

1.	Title of the Course	Physical Chemistry Laboratory
2.	Course Number	CY6191
3.	Status of the Course	Core
4.	Structure of Credits	0-0-6-4
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Chemistry
8.	To take effect from	July 2020
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To provide an experimental exposure on several methods and equipment used in different core areas of physical chemistry like thermodynamics, chemical kinetics, and spectroscopy. Hence, to provide a rigorous training on data collection methods, instrumentation, data reduction, error analysis techniques and report writing.	
12.	Course Content: Effect of ionic strength on reaction rate, kinetics of mutarotation of dextrose by polarimetry, linear free energy relationship from electrochemical reduction of substituted nitro benzenes, formation constant of iron (III) salicylate complex, thermodynamics of micellization of a surfactant from conductivity measurements, intermolecular hydrogen bonding in benzyl alcohol using infrared spectroscopy, chemical oscillations reaction, rate constant of acid catalysed ester hydrolysis, verification of Lambert-Beer's law, cell constant of a conductometer and the equivalent conductance, conductometric titration, estimation of partition coefficient, estimation of viscosity, solubility product of a sparingly soluble salt, molecular weight of a polymer.	
13.	Text book(s): 1. Athawale V D and Mathur P, <i>Experimental Physical Chemistry</i> , New Age International Pvt. Ltd. (2001). 2. Halpern A M, <i>Experimental Physical Chemistry: A Laboratory Textbook</i> , W. H. Freeman (2006).	
14.	Reference(s): 1. Garland C, Nibler J and Shoemaker D, <i>Experiments in Physical Chemistry</i> , McGraw-Hill, Boston (2003).	