

Enrolment No. /Seat No\_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2024

Subject Code:3132605

Date:10-12-2024

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.

- Q.1** (a) List the atmospheric and soil conditions required for the growth of Hevea Brasiliensis tree. (03)
- (b) Write in brief about modern tapping system and mention basic factors affecting yield of latex. (04)
- (c) Explain in detail about vegetative propagation for Hevea Brasiliensis with schematic diagram. (07)
- Q.2** (a) Write about requirement of NR latex Preservation. Justify the use of Ammonia as a sole preservative. (03)
- (b) Explain Zinc-di-alkyldithiocarbamate preservation system for NR latex. (04)
- (c) Describe the primary and ancillary requirements of an ideal preservative for NR latex. (07)
- OR**
- (c) Describe the basic properties of NR latex. Write about basic types of NR latex recognized with ASTM Standard. (07)
- Q.3** (a) Mention the basic difference between Solution, Emulsion and Dispersion. (03)
- (b) Write in brief about function and types of antioxidants for latex compounding. List any two. (04)
- (c) Describe in detail about Ball-mill with schematic diagram. (07)
- OR**
- Q.3** (a) Explain about use of sulfur-donors in latex compounding. (03)
- (b) Write in brief about use of surfactants for latex compounding. List any two. (04)
- (c) Describe in detail about Colloid-mill. (07)
- Q.4** (a) Write about significance of latex Gelation. (03)
- (b) What is Heat sensitized gelation? Explain the mechanism. (04)
- (c) Describe in detail about Zeta Potential. (07)
- OR**
- Q.4** (a) Write about gelation mechanism by using Salts. (03)
- (b) Write about mechanism of Delayed action gelation system. (04)
- (c) Explain about correlation between Surface energy and wetting behaviour for substrates. (07)
- Q.5** (a) What is Type 1 latex allergy? (03)
- (b) Write about preventive measures for latex allergy. (04)
- (c) What is Electrophoresis? Explain in detail with applications. (07)

**OR**

- Q.5**    **(a)**    What is Type IV latex allergy? **(03)**  
         **(b)**    Write about latex allergy symptoms. **(04)**  
         **(c)**    Explain about basic types of Solutions. Give differences between them in detail. **(07)**

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