

One-week National Workshop
on
**MATLAB & Its Application in
Engineering**

Jan 28 – Feb 01, 2019

Registration Form

Please complete the details below

Name(Mr./Ms.) _____

1. Category: Academic

3. Organization: _____

4. Address:

5. Tel. No. (Mob): _____

6. E-mail ID: _____

7. Highest Acad. Qualification: _____

Signature of the Candidate

E-mail duly filled registration form at:
lokeshyadav053@gmail.com
on or before 20.01.2019.

Shortlisted Candidates will be informed on: 22/01/2019

For Further Details, Contact:
+91-7839218551, +91-9454110223

***Limited Seats**

Signature of the Head of the Department/Institution
(If required)

Registration Fees**: Internal Candidate: Rs. 200/-
External Candidate: Rs. 500/-

**To be submitted in cash at the time of registration

Course content:

- MATLAB Introduction and Vector Operations, Variables and Matrix Operations
- Conditional Branching, Iterations and Loops Scripts Functions
- 2D, 3D Graphs and Advanced Plotting Commands
- Simulink Toolboxes and MATLAB Applications
- Image Processing Toolbox and Implementation of Face and Eye Detection Techniques
- Introduction to Neural Network and Its toolbox
- Introduction to Fuzzy Logic and Its toolbox
- Introduction to Genetic Algorithm and Its toolbox
- Numerical Optimization Techniques and Artificial Intelligence

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Organized by



Department of Electrical Engineering

**Rajkiya Engineering College
Ambedkar Nagar**

Under the Aegis of



**Dr. A. P. J. Abdul Kalam Technical
University**

Preamble: MATLAB (matrix laboratory) is a multi-paradigm numerical computing environment and proprietary programming language developed by MathWorks. MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages, including C, C++, C#, Java, Fortran and Python.

Although MATLAB is intended primarily for numerical computing, an optional toolbox uses the MuPAD symbolic engine, allowing access to symbolic computing abilities. An additional package, Simulink, adds graphical multi-domain simulation and model-based design for dynamic and embedded systems.

The technical program will include state-of-the-art lectures, hands-on lab sessions, tool demonstrations, and discussion/presentation sessions.

What does MATLAB do?

MATLAB includes hundreds of mathematical functions. It has a high-level programming language allowing access to advanced data structures, 2-D and 3-D graphical functions.

A large number of functionalities is included in MATLAB, viz.:

- **Maths & Simulation**

For usual engineering and science applications including mathematical operations and data analysis.

- **2-D & 3-D Visualization**

Graphics functions to visualize annotate and export data and many ways to create and customize various types of plots and charts.

- **Optimization**

Algorithms to solve constrained and unconstrained continuous and discrete optimization problems.

- **Statistics**

Tools to perform data analysis and modelling

- **Control System Design & Analysis**

Standard algorithms and tools for control system study

- **Signal Processing**

Visualize, analyse and filter signals in time and frequency domains.

- **Application Development**

Increase MATLAB native functionalities and manage data exchanges with external tools.

- **SIMPOWER Library**

The Simscape Power Systems Simscape Components library contains Simscape blocks specifically developed for working with multiphase electrical domains. In addition to the Simscape Foundation domains, the product contains a three-phase electrical domain, and you can use this domain to develop your own custom three-phase blocks with Simscape language.

MATLAB as a platform

MATLAB combines a desktop environment tuned for iterative analysis and design processes with a programming language that expresses matrix and array mathematics directly.

Target Audience:

- UG & PG students
- Lab Technicians
- Research Scholars and Faculties

Candidates are advised to bring laptops for hands-on practice during the sessions.

Accommodation:

Fooding and Lodging will be provided in the hostel on nominal payment basis on pre requisition through email.

About Dr. A. P. J. Abdul Kalam Technical University:

Dr. A.P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU) was established by the Government of Uttar Pradesh.

The University is affiliating in nature and its jurisdiction spans the entire state of U.P. in affiliating B.Tech. M.B.A., M.C.A., B.Arch., B. Pharma., B.H.M.C.T., M.Tech. and Ph.D. programmes imparting graduate, postgraduate and doctoral level training in all government and private institutions located all over U.P. in engineering, technology, architecture, pharmacy, hotel management and catering technology as well as M.B.A. and M.C.A. programmes.

Rajkiya Engineering College, Ambedkar Nagar:

Government of Uttar Pradesh established Rajkiya Engineering College (R.E.C.) Ambedkar Nagar in 2010. The college has started offering B.Tech. Programme in three disciplines – Civil Engineering (CE), Electrical Engineering (EE) and Information Technology (IT) with intake of 60 seats in each branches from the session 2010-11.

The students are extensively exposed to cross-cultural environment as candidates from various other States such as Jammu & Kashmir, Madhya Pradesh, and Rajasthan etc. join REC for various undergraduate programs. REC Ambedkar Nagar is fully residential institution with four hostels for boys and one for girls.

Department of Electrical Engineering:

The department of Electrical Engineering at Rajkiya Engineering College Ambedkar Nagar offers a vibrant environment for undergraduate education in Electrical Engineering Established in 2010. The Department of Electrical Engineering is actively engaged in teaching and research with modern laboratories and excellent faculty members.

The under graduate programme provides the students with a strong background in the broad areas of Electrical Engineering namely control system, power electronics & drives, electrical machines, power system and renewable energy. A strong exposure to state-of-the-art technologies is further provided through elective courses that are carefully designed for the interested students.

Presently, the Department comprises of 12 Faculty members and also sufficient number of nonteaching staff. The Dept. has also state-of-the-art facilities like the Computer Lab, Electrical Workshop, and Seminar Hall etc. The Faculty has a team of well-qualified and experienced teaching staff. Five of them are Ph. Ds. & rests are M.Tech. from eminent institutes like IITs, NITs and Central universities. They have published large number of research papers in various journals & conferences of repute. The Faculty is equipped for meeting the challenges of the present and the need of the future.

Time Table for MATLAB & Its Application in Engineering

Dates (Tentative)	Session 1 10:00 am -11.30 am	Session 2: 11:30 am to 1:00 pm	Session 3 2:00 pm to 4:00 pm
28/01/2019	Inauguration and Introduction to MATLAB Programming	Matrix Commands, m Files and Functions	Plotting of 2D and 3D graphs and practice
29/01/2019	Polynomial with Practice	Differential equations with practice	Signal Processing Toolbox of MATLAB
30/01/2019	Image Processing Toolbox of MATLAB	MATLAB Simulation SIMPOWER Toolbox	Neural Network Introduction
31/01/2019	Neural Network Toolbox in MATLAB	Fuzzy Logic Introduction	Fuzzy Logic Toolbox in MATLAB
01/02/2019	Genetic Algorithm Introduction	Genetic Algorithm Toolbox in MATLAB	Valediction