

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: BE03026031

Date: 19-12-2025

Subject Name: Latex Technology

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

	Marks
Q.1 (a) Write about atmospheric and soil conditions required for cultivation of Hevea Brasiliensis tree.	03
(b) Draw the schematic diagram showing principal regions of mature Trunk of Hevea tree. Write about their function also.	04
(c) Describe in detail about Bud Grafting with schematic diagram.	07
Q.2 (a) How the time of Tapping affect the yield of NR latex. Explain in brief.	03
(b) Write about principal characteristics of latex vessels.	04
(c) Describe the Ammoniation in detail with diagram. Mention the advantages and limitations of Ammoiniation for NR latex.	07
OR	
(c) Why NR latex preservation is required?Mention the ideal characteristics of preservative.	07
Q.3 (a) Write the significance of Viscosity modifiers. Give examples.	03
(b) Write the formulation to prepare 33% Accelerator dispersion. Write about preferred time and equipment to prepare dispersion.	04
(c) Describe the NR latex concentration by Centrifugation method. Write the principal and draw the schematic diagram.	07
OR	
(a) Mention the importance of Surface active agents in Latex compounding. Write the major types of surfactants.	03
(b) Give formulation to prepare 50% Sulfur Dispersion. Mention the time required and equipment to prepare dispersion.	04
(c) Write about requirement of Concentration for NR latex. Mention the method involving heating of latex and explain with diagram.	07
Q.4 (a) What is Emulsion?How it is prepared ?Name the equipment to prepare Emulsions.	03
(b) Write the significance of Gelation for latex product manufacturing. Write about Heat sensitized Gelation.	04

- (c) Draw the schematic diagram for Attrition mill. Write the mechanism and advantages. 07

OR

- (a) Give the major difference between Solution and Dispersion. Give example of both. 03

- (b) Write about concept of Acid gelation and Delayed action gelation. 04

- (c) Write working mechanism of Ball mill. Write about any three factors affecting the efficiency of ball mill. 07

- Q.5** (a) Write about basic types of Latex Allergy. 03

- (b) Explain about Zeta potential for colloidal solutions with schematic representation. 04

- (c) Describe in detail surface energy and Wetting behaviour with schematic representation. 07

OR

- (a) Write about basic symptoms and remedies for Latex allergy. 03

- (b) Give classification for different colloidal systems. 04

- (c) Describe the Electrophoresis with schematic diagram. Write about various applications of Electrophoresis principal. 07
