A Report on
Five Day Faculty Development Programme
on
"Parametric and Non-Parametric Modelling Using Solid Edge Software"
Organised by
Department of Mechanical Engineering
01ˢᵗ – 05ᵗʰ August 2023

Submitted by: Dr. D. Arunkumar, Assistant Professor, Department of Mechanical Engineering.
Resource Person: Mr. K. Vikas, Engineer Technical Services, from Design Tech Sys Pvt. Ltd, CEMS, Vizag.
Co-ordinated by: Mr. H. Raghavendra, Assistant Professor, Department of Mechanical Engineering.
Welcome Remarks by Dr. C. Yuvaraj, Principal, MITS

The Department of Mechanical Engineering, Madanapalle Institute of Technology & Science, organized a 5-Day FDP program titled "**Parametric and Non-Parametric Modelling Using Solid Edge Software**" from 01.08.23 to 05.08.23 at Madanapalle Institute of Technology & Science, Madanapalle.

The registration started at 9.00 a.m. at the Siemens Lab. The Principal of Madanapalle Institute of Technology & Science, **Dr. C. Yuvaraj,** was invited as a chief guest for the inauguration ceremony along with a resource person, **Mr. K. Vikas,** Engineer Technical Services, from Design Tech Sys Pvt. Ltd, CEMS, Vizag. The inauguration started at 9.45 a.m. at Siemens Lab, MITS. The HoD, Faculty & Staff members from the Mechanical department participated in the inauguration ceremony.

Dr. D. Arunkumar, Convener of the program welcomed the HoD, Principal, and Resource person to the Dais. He has given the opening remarks about the FDP program. **Dr. M. Lakshmana Rao,** Prof, Department of Mechanical Engineering, MITS welcomed all the participants and other dignitaries off the dais. **Dr. C. Yuvaraj, Principal**, MITS delivered a welcome note to the dignitaries and highlighted the institute's achievements, facilities and wished all the participants to attend the FDP program and learn new things. **Mr. K. Vikas, Resource Person**, Engineer Technical Services, Design Tech Sys Pvt. Ltd, CEMS, Vizag, highlighted the importance of parametric and non-parametric modelling using Solid Edge software to the audience.

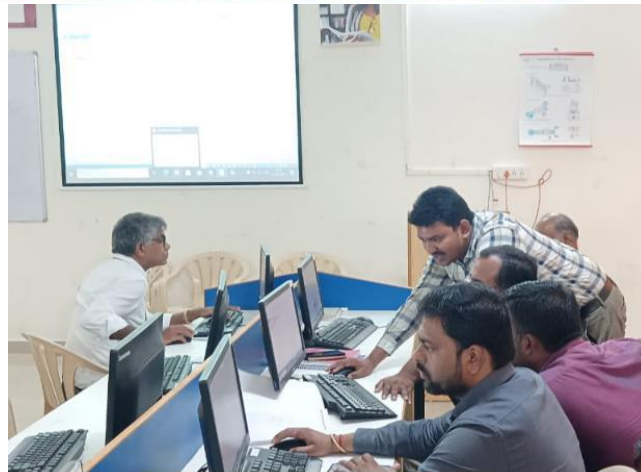**Opening Remarks by Dr. D. Arunkumar   Welcome Remarks by Dr. M. Lakshmana Rao**

Mr. K. Vikas has given the first lecture on "Basic concepts and fundamentals required for designers". He delivered the lecturein two sessions as mentionedbelow

Session I: Engineering Drawing Fundamentals and Introduction to Design and CAD

He explained the concept of projections, four quadrants, importance of first angle projection and applications of engineering drawing. Later he highlighted the features of CAD software.

Session II: Brief introduction to the Solid Edge Interface

He started with the application of Solid Edge and clearly explained all the features of the software. He demonstrated the software in its latest updated version.

Session I & II on 01.08.2023, FN & AN

Date: 02.08.23, Session: III & IV

On the second day of the program, Mr. K. Vikas has delivered a talk on Sketching, Constraining and Modelling the simple and complex diagrams. He delivered the lecture in two sessions as mentioned below

Session I: Sketching and Constraining

He explained clearly about the sketching and the key tools used for sketching and its features and also explained the importance of constraining in diagrams.

Session II: Modelling (Ordered and Synchronous method)

He explained briefly about the significance of an ordered and synchronous environment. He created a model using ordered and synchronous environments and highlighted the distinct difference between those two environments. The participants practiced various part models in both the environments.

Session III & IV on 02.08.2023, FN & AN

Date: 03.08.23, Session: V & VI

On the third day**,** Mr. K. Vikas briefed the participants on the previous day's lecture and cleared their doubts. Then he delivered a talk on Modelling and Inspection in two sessions as mentioned below.
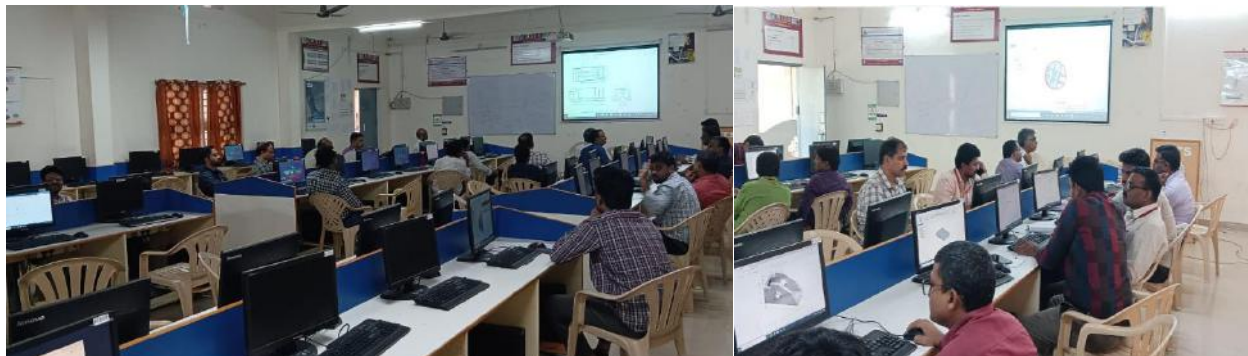
Session I: Hands-on for Modelling

He explained clearly the modeling and how to create a parametric model using solid edge software, further he helped the participants and clear their doubts during practice.

Session II: Inspection and PMI Tools

He explained briefly the significance of Inspection and Product Manufacturing Information (PMI) Tools. He briefed the PMI capabilities, streamlined tools to detail 3D models quickly & easily, also seamlessly shared 3D model intelligence for downstream manufacturing processes.

His lecture was very informative to the participants and gave more insights on Hands-on for Modelling and Inspection and PMI Tools.

Session V & VI on 03.08.2023, FN & AN

Date: 04.08.23, Session: VII & VIII

On the fourth day of the FDP, Mr. K. Vikas delivered a talk on how to approach assembling the different parts. He delivered the lecture in two sessions as mentioned below
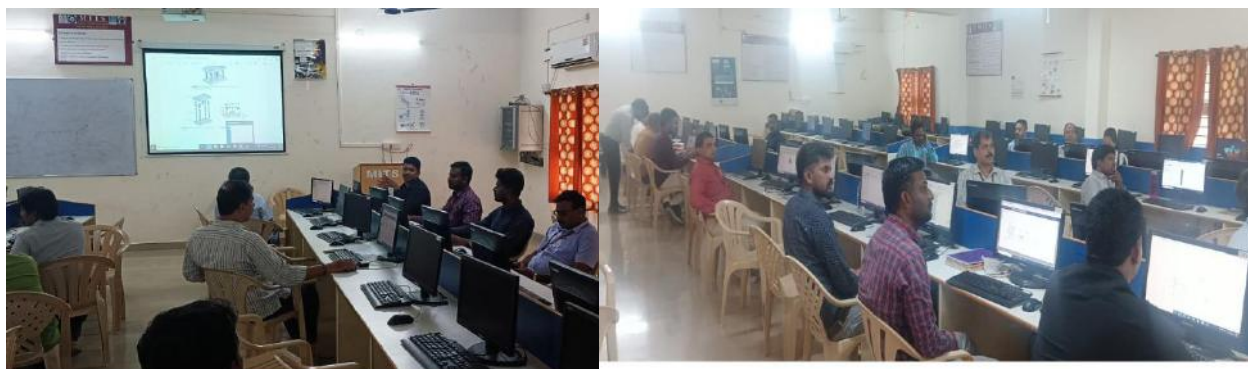**Session I: Assemblies (Top down and Bottom-up Approach)**
He explained clearly the two approaches namely 1. Top-down approach 2. Bottom-up approach. He also demonstrated the assembly using both approaches and highlighted the distinct difference between them. He gave input on how to choose the approach with respect to the number of parts and its complexity.

Part II: Hands-on for Assemblies
He shared the document which contains the list of assembly drawings, further he informed us to practice all the assembly diagrams. He helped each one during the practice session and he suggested us to use shortcut tools in order to simplify the process and time savings.

His lecture was very informative to the participants and gave more insights on Hands-on for

assembly and the approaches followed in assembly (Top down and Bottom-up Approach).

Session VII & VIII on 04.08.2023, FN&AN
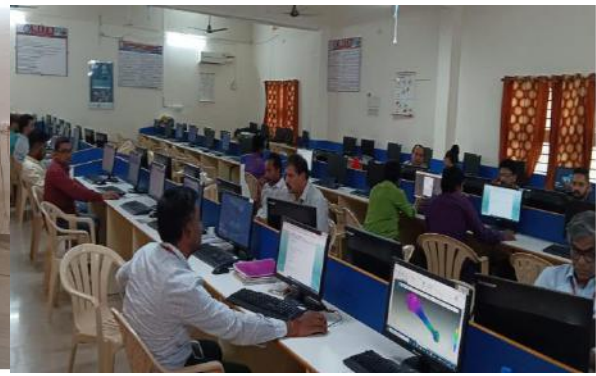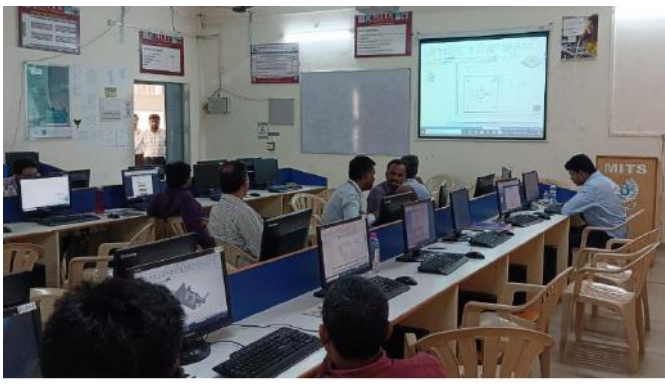
Date: 05.08.23, Session:IX & X

Mr. K. Vikas has delivered a talk on drafting and its uses. He delivered the lecture in two sessions as mentioned below
Session I: Introduction to Drafting

He explained clearly the drafting and its uses. He demonstrated the 2D drafting and showed the important commands to convert 2D to 3D drawing.

Session II: Hands-on for Drafting

He demonstrated how to do drafting and sectional, partial also scale enlargement. He shared the document contains the list of part drawings, further he informed us to practice the drafting. He interacted with participants during the practice session and suggested using shortcut tools in order to simplify the process timings.

Session IX & X on 05.08.2023 FN&AN

<u>**Valedictory Ceremony**</u>

Mr. Raghavendra, coordinator, Assistant Professor, Dept. of Mechanical Engineering, MITS anchored the valedictory ceremony. The HOD, ME MITS graced the valedictory ceremony. **Dr. D. Arunkumar, convener** summarized the five-day FDP program and thanked all the participants for providing support and attending the program. **Dr. S. Baskaran, HOD, ME** congratulated all the participants on their completion of FDP and thanked MITS Management and Principal to organize FDP. **Mr. K. Vikas, Resource Person** once again thanked the principal and management for inviting as resource person and advised the participants to practice more on solid edge software and also congratulated the convener & coordinators. He wished all the participants to move forward in learning new design software.

Later, we took feedback from the participants to get suggestions for improvements in the future events. Finally, we distributed the participation certificates to the participants through their registered email. At the end, the group photo was taken with all the participants.