



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
BSL24	Applied Science II Lab	-	-	2	-	-	1	1
		Examination Scheme						
		ISE	ESE		Total			
			Practical	Oral				
50	-	-	50					

Applied Physics Lab

After successful completion of the course, student will be able to		
Course Outcomes	C01	Develop experimental skills for the use of laboratory instruments and tools
	C02	Develop an ability of understanding of concepts and principles of physics
	C03	Develop practical abilities (observation, recording data and analyzing results)
	C04	Comprehend importance of precision, accuracy of the experimental data

Experiment No.	Experiment Details	Marks*
1	To measure radius of curvature of a plano-convex lens using Newton's Rings	5
2	To measure the thickness of a spacer using interference pattern at the air wedge between two glass plates	5
3	To determine the wavelengths of a mercury source using a plane diffraction grating	5
4	To determine the width of a slit from the diffraction pattern of a single-slit	5
5	To determine the grating element of a diffraction grating using a laser source	5
6	To determine numerical aperture of an optical fibre	5
7	To measure DC, AC Voltage and Frequency of AC signal using a Cathode-Ray Oscilloscope	5
Total Marks		25

*Any 5 experiments.



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Applied Chemistry Lab

After successful completion of the course, student will be able to		
Course Outcomes	CO1	Estimate metal content in alloys using different methods
	CO2	Estimate components of proximate analysis of coal
	CO3	Analyze flue gas for its composition
	CO4	Synthesis of bio fuel

Exp. No.	Experiment Details	Ref.	Marks
1	Estimate percentage of Zinc in an alloy of Copper and Zinc by Complexometric titration	1	5
2	Estimate percentage of Nickel by Complexometric titration.	1,2	5
3	Estimate percentage of Copper in brass by Iodometric Titration	1, 2	5
5	Estimate moisture content in coal.	1, 2	5
6	Estimate ash content in coal.	1,2	5
7	Analyse Flue gas for its composition (by Orsat's Apparatus).	1, 2	5
8	Laboratory synthesis of biodiesel.	2	5
Total Marks			25*

* Any five from the above list of experiments will be performed.

References:

- [1] P. C. Jain & M. Jain, *Engineering Chemistry*, XV thed reprint, New Delhi, India, Dhunpat Rai Publishing Co. (P) Ltd., 2010.
- [2] S. S. Dara & S. S. Umare, *A Textbook of Engineering Chemistry*, XII thed reprint, New Delhi, India, S. Chand & Co. Ltd., 2013.