

GOVERNMENT  
ENGINEERING  
COLLEGE, Valsad

Chemical Engineering  
Department



# Introduction to MATLAB & SIMULINK

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16-02-2021

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## Details of Webinar

**Webinar Title:** Introduction to MATLAB and SIMULINK

**Name of Expert:** Mr. Dhiraj Jagtap

**Designation:** Engineer, Technical services-Mathworks, DesignTech Systems Pvt Ltd.

**Date of Webinar:** 16/2/2021

**Time:** 11:00 A.M to 1:00 P.M

**Faculty Coordinator:** Prof. A. R. Magodara

**No. of Registered Participants:** 243

**Learning Outcomes:**

- Able to use Matlab for interactive computations.
- Able to generate plots and export this for use in reports and presentations.
- Able to program scripts and functions using the Matlab development environment.

**Webinar description:**

The Department of Chemical Engineering organized a Webinar on “Introduction to MATLAB and SIMULINK” on 16<sup>th</sup> February 2021. The webinar was organized for all students of Chemical Engineering Department. Following points were covered during the webinar:

- Brief History of MATLAB
- Introduction to MATLAB
- Introduction to Simulink
- Data Import & Export
- Data & Variables
- Calling functions
- Demo: Fuel Economy Analysis
- Demo : Creating Simulink Model

The session ended with vote of thanks by Prof. A. R. Magodara in appreciation to Mr. Dhiraj Jagtap for sharing his valuable time for interacting with students and faculties.

## Glimpses of Webinar

Webinar on Introduction on MATLAB and simulink

01:02:40

### Technical Computing Workflow

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The diagram illustrates the Technical Computing Workflow, which is a three-stage process:

- Access:** This stage involves gathering resources. It includes:
  - Files:** Represented by a folder icon.
  - Software:** Represented by a database icon and a code icon.
  - Hardware:** Represented by a circuit board icon.
- Explore & Discover:** This is the central stage where work is done. It includes:
  - Data Analysis & Modeling:** Represented by a graph icon.
  - Algorithm Development:** Represented by a code block showing a loop: 

```
for k=1:max
    x = fft(dat);
    y = 20*log1
```
  - Application Development:** Represented by a block diagram icon.
- Share:** This stage involves distributing the results. It includes:
  - Reporting and Documentation:** Represented by PDF, doc, and html file icons.
  - Outputs for Design:** Represented by icons for a car, a wind turbine, and an airplane.
  - Deployment:** Represented by icons for MATLAB, Excel, .NET, .exe, C/C++, Java, and .dll.

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Participants: +196, JP, KT, NS, NIKUNJ JOTANIYA, Dhiraj Jagtap, CHINTAN PANDYA, PARMAR HIMANSHUK...

Webinar on Introduction on MATLAB and simulink

58:08

### MathWorks Product Family

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The diagram shows the MathWorks Product Family, which is organized into several categories:

- Event-Based Modeling**
- Physical Modeling**
- Real-Time Simulation and Testing**
- Verification, Validation, and Test**
- Simulation Graphics and Reporting**
- Applications:**
  - Control Systems
  - Signal Processing and Communications
  - Image Processing and Computer Vision
  - Test and Measurement
  - Computational Finance
  - Computational Biology
- SIMULINK®**  
Simulation and Model-Based Design
- MATLAB®**  
The Language of Technical Computing
- Parallel Computing**
- Code Generation**
- Math, Statistics, and Optimization**
- Application Deployment**
- Database Access and Reporting**

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