



Learn Beyond

KPR Institute of Engineering and Technology

(Autonomous, NAAC "A")

Avinashi Road, Arasur, Coimbatore.

Phone: 0422-2635600**Web:** kpriet.ac.in**Social:** kpriet.ac.in/social**ME002****NBA Accredited**

(CSE, ECE, EEE, MECH, CIVIL)

TWO DAYS SOFTWARE WORKSHOP ON ANSYS WORKBENCH

Event No	ME002
Organizing Department	Mechanical Engineering
Associate Dept. NSC	Industry Institute Partnership Cell
Date	25/08/2023 to 26/08/2023 (2 Days)
Time	09:00 AM to 04:10 AM
Event Type	Workshop
Event Level	Dept. Level
Venue	HPC Lab
Total Participants	55
Faculty - External	3
Students - External	52

Related SDG



Resource Persons

Sl	Type	Name	Designation	Company	Email	Phone
1	Resource Person	Ms L Kavya	NVH Simulation Engineer	Volvo Group India Private Limited, Bengaluru.	kvyaloganathang@gmail.com	xxxxxxxxxx

Involved Staffs

Sl	Name	Role
1	Dharani Kumar S	Coordinator
2	Sathish S	Coordinator

Outcome

External participants were able to analysis static structural problems.External participants were able to analysis heat transfer problems.External participants were able to analysis dynamic problems.External participants were able to analysis non-linear problems.

Event Summary

Day 1:The event was inaugurated by Ms. Saravana Gowri, a student of III Mechanical Engineering, who delivered the welcome address and introduced the esteemed guest speakers. The workshop aimed to shed light on various aspects of Computer-Aided Engineering (CAE) applications in the automobile industry.**Session 1: Role of CAE in Automobile Industries**Ms. L. Kavya, a seasoned professional in the field of CAE, kick-started the first session. She eloquently discussed the pivotal role of CAE in the realm of automobile industries. Her presentation highlighted how CAE techniques are instrumental in designing, analyzing, and optimizing automotive components and systems, leading to improved performance, safety, and cost-effectiveness.**Session 2: Static Structural Analysis**The second session was led by Dr. S. Dharani Kumar, an expert in structural analysis. The topics covered included importing and exporting material properties, basic meshing techniques, and defining boundary conditions. The participants also received hands-on training by solving two structural problems, which provided them with practical insights into the software's capabilities.**Session 3: Contact Analysis**Continuing the momentum, Dr. S. Dharani Kumar conducted the third session, focusing on contact analysis. Participants gained understanding about bonded and frictionless contact problems. **Day 2:Session 4: Joints and Linkage Problems of IC Engine**The second day of the workshop commenced with an insightful session on joints and linkage problems of internal combustion engines. This session, facilitated by domain experts, explored the challenges associated with engine components' connections and provided insights into effective solutions.**Session 5: Thermal Problems**Dr. S. Dharani Kumar returned with a session on thermal problems. He explained steady-state thermal problems, encompassing conduction, convection, and radiation. The participants were exposed to practical problem-solving techniques using ANSYS Workbench, enhancing their comprehension of heat transfer phenomena.**Session 6: Vibration Problems**The final technical session of the workshop focused on vibration problems. Dr. Kumar elucidated modal analysis of an aircraft wing, harmonic analysis of a beam, and transient analysis of a beam. These sessions gave

participants exposure to dynamic analysis techniques and their significance in engineering design and evaluation. **Feedback Session and Certificate Distribution:** Following the technical sessions, a feedback session was conducted, allowing participants to express their opinions and suggestions for future improvements. The attendees lauded the workshop's organization, content, and the expertise of the speakers. The workshop concluded with the distribution of certificates to all participants, acknowledging their active engagement and successful completion of the ANSYS Workbench workshop.

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Department of Mechanical Engineering
and Centre for Machining and Material Testing (CMMT)

is organizing a
Two Days Software Workshop on
ANSYS Workbench
25 and 26 August, 2023

The Speaker
Ms. Kavya L
NTH Simulation Engineer
Vale Group Ltd,
Bangalore.

Objectives

- Understand and acquire the fundamental knowledge of finite element method.
- Ability to identify and rectify the errors while solving engineering problems.
- Demonstrate finite element analysis software for solving a diversity of mechanical engineering problems.
- Apply finite element method to most relevant problems in mechanical engineering domain.
- Understand how to validate the results and the importance of it in an analysis.

Topics Covered

Pre-processing and post-processing common analysis types such as static structural, modal, and steady-state thermal - CAD integration - Mesh control - Connections - Boundary Conditions - Multistep analysis - Parameters - Basic Nonlinear procedures and diagnosis - Basic Contact Simulations and characterization - Modal analysis - Harmonic analysis - Response Spectrum Analysis - Transient Structural Analysis - Apply appropriate damping - Steady-state Thermal analysis - Transient Thermal analysis - Nonlinear thermal analysis - Type of heat transfer: Convection, Conduction and Radiation.

Who is this course for

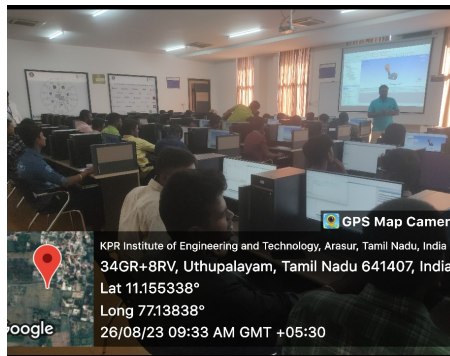
- UG & PG Students, Research Scholars and Engineering faculties who are willing to learn ANSYS Workbench software.
- Engineering Students who want equip themselves with industry demanding Finite Element Analysis software skills.
- Engineering students who want to implement ANSYS Workbench for their final year mini-project and main projects.

Key Highlights

- Designed for Beginners to Intermediate Learners
- 15 Hours for ANSYS Workbench Training
- Theory Session as well as Hands-on-Session
- Static Structural Analysis
- Contact Analysis
- Heat Transfer Analysis
- Dynamic Analysis
- Non-Linear Analysis

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