

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.
-)
- (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**
