

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

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

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

**Subject code: 152602**

**Date: 12-01-2013**

**Subject Name: Latex Technology**

**Time: 02:30 pm to 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** Answer the following. **14**
- (i) List any two advantages of latex over solid rubber.
  - (ii) Write the fundamental disadvantages of Artificial lattices relative to Synthetic lattices.
  - (iii) Write any two methods by which NR latex can be prevulcanised.
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- (iv) Give the schematic diagram for fabric saturation method by using latex.
  - (v) Write the name of any one paper coating method and draw its schematic diagram.
  - (vi) Explain the function of gelling agent in latex compounding.
  - (vii) Explain the relation between acid concentration and dimension of thread for latex thread manufacturing process.
- Q. 2** (a) List the methods for concentration of NR latex. Explain any one in detail. **07**
- (b) Give the schematic diagram of dipping tank and explain about the dipping system in detail. **07**
- OR**
- (b) Short note on 'Coagulant dipping'. **07**
- Q. 3** (a) Explain the latex casting process by using porous moulds in detail. **07**
- (b) Write about the following parameter for latex thread manufacturing process. (i) Straining (ii) Coagulant bath (iii) Leaching. **07**
- OR**
- Q. 3** (a) Write the basic difference between latex casting and latex dipping methods. List the two types of casting process and give comparison between them. **07**
- (b) Explain the latex thread manufacturing process in detail. **07**
- Q. 4** (a) Answer the following.
- (i) List the advantages of incorporation of latex in to carpet backing. **04**
  - (ii) Give the schematic diagram for latex carpet backing process. **03**
- (b) Explain the continuous process for manufacturing of latex foam rubber by the Dunlop process with diagram of foaming process. **07**
- OR**
- Q. 4** (a) Short note on 'Bound - crumb carpet underlay'. **07**
- (b) Explain the modern Talaly process in detail. **07**
- Q. 5** (a) Write about the selection of polymer for latex based adhesive formulation when non porous surfaces are to be bonded with each other. **07**
- (b) Answer the following.
- (i) List the features for the variation in sulfur prevulcanisation process. **04**
  - (ii) Explain the "Mutual solvent technique" for the production of artificial lattices. **03**
- OR**
- Q.5** (a) List the name of adhesion modifiers used in preparation of latex based adhesive and explain the function of any two in detail. **07**
- (b) Answer the following.
- (i) Write about the methods for assessing the degree of pre vulcanization in prevulcanised NR latex. **04**
  - (ii) Explain the "Solution emulsification technique" for the production of artificial lattices. **03**

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