

KAHM Unity Women's College, Manjeri
Post Graduate Department of Chemistry

CERTIFICATE COURSE ON

Hands on Training in Polymer Compounding

Course Duration: 30

hrs.

Course Objectives:

- To understand the basic concepts and principles of polymer science.
- To learn the different methods and techniques used in polymer compounding.
- To gain hands-on experience with polymer compounding equipment and processes.
- To explore the properties and applications of various compounded polymers.
- To develop problem-solving skills related to polymer compounding challenges.

COURSE OUTCOME:

- Upon successful completion of this course, participants will be able to:
- Demonstrate a thorough understanding of polymer materials and their properties.
- Operate polymer compounding equipment efficiently.
- Apply appropriate compounding techniques for different polymer blends.
- Analyze and test the quality of compounded polymers.
- Identify and resolve common issues encountered in the compounding process.
- Utilize compounded polymers in various industrial applications.

SYLLABUS

Module I (8 hrs)

Rubber and its classifications, Composition, collection and preservation of Rubber latex - Estimation of Dry Rubber Content (DRC) – Rubber Preservatives - Importance of ammonia as preservative - Test for latex - Concentration of latex by centrifuging.

Module II (8 hrs)

Principles of latex compounding techniques- Latex dipping – different vulcanization methods -

Properties of vulcanizers. Composites, polymer nanocomposites

Module III (8 hrs)

Manufacturing methods: Dipping - Dipped goods - Gloves (Surgeon and household), Rubber band, Toy balloons - Calendering: Mats - Extrusion: Thin wires, Ball

Module IV (6 hrs)

Marketing of rubber products - Significance, steps and procedures in marketing - Use of Market research.

References:

1. V. R. Gowariker, Polymer Chemistry, New Age International Pvt Ltd., New Delhi, 2010.
2. R. Joseph, Practical Guide to Latex Technology, Smithers Rapra Technology Limited, 2013.