



Master of Science – Materials Science
(M.Sc.)(Materials Science) Semester –I

Course Code	PS01CMTS55	Title of the Course	PRACTICAL – I
Total Credits of the Course	4	Hours per Week	12 hrs

Course Objectives:	1. To have hand on practice of different vacuum related instruments in the laboratory
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Course Content		
Unit	Description	Weightage* (%)
1.	<ul style="list-style-type: none">➤ Operation of vacuum coating unit.➤ Deposition of metallic thin film using vacuum coating unit.➤ Determination of specific heat of graphite at different temperatures➤ Estimation of thickness of film by multiple beam interferometry method.➤ Preparation of thin film resistor using vacuum coating unit.➤ Estimation of inter planar spacing and unit cell dimensions using electron diffraction pattern.➤ Determination of electrical conductivity of graphite at room temperatures.➤ Determination of depth of scratch by MBI method.	100%

Teaching-Learning Methodology	Demonstration/Group discussion/ Panel/Hands on training
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	
2.	Get familiar with optical methods used for film thickness measurements

Suggested References:	
Sr. No.	References
1.	Vacuum Science and Technology- V.V. Rao, T.B. Ghosh and K.L.Chopra
2.	Handbook of Thin films – Maissel and Glang

On-line resources to be used if available as reference material	
On-line Resources	

