(c) Explain the operation procedure and measurement of Mooney Viscosity of a rubber and its importance

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5578 **J**

Unique Paper Code : 6092013603

Name of the Paper : Rubber Technology

Name of the Course : **B. Sc. (H) Polymer Science**

Semester : VI (DSC)

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
2. Attempt four questions in all.
3. Question no. 1 in Compulsory.
4. Draw neat and labelled diagram wherever necessary.

1. (3x5=15)

(a) Compare rubber and plastic based on their structural and property aspect.

(b) What is plastic deformation and elastic deformation?

(c) Discuss any one method of studying impact property and tear property of rubber sample.

2. (3x5=15)

(a) Explain a rheo-curve of a typical rubber vulcanizate

(b) What is TPE? Explain its structural features

(c) What are the different types of EPDM structures- Discuss.

3. (3x5=15)

(a) Discuss the manufacturing of SBR by emulsion method.

(b) What are the impacts of Increasing acrylonitrile content on properties of NBR?

(c) What are the different grades of silicon rubbers. State their characteristics.

4. (3x5=15)

(a) What is the role of a retarder?

(b) Explain the metal oxide vulcanization of chloroprene rubber.

(c) Compare vulcanizate properties of conventional vs semi-efficient vs efficient vulcanization system

5. (3x5=15)

(a) Compare Two roll mixing vs internal mixer

(b) Discuss the parts of the internal mixer and explain its functioning