NEW HORIZON COLLEGE OF ENGINEERING
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

DEPARTMENT OF MECHANICAL ENGINEERING

In association with

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EDS Technologies Pvt Ltd, Bengaluru

Presents Faculty Development Program on

"3D EXPERIENCE CATIA and ENOVIA"

Resource Persons:
Mr. VISHWA KADADAKATTI,
Application Engineer, EDS Technologies Pvt Ltd

Mr. G N SUDHEER,
Application Engineer, EDS Technologies Pvt Ltd

Venue: DEMS Lab
Date: 16th January 2024 to 20th January 2024
Time: 10:00 a.m. to 5:00 p.m.

Organizing Committee:
Prof. Rakesh C, Head - ME
Dr. Nagabhushana N, Sr. Asst. professor
Dr. Srinath M K, Associate Professor
Dr. Hemanth Raju T, Associate Professor
Dr. Bopanna, Sr. Asst. professor
Prof. Shivaprakash S, Sr. Asst. professor
Prof. Sunil Prashanth Kumar, Sr. Asst. professor

Department of Mechanical Engineering
in association with
EDS Technologies, Bangalore

Organizes
Five Days Faculty Development Programme On

Faculty Development program on 3D EXPERIENCE CATIA and ENOVIA

📅 16 - 20 January 2024 | 09:00 AM - 05:00 PM

📍 DEMS LABS, Sardar Vallabhbhai Patel block, NHCE

👥 Faculty members of the ME Department

Programme Objective:
The main objective of this faculty development training program is to enhance the knowledge of researchers and faculty members in the area of Design and analysis of Complex problems using 3D EXPERIENCE CATIA and ENOVIA in Mechanical Engineering domain.

Programme Contents:
Day 1 - 3D EXPERIENCE Overview, 3DEXPERIENCE CATIA Sketcher & Part Design.
Day 2 - 3D EXPERIENCE CATIA Assembly, Drafting.
Day 3 - 3D EXPERIENCE CATIA Surface Design.
Day 4 - 3D EXPERIENCE ENOVIA Modules Recap, EBOM Management.
Day 5 - 3D EXPERIENCE Data Model Customization.

Resource Persons
Technical Experts from EDS Technologies, Pvt Limited

About NHCE
New Horizon College of Engineering is an Autonomous college affiliated to Visvesvaraya Technological University (VTU), approved by the All India Council for Technical Education (AICTE). It is an ISO 9001:2008 certified Institution. Accredited by NBA and also NAAC with 'A' Grade, New Horizon College of Engineering is located in the heart of the IT capital of India, Bangalore. The college campus is situated in the IT corridor of Bangalore. NHCE has a scenic and serene campus that provides an environment which is conducive for personal and intellectual growth. The infrastructure acts as a facilitator for the effective delivery of the curriculum. NHCE boasts of state-of-the-art facilities for its students. The Students are given utmost encouragement in their areas of interest by providing hi-tech facilities backed by faculty support. The institute places highest priority on innovative programs of instructions that include both traditional class room theory and professional skills training. There is a strong impetus on overall personality development of the students with emphasis on soft skills. Students are supported through mentoring and counselling systems. The management offers scholarships to meritorious students. At NHCE, we understand and respect our role as educators and from the moment a student walks into the campus, he/she is well guided to know his/her strengths and choose an area of functional specialization. This enables students to concentrate their efforts and energies to gain the competitive edge.
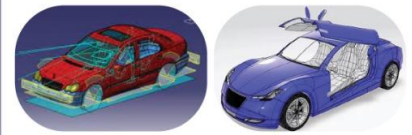
About the Department
From the very inception of the college in 2001, The Department of Mechanical Engineering unique in its own way has been instrumental in moulding multitude of engineers. The Department has undertaken a number of projects in the emerging fields of robotics, rapid prototyping, surface engineering and non-conventional energy with assistance from the Vision Group on Science and Technology, Government of Karnataka and AICTE, New Delhi. The Department comprises of highly talented and experienced faculty members who are committed to their work and is equipped with state of art facility for full and part time research scholars.

About EDS Technologies
EDS Technologies Pvt. Ltd. (EDST) is the largest CAD/CAM/CAE/PLM/ERP and Real Time Visual Simulation solution provider in India. With over two decades of experience in various industries, we enable companies in the Aerospace, Automotive & Supply chains, Industrial machinery, High-tech and Electronics, Railways, Infrastructure, Consumer Packaged Goods, Engineering Service providers, Defence and Research verticals to achieve their business goals.

EDS Technologies established in 1995 is head quartered in Bangalore. The company operates with its direct presence in India (Chennai, Coimbatore, Gurgaon, Noida, Kochi, Hyderabad, Pune, Mumbai, Kolkata, Ahmedabad and Nagpur).

EDS Technologies has established the privileged position in the market and partnered with many global key players like Dassault Systems, SAP, Presagis, VT-MAK and provides PLM solutions, COTS Visual Simulation solutions, PLM Trainings and Trained on-site resources bringing in the most complete solutions for any size and type of company.

About Resource Persons:

Over 20+ certifications on CATIA V5, 3DEXPERIENCE Architecture and Installation fundamentals and ENOVIA by Dassault Systems. Having more than 200+ hours of training Experience on 3DEXPERINCE and CATIA V5 platform for Academic and Corporate customers like Infosys, Ferra Aerospace, Dynamatics, Ather Electric KGTTI, BMS College of Engineering, Etc, TXO (Data Model Customisation) Overview training for academic customers like NHCE, NMIT Etc.

Description of the Event: The resource persons Mr. Vishwa Kadadakatti, and Mr. Sudheer were invited by Prof. Rakesh C, Head of Mechanical Engineering department and highlighted the significance of the Faculty development program and wished all the success for the event, all the organizing committee members were present in the inaugural function.

The Five-day FDP conducted for teaching and non-teaching staff of Mechanical and Automobile engineering. Mr. Vishwa K and Mr. Sudheer from EDS Technologies were the resource persons for all the five days which included 3D EXPERIENCE CATIA and ENOVIA PLM concepts. Following are the course contents of the five days FDP program.

<h1 style="text-align:center">3DEXPERIENCE CATIA BASICs</h1>

Day 1 (16-01-2024)

3DEXPEIENCE Overview, 3DEXPERIENCE CATIA Sketcher & Part Design

Sketcher Application: -
The sketcher application is the foundation for 3D modelling. In this application, we can create and modify 2D profiles/Sketches and we can apply geometrical & dimensional constraints to the profiles.

Part Design Application: -
With part design application, we can transform sketches created in sketcher application into extremely accurate 3D mechanical parts. This application offers a variety of efficient design features, which in turn allows us to tackle a range of projects. With the help of a part design application, we can create reference elements and 3D parts as well as we can perform a Boolean operation to get the desired results.

Objectives:
- Work in the CATIA Sketcher environment
- Create 2D sketch geometry
- Analyze the sketch geometry
- Edit existing 2D profiles   -
- Dimension the sketch geometry and modify it using constraints
- Manage the sketches within a 3D environment

Design mechanical parts using basic solid feature creation
methods
- Create 3D solid features based on 2D sketches
- Apply Dress-Up features
- Duplicate 3D features
- Move features
- Modify a solid mode

Day 2 (17-01-2024)

3DEXPERIENCE CATIA Assembly, Drafting

Assembly Design Application: -
Assembly modelling is the process of creating designs that consist of two or more components assembled together at their respective work positions by applying the engineering Connections. This application helps us to create an assembly with both the approaches i.e., Bottom-Up Approach and Top-Down Approach.

Objectives

Understand the terminology used in assembly design
- Design structural parts in the context of an assembly
- Constrain assembly components
- Analyze an assembly
- Annotate an assembly

Day 3 (18-01-2024)

3DEXPERIENCE CATIA Surface Design.

Generative Wireframe & Surface Design Application: -
Generative Wireframe & Surface Design Application allows you to create/generate a complex surface of negligible thickness with the help of sketches and wireframe elements.

Drafting Application: -
The drafting application helps in creating the drawings and views from 3D parts and it also allows to add of dimensions and annotations as well as we can generate balloons and the Bill of material for the assemblies.

Objectives

Upon completion of these exercises you will be able to:
- Identify and use the tools that are specific to the Generative Shape Design workbench
- Create simple reference geometry and wireframe geometry

- Use the reference wireframe elements to create simple surfaces

- Create a clean topology from a set of surfaces and smooth sharp edges

- Detect and correct the discontinuities on curves and surfaces

- Create solids from surfaces- Create solids from surfaces

Day 4 (19-01-2024)

3DEXPERIENCE ENOVIA Modules Recap, EBOM Management
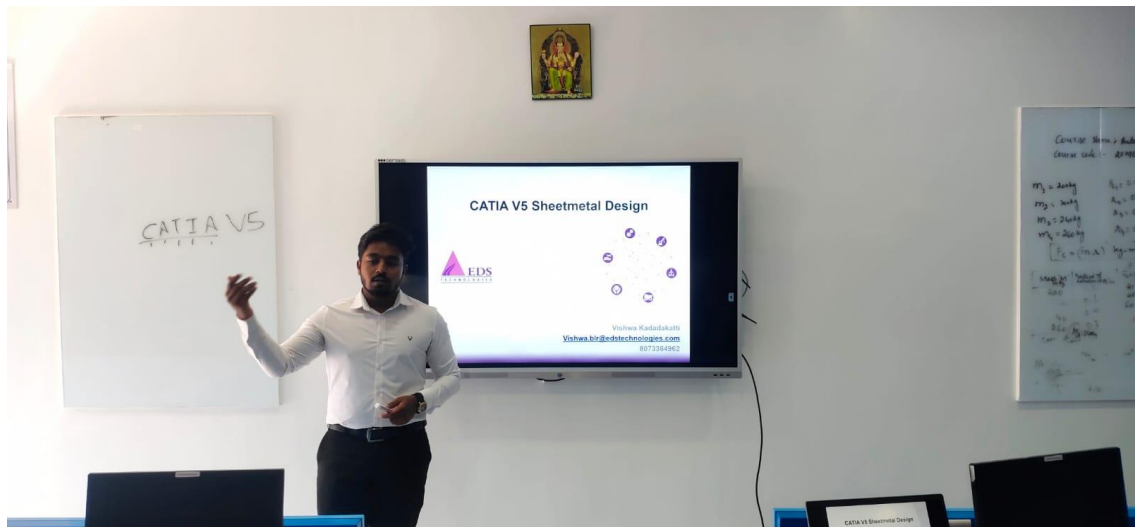
Variant Management Application: -
Variant Management module helps companies develop products with variability. With ENOVIA Variant Management, companies can define conceptual product definitions that can be reused across multiple series of products, satisfy market specifications, and provide many possible optional capabilities. These conceptual product definitions serve as a framework for defining variant products that are configured. Here we have learnt how create complete product architecture, product portfolio, create projects and associate them with model versions, Create Requirements and associate them with logical features, Creating Variant value & Option groups and Configuring product variants.

Day 5 (20-01-2024)

3DEXPERIENCE Intellectual Property

IP Classification Application: -
Classification Manager offers powerful classification schemes and features to organize and retrieve 3DEXPERIENCE Intellectual Property (IP). It provides an easy way to establish and nurture an efficient re-use process across the organization with the right level of organization and qualification. Here we learnt to create Library Hierarchy (Document, Part & General) Library assign attributes to the created classes, objects and retain the documents from obsolete stage lifecycle.

During all the five days sessions, different commands in 3D EXPERIENCE CATIA and ENOVIA were discussed by Mr. Vishwa Kadadakatti and Sudheer. They further shared knowledge on the new and upcoming technology with respect to Solid modelling, Surface and Sheet metal forming. Various applications of Solid modelling and Sheet metal were discussed. The major application areas covered are Aerospace, Automobile and Space crafts.

The session concluded by Prof. Rakesh C, Head - Mechanical Engineering. It was a very engaging and interactive session, one where the participants not only learnt about the different commands in solid modeling and sheet metal, but also where we could acquire knowledge about the future of aerospace, automobile and space crafts, its advantages, disadvantages and the scope.

The session ended with felicitating the resource persons by Dr. Nagabhushana N, Sr. Asst. Prof. and Dr. Gopal K, Associate Prof. to hand over a momento as a token of appreciation. The participants were made to fill a feedback form and that ended to the five days faculty development program.