



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

## DEPARTMENT OF MECHANICAL ENGINEERING

- Name of the Event : One Week Student Certification Program on Practical Finite Element Analysis using HYPERMESH and LS DYNA
- Event Type : Student Certification Program
- Date / Duration : 30-01-2023 to 03-02-2023
- Resource Person : Mr. B R Muni Venkata Krishna, CEO-Mayinkrish Ventures Pvt Ltd Hyderabad.
- Name of Coordinator : Mr. A.Nageswara Rao, Sr. Asst. Professor  
Mr. V.Sankararao, Sr. Asst. Professor
- Target Audience : IV-B.Tech Students
- Total no of Participants : 56 Mechanical Engineering Students

### Objective of the event:

This is a certification program on Practical Finite Element Analysis (FEA) using HYPERMESH and LS Dyna is specially meant for engineering final students. The Finite Element Method (FEM) is a well-established technique for analysing the structural behaviour of mechanical components and systems. In recent years, the use of finite element analysis as a design tool has grown rapidly. HYPERMESH and LS Dyna is a popular and well recognized general purpose finite element modelling package for numerically solving a large range of problems including static, dynamic mechanical, structural analysis (linear and nonlinear), heat transfer and fluid problems, as well as acoustic and electromagnetic problems. It is widely used in the mechanical, automobile, structural, chemical and aeronautical industries.

### Outcome of event:

Introduce to the Finite Element Analysis (FEA) concepts and make familiar with the tools and techniques of the HYPERMESH and LS Dyna software packages. This SDP aims at providing **complete hands-on training** on FEA analysis. The SDP will help the participants to develop expertise on various aspects of HYPERMESH and LS Dyna for FEA applications. The SDP serves the purpose of bringing together the engineers from various domains such as Structural, Thermal and Fluid Dynamics fields.

## Day to Day Report

30/01/2023

### SESSION DETAILS:-

- Session started at 9.30 A.M.
- Registration of participants for the STUDENT CERTIFICATION PROGRAM ON PFEA USING HYPERMESH& LS DYNA
- Inauguration of program by Dr. S. Pichi Reddy, Head of the Department.
- Introduction to Finite Element Analysis theory and applications.
- Introduction to HYPERMESH software
- Demonstration on operating HYPERMESH environment.
- Steps in HYPERMESH solver
- Participants practiced and interacted with new HYPERMESH Platform software.

31/01/2023

### SESSION DETAILS:-

- Session started at 10.00 A.M.
- Briefly explained HYPERMESH Design Modular Window, how to design model in HYPERMESH.
- Draw, modify tool bars in Design Modular Window tool bars
- Participants performed operations draw tool bars like point, line, rectangular, polygon, and circle
- Edit tool options rotate, scale, mirror that was practiced

01/02/2023

### SESSION DETAILS:-

- Session started at 9.30A.M.
- Explained various commands types of meshing methods in HYPERMESH
- Demonstration on 2D and 3D model components are meshed
- Participants practiced 2D and 3D model components are meshed.
- Demonstrated how to consider and apply Boundary conditions for different models of problems
- Participants practiced mechanical components and aerospace components.

02/02/2023

### SESSIONS:-

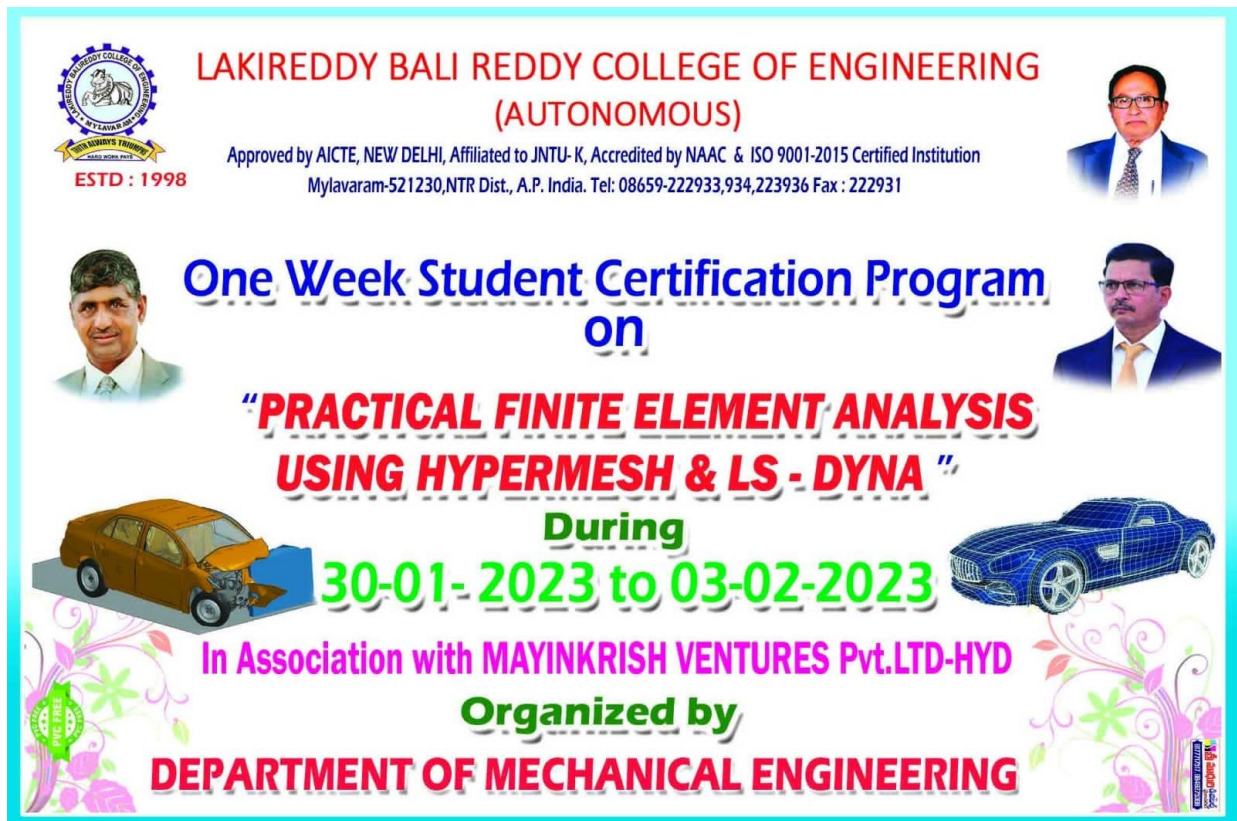
- Session started at 9.30A.M.
- Explained Rack and gear problem with remote displacement/force options
- Model imported in to HYPERMESH, performed meshing followed by boundary conditions and solved.
- Finally, resultant momentum to drive the gear on pinion founded.
- Participants participated Rack and gear tutorial
- Explained different structural analysis problems like bars and trusses with procedures
- Participants participated structural analysis tutorials like bars and trusses

03/02/2023

SESSION DETAILS:-

- Session started at 9.30 A.M.
- Explained thermal analysis problems solved options
- Mode imported in to HYPERMESH, performed meshing followed by boundary conditions and solved.
- Finally, heat flux and heat transfer analysis were studied.
- Participant's performed hands on session with thermal analysis of heat exchanger.
- Explained different thermal analysis problems like fins and heat pipes with procedures
- Participates participated structural analysis tutorials like bars and trusses
- Explained heat transfer analysis procedure in HYPERMESH
- Study state and transient temperature distribution steps explained
- Fin pin heat transfer analysis performed
- Participants practiced Fin pin heat transfer analysis using HYPERMESH tool
- Practice session was given to practice all the modules in related to FEA workbenches.
- At 3 PM valedictory started.
- Dr. S. Pichi Reddy, Head of the Department addressed the gathering
- Certification of course completion was presented to participants.

**Photographs:**



The poster is for a one-week student certification program. At the top left is the logo of Lakireddy Bali Reddy College of Engineering (Autonomous), established in 1998. The college is approved by AICTE, New Delhi, affiliated to JNTU-K, and accredited by NAAC and ISO 9001:2015. Contact information for Mylavaram-521230, NTR Dist., A.P. India is provided. The program title is "One Week Student Certification Program on 'PRACTICAL FINITE ELEMENT ANALYSIS USING HYPERMESH & LS - DYNA'". It is held during 30-01-2023 to 03-02-2023. The program is organized by the Department of Mechanical Engineering in association with Mayinkrish Ventures Pvt. Ltd. Hyd. The poster features portraits of two men, a car model, and a wireframe car model. A small logo for Mayinkrish Ventures Pvt. Ltd. Hyd. is in the bottom right corner.

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING  
(AUTONOMOUS)**

Approved by AICTE, NEW DELHI, Affiliated to JNTU-K, Accredited by NAAC & ISO 9001-2015 Certified Institution  
Mylavaram-521230, NTR Dist., A.P. India. Tel: 08659-222933, 934, 223936 Fax : 222931

**ESTD : 1998**

**One Week Student Certification Program  
on**

**"PRACTICAL FINITE ELEMENT ANALYSIS  
USING HYPERMESH & LS - DYNA"**

**During**  
**30-01-2023 to 03-02-2023**

**In Association with MAYINKRISH VENTURES Pvt.LTD-HYD**

**Organized by**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

**Fig:** Poster for Practical FEA Using HYPERMESH & LS DYNA





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# MAYINKRISH VENTURES PVT. LTD.

A Government of India Enterprise - Ministry of Corporate Affairs

## Certificate of completion

This is to certify that

Mr./Ms. Atragadda Dhana Venkata Vinay Sandeep (19761A0301) Has successfully Completed One Week Student certification program on PRACTICAL FINITE ELEMENT ANALYSIS (HYPERMESH & LS-DYNA) during 30-01-2023 to 3-02-2023 organized by Department of MECHANICAL ENGINEERING, LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING, MYLAVARAM, A.P. in Association with MAYINKRISH VENTURES PVT. LTD.

During this period, his/her dedication and performance were appreciable. We found his/her to be hard working, sincere and devoted. We wish all success in his/her future endeavor.



Managing Coordinator

Project In Charge

Fig: certificate for HYPERMESH participants

### PHOTOS:



Practice session by resource person in Day 1





Students in practice session of Hypermesh & L.S.Dyna



Practice session by resource person in Day 2





Lecture on 2D & 3D modeling in Hypermesh in Day 3



LBRCE Mechanical Block, Mylavaram, Andhra Pradesh 521230, India

Latitude  
16.74863977°

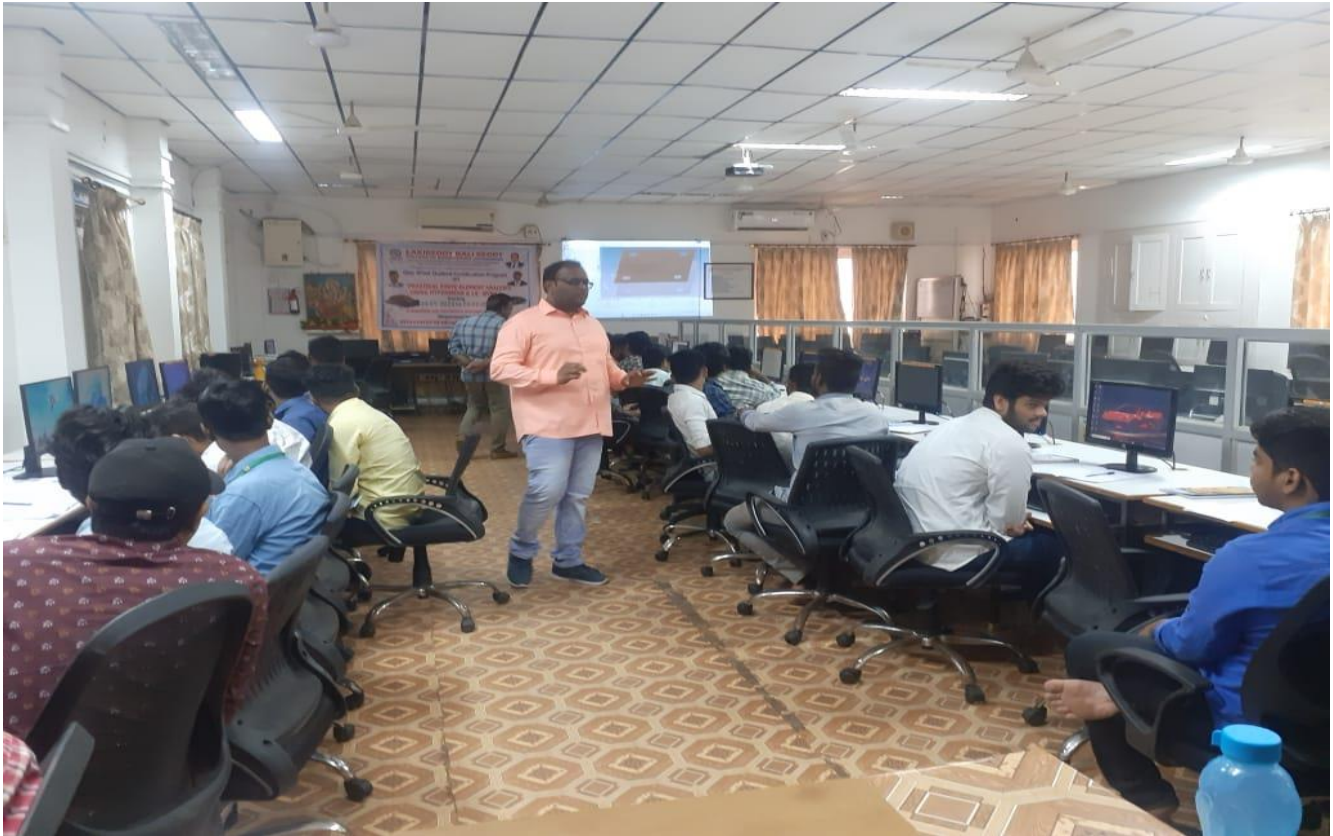
Longitude  
80.63228872°

Local 12:23:37 PM  
GMT 06:53:37 AM

Altitude 8.73 meters  
Wednesday, 01.02.2023

In Day 3 practice session of Hypermesh





Practice session of L.S.Dyna in Mechanical Engg. applications



LBRCE Mechanical Block, Mylavaram, Andhra Pradesh 521230, India

Latitude  
16.74863397°

Local 03:53:00 PM  
GMT 10:23:00 AM

Longitude  
80.63233875°

Altitude 8.73 meters  
Friday, 03.02.2023

Message by resource person during valedictory





Message by Dr.S.Pichi Reddy, HoD, ME during valedictory



Vote of thanks by Dr.P.Ravindra Kumar, Professor during valedictory



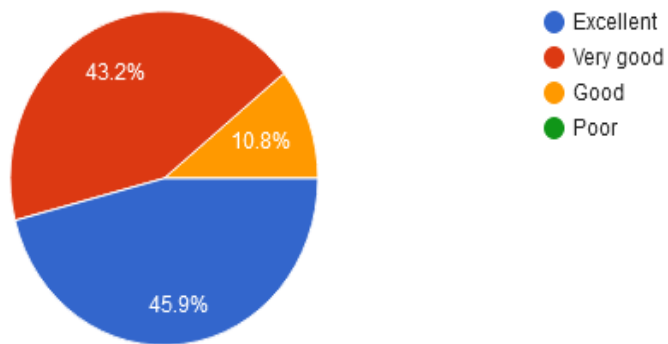


Certificate distribution by Dr.S.Pichi Reddy, HoD ME and resource persons

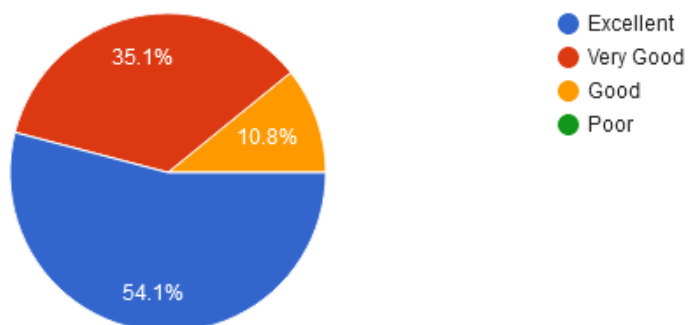
**Feedback / Suggestions:** Increase Laboratory Sessions, Real time case studies

**Feedback Report:**

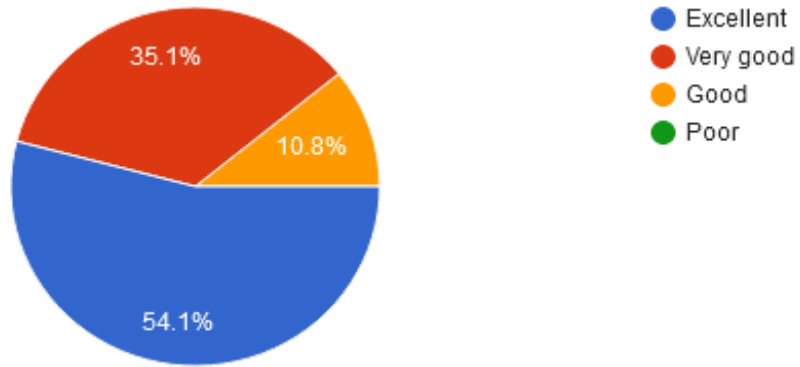
1. Contents covered by the resource person on the given topic



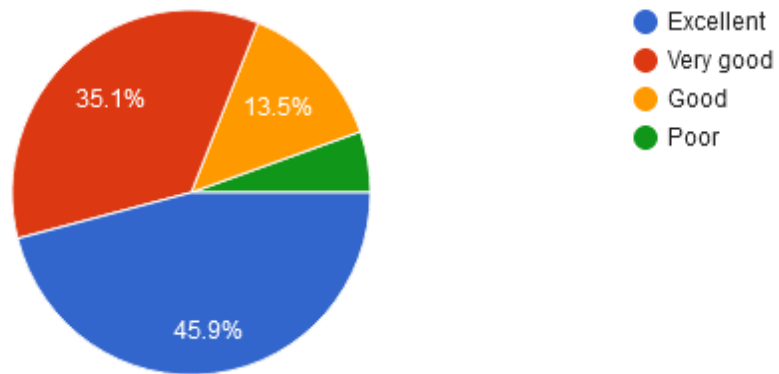
2. Voice clarity on a given presentation



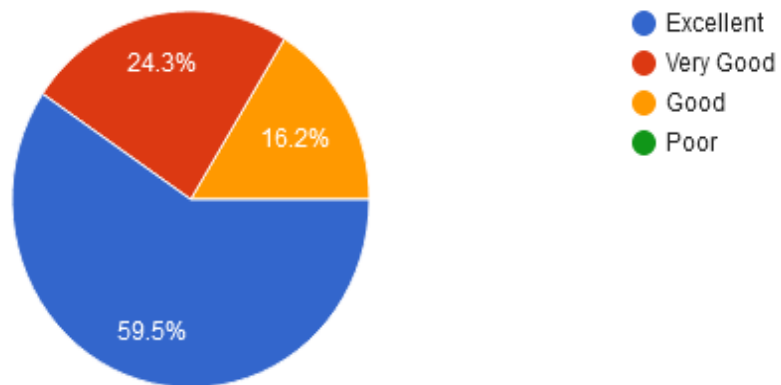
3. Doubts cleared by the resource person



4. Audio/video content shared by the resource person



5. Resource person depth of knowledge on softwares



*[Signature]*  
HEAD  
Dept of Mechanical Engineering  
LAKIREDDY BALI REDDY COLLEGE OF ENGG  
MYLAVARAM - 521 230, Krishna Dist, A.P.