Professor & HOD
Aerospace Engineering

Co-ordinators
Mr.S.Indrasena Reddy
Sr.Assistant Professor
Dept of Aerospace Engineering
Mr.Nazumuddin Shaik
Sr.Assistant Professor
Dept of Aerospace Engineering

Organized by:
DEPARTMENT OF AEROSPACE ENGINEERING
LAKIREDDY BALI REDDY COLLEGE OF
ENGINEERING(AUTONOMOUS), MYLAVARAM
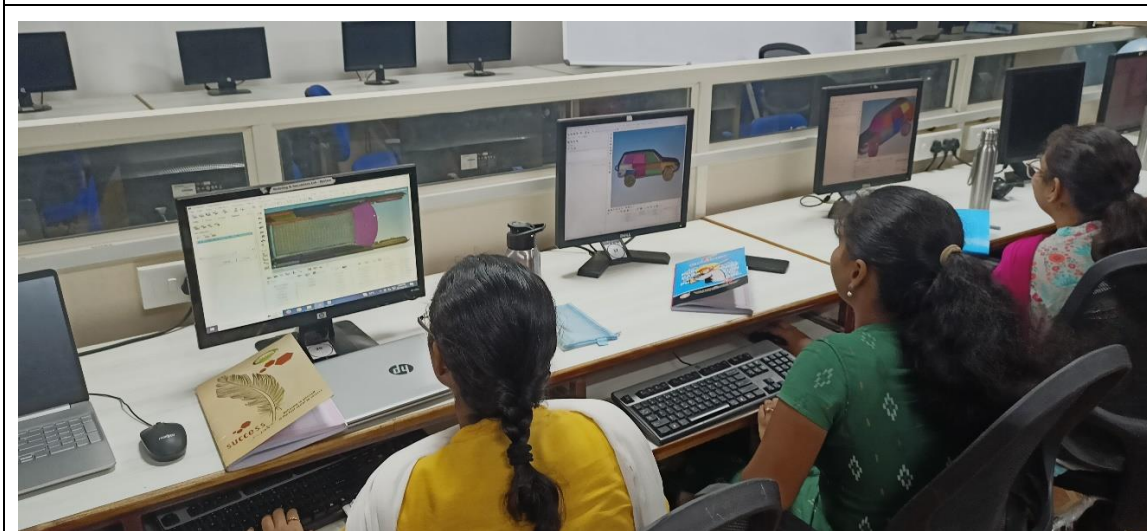N.T.R (Dt), A.P.

Event Banner

Photographs

LIST OF STUDENTS REGISTERED

S.No.	Roll. No.	Name of the Student
1	20761A5601	AMUDALAPALLI SASI KIRAN
2	20761A5602	ARAVAPALLI SAHITHI
3	20761A5604	BATCHU NIKHITHA
4	20761A5605	BEZAWADA CHANDANA SAI SOWMYA
5	20761A5606	BEZAWADA KUSUMA
6	20761A5608	CHUKKA VENKATA NARASIMHA
7	20761A5610	DEVARAPALLI SIRI CHANDANA
8	20761A5611	DHARMA TEJA THAMBALLA
9	20761A5612	DOORU SIRISHA
10	20761A5614	DUMPALA NAVEEN
11	20761A5615	GUNISETTY GIRIDHAR
12	20761A5616	GUDAVALLI SELVA KUMAR
13	20761A5618	GURIJA SURESH
14	20761A5619	KALISETTY BHANUPRAKASH
15	20761A5620	KANIGIRI ROSHINI
16	20761A5621	KANULLA DINESH BABU
17	20761A5622	KARANAM NAVEEN
18	20761A5623	KASANI LALITH
19	20761A5629	KURAPATI RUBY
20	20761A5630	MARADANA SIVA
21	20761A5631	MARAM MAHENDRA REDDY
22	20761A5632	MERUGUMILLI NIVEDITHA
23	20761A5633	MOHAMMED ZAMEERUDDIN
24	20761A5634	MOTUPALLI SOWJANYA
25	20761A5635	NANCHARLA RAMANJANEYULU
26	20761A5637	NELA LOKESH KRISHNA KOUSHIK
27	20761A5638	NUTHULAPATI MEENA MAHITHA
28	20761A5639	PAGIDALA NAGARAJU
29	20761A5641	PATNALA JAYA KISHORE REDDY
30	20761A5643	PITTA GREESHMA
31	20761A5644	POLIBOINA DHARANI
32	20761A5646	SHAIK CHASHEEDA
33	20761A5647	SHAIK MOHAMMAD ARSHAD
34	20761A5650	THERA AARTHI
35	20761A5651	UMMITI NAGA VENKATA SIVA KRISHNA RAJU
36	20761A5652	VANKA VENKATA NAGA DURGA PAVAN KUMAR
37	21765A5601	BHANU PRAKASH VANUKURU
38	21765A5603	EVURI THIRUMALA KOTI REDDY
39	21765A5605	NARAYANA GUNA SHYAM
40	21765A5606	PAMARTHI HARSHAVARDHAN
41	21765A5611	THANGETI PRAVEEN KUMAR
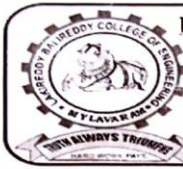
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One Week Student Certification Program on HYPERMESH & LS-DYNA -Attedance Sheet Date:25-09-2023

S.No.	Roll. No.	Name of the Student	25-09-23 FN	25-09-23 AN	26-09-23 FN	26-09-23 AN	27-09-23 FN	27-09-23 AN	29-09-23 FN	29-09-23 AN	30-09-23 FN	30-09-23 AN
1	20761A5601	AMUDALAPALLI SASI KIRAN									A	
2	20761A5602	ARAVAPALLI SAHITHI										
3	20761A5604	BATCHU NIKHITHA	A									
4	20761A5605	BEZAWADA CHANDANA SAI SOWMYA	A									
5	20761A5606	BEZAWADA KUSUMA										
6	20761A5608	CHUKKA VENKATA NARASIMHA										
7	20761A5610	DEVARAPALLI SIRI CHANDANA	A									
8	20761A5611	DHARMA TEJA THAMBALLA									A	
9	20761A5612	DOORU SIRISHA										
10	20761A5614	DUMPALA NAVEEN										
11	20761A5615	G GIRIDHAR									A	A
12	20761A5616	GUDAVALLI SIVA KUMAR										
13	20761A5618	GURIJA SURESH										
14	20761A5619	KALISETTY BHANUPRAKASH					A	A				
15	20761A5620	KANIGIRI ROSHINI										
16	20761A5621	KANULLA DINESH BABU										
17	20761A5622	KARANAM NAVEEN										
18	20761A5623	KASANI LALITH										
19	20761A5629	KURAPATI RUBY					A					
20	20761A5630	MARADANA SIVA										
21	20761A5631	MARAM MAHENDRA REDDY	A									

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22	20761A5632	MERUGUMILLI NIVEDITHA										
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39	21765A5605	NARAYANA GUNA SHYAM										
40	21765A5606	PAMARTHI HARSHAVARDHAN			A	A						
41	21765A5611	THANGETI PRAVEEN KUMAR									A	A

Signature of Faculty Co-ordinators

Head of the Department
Dr P LOVA RAJU
Professor & Head
Department of Aerospace Engineering
Lakireddy Bali Reddy College of Engg.
Mylavaram 521 230 Krishna Dt. A.P