

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Programming Lab
2.	Course Number	MA5191
3.	Status of the Course	Core
4.	Structure of Credits	0-0-3-2
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Mathematics
8.	To take effect from	July 2019
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To give practice on the basics of programming using C++. To develop hands-on programming ability to solve a linear system using C++, Python and Matlab.	
12.	Course Content: C++ environment, Variables, Arrays, Selection and Repetition Structure, Functions, Debugging a Code, Pointers, Class, Developing a library to solve a linear system using C++. Finding solution of a linear system using existing Python and Matlab libraries.	
13.	Text book(s): 1. M. A. Weiss, <i>Data Structures and Algorithm Analysis in C++</i> , Pearson, (2007). 2. K. A. Lambert, <i>The Fundamentals of Python: First Programs</i> , Cengage Learning, (2011).	
14.	Reference(s): 1. I. Horton, <i>Beginning Visual C++ 2013</i> , Wiley , (2014). 2. B. Stroustrup, <i>Programming: Principles and Practice Using C++</i> , Addison-Wesley, (2014). 3. B. Stroustrup, <i>The Design and Evolution of C++</i> , Addison-Wesley, (1994). 4. L. V. Fausett, <i>Applied Numerical Analysis Using MATLAB</i> , Pearson, (2007).	