

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014**

**Subject code: 2714003**

**Date: 09-01-2015**

**Subject Name: Rubber Cultivation and Rubber Lattices**

**Time: 02:30 pm - 05:00 pm**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**Q. 1 (a)** Write the principal facts for the formation of Volatile Fatty Acids (VFA) in NR Latex. (07)

**(b)** List the methods for the improvement of latex yield and explain any one in detail. (07)

**Q. 2 (a)** Explain the production of Styrene-Butadiene Copolymer lattices with schematic diagram. (07)

**(b)** Discuss the Emulsion polymerization of Acrylonitrile and Butadiene and explain the effect of monomer ratio on properties of Copolymer. (07)

OR

**(b)** Write about Cross linking reagents for vulcanization of Carboxylated Lattices and explain any one with reaction mechanism. (07)

**Q. 3 (a)** Give a detailed description on Aqueous Emulsion polymerization reaction. (07)

**(b)** List the chemical methods for Partial agglomeration of Synthetic lattices and explain any one in detail. (07)

OR

**Q. 3 (a)** Short note on Non-aqueous Synthetic lattices. (07)

**(b)** Draw the schematic diagram for Partial agglomeration of Synthetic lattices by using Homogenizer and explain the process. (07)

**Q. 4** Write the basic methods used for Radiation Pre-vulcanisation of Lattices. Describe any one in detail. (14)

OR

**Q. 4** Discuss about preparation of Sulfur-pre-vulcanised NR Latex and mention the influencing variables also. (14)

**Q. 5 (a)** Short note on: Trumbull-Dickson process. (07)

**(b)** Explain the chemistry of Epoxidation of Natural Rubber in Latex form. (07)

OR

**Q. 5** What do you mean by Artificial Lattices? Discuss the production of Artificial lattices of Reclaimed Rubber in detail. (14)

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