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Degree Engineering College

A Report

on

A One day hands-on workshop on “FEA using Ansys”
under the subject of Computer aided design

Host:

Prof. A G Makati
(H O D Mechanical Department - Om Engineering College)

Guest Speaker:

Mr. Vaibhav Choksi
(Director of CADD Center, Junagadh)

Workshop coordinator:

Prof. N.D.Sonaiya & M.P.Thummar
(Department Of Mechanical Engineering)

Organized & Managed By:

Department of Mechanical Engineering
Om Engineering College Junagadh

Date: 16th March, 2019 **Time:** 09:30am to 12:30pm **Venue:** OCRI Lab

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Acknowledgement**

We very much thankful to Trustee as well as Director of OM Engineering College Dr. N. M. Sureja sir for organizing such type of one day hands-on workshop.

We are indeed thankful to expert of parametric software Ansys, Mr. Vaibhav Choksi who have spared their precious time especially for Students of Om Engineering College and conducted the hands-on workshop on FEA using Ansys and also thankful to students for taking the interest and attend this workshop.

We are thankful to Prof. A G Makati, Head of the department of Mechanical Engineering who have remained present during the workshop. We are also thanking to also attendees faculties from Degree.

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Introduction:

Department of mechanical engineering from OM Engineering College arranged One Day Hands-on Workshop on FEA using Ansys dated 16th March 2019. Expert of the workshop, Mr. Vaibhav Choksi who is director of CADD Center, Junagadh. Expert rendered his expertise to all Modules of Ansys on effective use of subjective knowledge. Approximately 30 students from our degree 6th semester mechanical students were attending the workshop.



Workshop was started at 10:30 am with speaker Mr. Choksi is well known in educationalist since 5 years and he is willingly in association with so many institutions for creating awareness regarding importance of Modeling, Simulation, Analysis and FEA of any mechanical part, the development of subjective knowledge.

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Some of the topics discussed during Workshop:

Basic knowledge of FEA and it's types :

- The FEA is a numerical procedure for analyzing structure of complicated shapes, which otherwise would be difficult to solve by classical analytical methods. It works on the principle of divide and rule, that is, it transforms a physical system having infinite unknowns into small finite elements having finite number of unknowns. The unknowns are called “Degree of freedom”, and they represent the response to applied actions. There are two Methods of FEA(Finite Element Analysis), FEM(Finite Element Method) and FVM(Finite Volume method).



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- The finite element method (FEM) is a numerical technique for finding approximate solutions to boundary value problems for partial differential equations. It is also referred to as finite element analysis (FEA).
- The finite-volume method (FVM) is a method for representing and evaluating partial differential equations in the form of algebraic equations.
- He had also discussed about NX UG software. With the help of NX UG, modification of any 3D Model is required less time as compared to other parametric software like Creo, Solidworks, Pro-E etc.

Importance of the analytical software :

- Before the manufacturing of any part of machine, Automobile Vehicles and daily usage product, Analysis is required for checking the durability and sustainability for the same and we can create the model with the help of modeling software only and proceed with the analysis in analytical software that's why software is important.

Upshots of Workshop :

- In this workshop students have benefited the basic knowledge of FEA and also learn two modules of Ansys software. Static Module and Vibration Module which is used in analysis of mechanical

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- component. Students were benefited a lot from this workshop. Students were eagerly to say conducting this type of workshop for advance ansys modules which is shows the success of this workshop.

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