

DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam



SYLLABUS
OF
ADD-ON COURSE
IN
Physics Simulations in C++
Academic Year: 2022-23



DEVA MATHA COLLEGE KURAVILANGAD

DEPARTMENT OF SELF FINANCE PHYSICS PG

Add on Courses offered for Students : 2022-2023

1. Basic LATEX

DMCK/ SFPHY/AD 29/2022

2. Physics Simulations in C++

DMCK/ SFPHY/AD 30/2022



Department Coordinator: Ms. Roselin George

Title:	Physics Simulations in C++
Instructional Hours:	30
Duration:	2 months
Mode of Instruction:	Theory classes and practical sessions
Intake Capacity:	25
Eligibility:	B.Sc Physics

DEVA MATHA COLLEGE KURAVILANGAD
ADD-ON COURSE FOR THE AY 2022-23

Course Objectives

1. Acquire working knowledge in C++ programming.
2. To develop algorithm for the study of different physical phenomena.
3. To develop algorithm of different numerical methods used in scientific computing.
4. To familiarize the graphing software gnuplot

Module 1 (10 Hours)

- Basic concepts of object oriented programming
- Structure of C++ program with simple examples
- C++ data types
- Creating the source file
- Compiling & Linking

Module 2 (10 Hours)

- Operators in C++
- Control structures
- Function in C++
- Classes and Objects

Module 3 (5 Hours)

- Analysis of different physical phenomena in scientific programming perspective
- Numerical methods with C++

Module 4 (5 Hours)

- GNUPLOT

References

- 1) Object Oriented Programming with C++ Author : Balagurusamy Publisher: Tata McGraw-Hill
- 2) Computational Physics : An Introduction Author : R. C. Verma Publisher : New Age International

Assessment Procedure

Written Exams (40%)

Online Exam (Objective type) (20%)

Practical Exams (40%)

Grading

Marks (%)	Grade	Grade point
91-100	A	5
81-90	B	4
71-80	C	3
61-70	D	2
Below 60	E	1



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