

**INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE**

1.	Title of the Course	Physics Laboratory
2.	Course Number	PH1103
3.	Status of the Course	Core
4.	Structure of Credits	0-0-3-2
5.	Offered To	UG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Physics
8.	To take effect from	July 2018
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: The course is designed to provide a broad overview on various experiments in physics subjects such as Mechanics, Electrodynamics, Optics, Electronics, etc. In addition to that, the exposure on the simulations using MATLAB software would help to solve problems in science as well as in engineering.	
12.	Course Content: A set of experiments are designed to estimate few fundamental constants and standard values in Physics; to understand several physical phenomenon as well as to probe the intrinsic nature and type of the materials. The aim of the experiments are as follows: finding out the value of gravitational acceleration; determining the Planck's constant; estimating the band-gap, magnitude of the charge concentration and sign of the charge carriers of a given semiconducting material; finding out the wavelength of a given light using interference and diffraction methods; mapping out the equipotential lines in an electric field region; getting familiar with digital oscilloscope and computer simulations.	
13.	Text book(s): 1. G. L. Squires, <i>Practical physics, 4th edition</i> , Cambridge University Press, (2001).	
14.	Reference(s): 1. M. N. Srinivasan, S. Balasubramanian and R. Ranganathan, <i>A text book of Practical Physics, 1st edition</i> , Sultan Chand and Sons, (1990).	