

From,

HoD

Department of Chemistry

MES KVM College

Valanchery

To

The Principal

MES KVM College

Sir,

Sub:- permission for the conduct of certificate course on rubber processing.

We have planned to conduct a certificate course on rubber processing for the final year students of science stream. It is a course of 30 hours duration including a three days training programme. So please grant us permission to conduct the course.

Thanking you

Valanchery

14/10/2016



Yours faithfully

RUKMAN. KM

HoD

Dept. of Polymer chemistry

From  
The Head of Department  
Department of Chemistry  
MES Keveeyam College, Valanchery

To  
The Principal  
MES Keveeyam College, Valanchery

Sir,

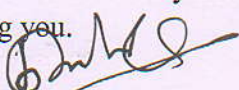
Sub: Request for the Approval of Board of Studies for the short term course.

The following academicians may be included in the Board of Studies for the short term course on "Rubber Processing and Technology (CC/CHE/96)" to be conducted by the department.

1. Dr. A Sujith (Associate Professor, Department of Chemistry, National Institute of Technology Calicut)-Chairman.
2. Prof. P Santhakumari (Associate Professor, Department of Chemistry, Majlis Arts and Science College Puramannur).
3. Dr. Prajithakumari (Asst. Professor, Department of Chemistry, PSMO College Tirurangadi).
4. Prof. K M Rukkiya (Head, Department of Chemistry, MES Keveeyam College Valanchery).
5. Dr. C Rajesh (Asst. Professor, Department of Chemistry, MES Keveeyam College Valanchery).

Kindly do the necessary action to constitute the Board of Studies with these members.

Thanking you.

  
Yours faithfully,  
Prof. K M Rukkiya  
Associate Professor  
Department of Chemistry

Place: Valanchery  
Date: 14/10/2016







# MES KEVEEYAM COLLEGE

Re-accredited by NAAC with A Grade  
(Affiliated to the University of Calicut)

Valanchery – 676552, Malappuram Dt., Kerala State

Phone: 0494 – 2644380, 2642670, 2641347(Fax), [www.meskvmcollege.org](http://www.meskvmcollege.org)

Email: [principal@meskvmcollege.org](mailto:principal@meskvmcollege.org)

*Proceedings of the Principal, MES Keveeyam College Valanchery dated 26-10-2016*

**(Present: Capt Dr Mohammed Ali P)**

**Ref:** (1) Request for the Approval of Certificate Course, dated 14/10/2016

**(2) Request for the Approval of Board of Studies for the short term course, dated 14/10/2016**

## ORDER

As per reference cited (1) a request was received from the HOD, Department of Chemistry, for the conduct of a certificate course on “Rubber Processing and Technology.” The course is meant for undergraduate students and is of 30 hours duration. The Head of the Department has also requested to constitute a Board of Studies for the course with the following members. (2)

1. Dr A Sujith (Associate Professor, Department of Chemistry, National Institute of Technology, Calicut)-Chairman
2. Prof. P Santhakumari (Associate Professor, Department of Chemistry, Majlis Arts and Science College, Puramannur)
3. Dr. Prajithakumari (Asst. Professor, Department of Chemistry, PSMO College Tirurangadi)
4. Prof. K M Rukkiya (Head, Department of Chemistry, MES Keveeyam College Valanchery)
5. Dr C Rajesh (Asst. Professor, Department of Chemistry, MES Keveeyam College Valanchery)

Sanction is hereby accorded to Department of Chemistry to conduct a certificate course on Rubber Processing and Technology. The board of studies for the course is constituted with the members listed above.

Order is issued accordingly.



  
Lt (Dr.) Mohamed Ali P

Principal

*Minutes of the Meeting of the Board of Studies for Certificate Course in Rubber Processing and Technology on 1-11-2016*

**Agenda:**

1. Discussion on the syllabus of the certificate course and its approval

Members present

1. Dr A Sujith (Associate Professor, Department of Chemistry, National Institute of Technology, Calicut)-Chairman
2. Prof. P Santhakumari (Associate Professor, Department of Chemistry, Majlis Arts and Science College, Puramannur)
3. Dr. Prajithakumari (Asst. Professor, Department of Chemistry, PSMO College Tirurangadi)
4. Prof. K M Rukkiya (Head, Department of Chemistry, MES Keveeyam College Valanchery)
5. Dr C Rajesh (Asst. Professor, Department of Chemistry, MES Keveeyam College Valanchery)

The chairman briefed about the objective, course content and scheme of evaluation of the certified course. The draft syllabus prepared was placed for discussion. The modifications suggested by the members were accommodated. It was decided to approve the syllabus for the course.





## MES KEVEEYAM COLLEGE VALANCHERY

### Research and Post Graduate Department of Chemistry

#### CC/CHE/03 -Certificate Course on Rubber Processing and Technology

##### Objective

This objective of the course is to give the learner a fundamental understanding about the natural and synthetic rubbers, their processing techniques and the manufacturing of utility products. It also aims to give an idea about the markets available for rubber products and their marketing.

##### Course Contents

- Theory: 15 Hours duration
- Practical : 5 Hours duration

##### Scheme of Evaluation

- |  |             |
|--|-------------|
| • Written Examination (Conventional)             | : 60 Marks  |
| • Written Examination (Open Book)                | : 20 Marks  |
| • Assignment                                     | : 5 marks   |
| • Viva Voce                                      | : 5 marks   |
| • Performance in Practical (Internal Evaluation) | : 10        |
| Total  | : 100 marks |

***A Grade: 80% and above, B Grade: 60-79% %, C Grade: 40-59%%, Below 40% D Grade***



# SYLLABUS

## **Unit I: Introduction to Rubbers (3 hours)**

Natural Rubber-History, Synthetic rubbers-general and special purpose, Uses of natural and synthetic rubbers

## **Unit II: Rubber Latex (4 Hours)**

Tapping, Preservation, Composition and Modification of Rubber Latex, Synthetic rubber latex, latex testing, development of products from latex

## **Unit III: Rubber Vulcanisation (3 hours)**

Vulcanisation-Historical development-sulphur vulcanization-accelerators and activator-non sulphur vulvanising systems-Evaluation of vulcanization-Cure time-sorch time.

## **Unit IV: Rubber Technology (3 hours)**

Rubber Blends and Composites, Processing methods, Compression moulding, Testing and characterization.

## **Unit V: Setting up of small scale rubber industry (3 hours)**

Various utility products from rubbers, rubber products manufacturing methods, Market study, developing of entrepreneurship culture, financial support from various agencies for setting up of industry, marketing of the products.

## **Unit VI: Practical (5 hours)**

- Latex Analysis
- Hands on experience in the operation of two roll rubber mixing mill and hydraulic press

## **References**

1. An Introduction to Rubber Technology, Morton and Blow
2. Entrepreneurial Development, S S Khanka

