Programme: M. Sc. (Physics)
Course Code: PHGO-111 **Title of the Course:** Computer programming with C
Number of Credits: 2
Effective from AY: 2021-22

Prerequisites for the course:	Nil	
Objective:	This course develops concepts of computer programming in general and introduces programming language C.	
Content:	**1. Introductory Concepts** Introduction to computers, Introduction to Linux OS, Linux basics, Introduction to C, Writing a C Program, Compiling and Executing the Program, Error Diagnostics, Some simple C Programs, Desirable Program Characteristics. **2. C Fundamentals** The C character set, Identifiers and Keywords, Data types, Constants, variable and Arrays, Declarations, Expressions, Statements, Symbolic Constants **3. Operators and Expressions** Arithmetic Operators, Unary Operators, Relational Logical Operators, Assignment Operators, the Conditional Operators, Library Functions. **4. Data Input and Output** Preliminaries, Single character input and output, entering Input data, writing output data, Opening and closing data file, format statements. **5. Control Statements** Preliminaries, Branching statements, Looping statements, nested control structure, switch, break, continue, go to statements. **6. Functions** Defining functions, accessing functions, Passing arguments to a function. **7. Arrays** Defining an array, processing an array, passing arrays to functions, multidimensional arrays.	6 hours 8 hours 8 hours 6 hours 8 hours 6 hours 6 hours
Pedagogy:	Lectures/ Laboratory work/self-study	
References/Readings	1. Byron Gottfried, Programming with C, Tata McGraw- Hill (1996).	
Learning Outcomes	1. Understand different programming languages in general; Understand C programming language; 2. Understanding how to write and run simple C programs.	