

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- IV (New) EXAMINATION – WINTER 2019****Subject Code: 2142605****Date: 07/12/2019****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.

- Q.1** (a) Why it is necessary to preserve Natural Rubber latex? (03)
(b) Justify the importance of Ammonia as a bactericide for NR latex. (04)
(c) Name the equipment used for the Centrifugation of Natural latex. Draw its schematic cross-section and explain its working in detail. (07)
- Q.2** (a) How Degree of Dispersion of compounding ingredients can be determined? Write in brief. (03)
(b) Mention the important variables which affect the efficiency of ball mill. Write about any one. (04)
(c) Discuss about latex slush moulding process using plaster moulds in detail. (07)
- OR**
- (c) Describe the Shaping and Gelation process using metal moulds by Rotational moulding method. (07)
- Q.3** (a) Mention the principle and application for Planetary Mixer. (03)
(b) Write about the working mechanism of Flex Resistance Tester for Foam rubber product. (04)
(c) Write an overview of Latex allergy. Discuss about its basic types and severity of allergic reactions. (07)
- OR**
- Q.3** (a) Write about the working of Mechanical Stability Tester used for NR latex. (03)
(b) Explain the process to measure the Indentation Hardness of Foam rubber. (04)
(c) Discuss about Diagnosis, Precautions, and Treatments for Latex allergy. (07)
- Q.4** (a) Mention the various factors which affect the Yield of Natural latex. (03)
(b) How can you obtain Total Solid Content of NR latex? Give the formula to calculate it. (04)
(c) Give the classification of Stabilizers used in NR latex according to its function and chemical nature. Write in detail about any three. (07)
- OR**
- Q.4** (a) What do you mean by Yield Stimulation? List the basic techniques. (03)
(b) Write the brief procedure to obtain Alkalinity of NR latex as percentage of Ammonia. (04)
(c) Discuss in detail about different types of fillers used in NR latex compounding. (07)
- Q.5** (a) Give any three methods to carry out coagulation of NR latex. (03)
(b) What do you mean by Zeta potential? Write about the factors affecting it. (04)
(c) Explain in detail about Types of Gelation. (07)
- OR**
- Q.5** (a) How the contact angle is related with wetting of surface? (03)
(b) Write in brief about electrophoresis of NR latex. (04)
(c) Discuss in detail about delayed action gelling system. (07)
