DEPARTMENT OF PHYSICS
DEVA MATHA COLLEGE, KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam
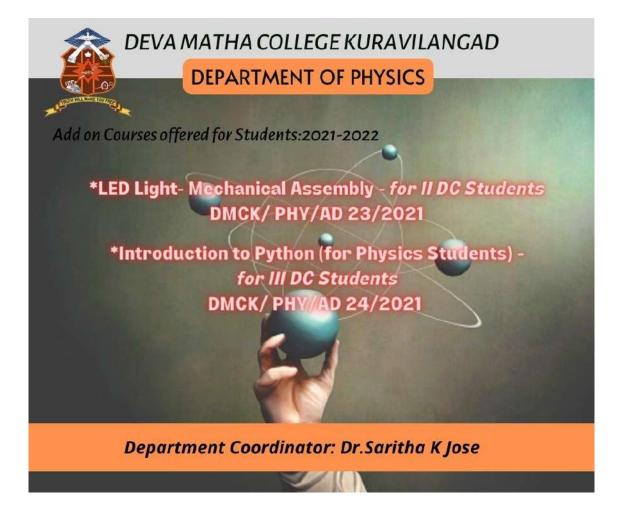

SYLLABUS

ADD-ON COURSE

in

DMCK/PHY/AD24/2021: INTRODUCTION TO PYTHON FOR PHYSICS STUDENTS

Academic Year: 2021-22

Title: Introduction to Python for Physics Students

Instructional Hours: 30 Hours

Duration: 4 Months

Mode of Instruction: Theory and Practical

Intake Capacity: 30

Eligibility: Plus Two

Add-on Course in

DMCK/PHY/AD24/2021 : Introduction to Python

Duration: 30 hours

Course Objectives

1. To acquire programming skills in core Python.

2. To acquire Object Oriented Skills in Python

3. To develop the skill of designing Graphical user Interfaces in Python

4. To develop the ability to write database applications in Python

Syllabus

Module 1(15 hours)
- Installation of Python IDLE (Linux, Windows), list, tuple, dictionary, set, operators, input and output in Python.
- Conditional Statement in Python, Looping Statements in Python, break and continue, File handling with Python.
- User defined Functions in Python.
- Object Oriented Programming with Python.

Module 2(15 hours)
- Some Python functions (map( ), filter( ), and reduce( )), Lambda Functions in Python, The Zen of Python.
- Regular expressions in Python, Differences between Python 2 and Python 3, Plotting in Python with Matplotlib.
- Some Python Libraries (NumPy and SciPy).
- Introduction to Machine Learning using Python.

Course Outcome

At the end of the course, the student will be able to

1. Explain basic principles of Python programming language

2. Implement object-oriented concepts

3. Implement database and GUI applications.

Assessment Procedure

1) Attendance
2) Examination

Grading

Marks Obtained (%)	Grade
90 and above	S
85-89	A
80-84	B
75-79	C
Below 75	D

Principal
Deva Matha College
Kuravilangad - 686 633