

**Four Week Summer Internship
On**

**“Python, Android and WSN Optimization using
MATLAB”**

June 17- July13, 2019

Registration Form

Please complete the details below

Name(Mr./Ms.): _____

Designation: _____

Department: _____

Organization: _____

Highest Qualification: _____

Specialization: _____

Address: _____

Tel. No. (Mob): _____

E-mail ID: _____

Aadhar Number: _____

Payment Details: (a) Transaction ID: _____

(b) Mode: _____ (c) Date: _____

Accommodation Required (Yes/No): _____

Declaration:

The information provided above is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the summer training and shall attend the summer training for the entire duration.

Date: _____

Signature of the Candidate

Signature of Head of Department/Institute

Note:

- Charges of institute hostels are approximately Rs.160/- per day including food and accommodation.
- Registration Fee: Rs. 6500/-

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Mr. Parwat Singh Yadav

Chairman B.O.G REC Ambedkar Nagar

Patron

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Vice Chancellor, AKTU Lucknow

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Head, IT Deptt.

**Four Week Summer Internship
On**

**“Python, Android and WSN Optimization using
MATLAB”**

(PAWOM-2019)

17/06/2019 to 13/07/2019

(Self Financed)

Organized by



Department of Information Technology
Rajkiya Engineering College Ambedkar Nagar

(AICTE Approved Government Engineering College,
APJAKTU Code 737)

In association with
**IEEE Student branch and chapters of REC
AMBEDKAR NAGAR**



*Advancing Technology
for Humanity*

Contact details

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About the summer training: A four Week Internship Program On “**Python, Android, and WSN Optimization with Matlab**” is being conducted at REC Ambedkar Nagar. The whole course is handled by industry experts and academicians. The major Course Contents includes theory, Practical demonstration and Case Studies on the following topics: Fundamental of Python Language with advanced level covering their packages, Android development programming with project, Wireless Sensor Networks use and applications with Simulation in Matlab, Optimization process importance with various techniques like: MADM (Multi-Attributes Decision Making) and MODM (Multi-Objectives Decision Making) methods. Various MADM methods like: Analytical Hierarchical Protocol (AHP), Preference Ranking Organization METHod for Enrichment (PROMETHEE), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) etc will be covered. Also various MODM methods like: Genetic Algorithm, Particle Swarm Optimization (PSO), Jaya Algorithm etc will be covered and many more.

About the Institute: Rajkiya Engineering College (R.E.C.) Ambedkar Nagar was established by Government of Uttar Pradesh. The college is offering B.Tech Programme in three disciplines – Information Technology (IT), Electrical Engineering (EE) and Civil Engineering (CE) with intake of 60 seats in each branches. The students are extensively exposed to cross-cultural environment as candidates from other states such as Jammu & Kashmir, Madhya Pradesh, Rajasthan etc. also join this college. REC Ambedkar Nagar is fully residential institution with three hostels for boys and one for girls presently.



About the Departments: The Department of Information Technology was established in 2010 with an intake of 60 students. The department has highly qualified, committed and well experienced faculty members with varied specializations. The faculties are involved in organizing and participating in several seminars, conferences and workshops in addition to their academic responsibilities. They have also published research papers in various national and international journals, presented papers in conferences in India. Over the years, the department has become a centre of excellence, providing in-depth technical knowledge and opportunities for innovation and research, with well-equipped computer facilities, virtual class room and R & D labs.

Information Technology Department is the first point of contact for the campus community by supporting telephone, computing, networking, and applications. IT Department is dedicated to facilitate and enhance teaching, learning, and administrative services and to increase the productivity and efficiency using information technology resources.

Target audience:

- Research Scholars
- UG & PG students
- Staffs/supporting staffs

Note: Participants are advised to bring laptops for hands-on practice during the sessions.

Registration Fee: All the participants are required to submit rupees 6500 non-refundable registration fees to the college account: Account No. **6257000100005758 (IFSC code: PUNB0625700)**, **Bank: PNB.**

Please note that only those participants **who have successfully completed the internship with 80% attendance will get their certificate.**

Registration Process: For registration the participants are required email the scanned copy of duly filled application form and registration fee receipt at: pawom.recabn@gmail.com on or before 10th June 2019.

Travelling Allowance and Accommodation: No TA, DA will be provided for the participant to attend the training program. However, the limited numbers of accommodations at hostels are available for the participants based on first come first serve basis.

Important Date:

Date of Event	17th June to 15th July, 2019
Registration Open	29th April, 2019
Registration Closed	10th June, 2019

Resource Persons: The resource persons for this internship will be scientist, industry person and expert faculty members with strong research background from the renowned place such as IBM, DRDO, BARC, IITs, IIITs, and NITs.

Module 1 Core Python

- ❖ Python Introduction,
- ❖ Modes of Operation,
- ❖ Variables, Strings handling,
- ❖ Operators and Operands in python,
- ❖ Python Lists,
- ❖ Python Dictionary,
- ❖ Python Functions,
- ❖ Python Modules and Packages,
- ❖ Class and Objects,
- ❖ Multi-Threading,
- ❖ File Handling,
- ❖ Exception Handling,
- ❖ python Regular Expressions etc.

Module 2 Advance Python

- ❖ Database Communication,
- ❖ Web Scrapping,
- ❖ Web Development Frameworks,
- ❖ GUI Programming,
- ❖ Machine Learning using Python, etc.

Module 3 Android Applications

- ❖ Android Introduction with System Requirement with Software's Installation
- ❖ Working Android Studio (ADT, AVD, SDK)
- ❖ Important files in android project framework
- ❖ Understanding of Android Activity, Layout Files, Values Files, Manifest and Mipmap
- ❖ Layouts and activities
- ❖ Working with widgets Button, Edit text
- ❖ Creation and installation of Android apk in mobile devices
- ❖ Develop your own Application

Module 4 Wireless Sensor Networks

- ❖ Concepts of WSN
- ❖ Concepts and Programming for Clustering Algorithm
- ❖ Concepts and Programming for optimization and Fuzzy

Module 5 Optimization

- ❖ Concepts of Optimization
- ❖ Concepts and Programming Genetic Algorithms
- ❖ Concepts and Programming Evolutionary Algorithms

- ❖ Concepts and Programming Particle Swarm Optimization

Module 6 MATLAB Introduction

- ❖ About MATLAB
- ❖ Importance for Engineers and others
- ❖ Installation on Windows
- ❖ Development Environment
- ❖ MATLAB Desktop (Editor, Work space, Command history, Command Window)
- ❖ MATLAB directory
- ❖ MATLAB BASIC commands

Module 7 Editing and debugging M Files

- ❖ Creation of m file
- ❖ Loops, branches, control flow
- ❖ Interactive inputs
- ❖ Creating own scripts and user defined function file Nested functions
- ❖ Debugging

Module 8 Fuzzy Logic TOOLBOX

- ❖ FUZZY V/S non fuzzy logic
- ❖ Foundation of fuzzy logic
- ❖ Fuzzy inference systems
- ❖ Building systems with fuzzy logic toolbox
- ❖ Building fuzzy inference systems using custom functions
- ❖ Working from the command line
- ❖ Simulating fuzzy inference systems using the fuzzy inference engine

Python, Android, and MATLAB Optimization using MATLAB