



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

Course Code	PS01CMTS56	Title of the Course	PRACTICAL – II
Total Credits of the Course	4	Hours per Week	12 hrs

Course Objectives:	1. Various synthesis and characterization methods of selected polymers
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Course Content		
Unit	Description	Weightage* (%)
1.	Preparation of phenol-formaldehyde resin (resole) Preparation of phenol-formaldehyde resin (Novolac) Preparation of urea-formaldehyde resin. Preparation of melamine-formaldehyde resin. Preparation of epoxy resin (Solid and liquid) Emulsion polymerization of methylmethacrylate. Preparation of unsaturated polyester. Determination of free phenol content in Novolac resin. Determination of Free formaldehyde in PF, and UF and MF resin. Determination of epoxy equivalent weight of epoxy resin. Determination of acid value in polyester.	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.	Get idea of different laboratory methods used for the synthesis and characterization of the polymers
2.	Which will be helpful in the R & D centres of polymer industries as well as production and also quality control department

Suggested References:	
Sr. No.	References
1.	Brydson ,J. A. and , Saunders K. J. (1970) <i>Experimental plastics technology</i> Methuen Educational , London
2.	

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

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