

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3162610****Date:14-07-2023****Subject Name:Rubber and Latex Products****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 applications of Rubber in Civil engineering & Defense field. (03)
(b) Develop the formulation for Rubber Slipper Sole of 40 Shore A hardness by using Natural Rubber. (04)
(c) Describe the manufacturing process for Rubber band from bale rubber and also write one formulation. (07)
- Q.2** (a) Write the principle of Heat Sensitized dipping technique. (03)
(b) Which materials are used for manufacturing of Former for dipped products? Write about criteria for selection of material for Former. (04)
(c) Describe the manufacturing of latex gloves by Coagulant dipping process. (07)
- OR**
- (c) Explain in detail about Electrodeposition process with schematic diagram. (07)
- Q.3** (a) Give difference between sponge rubber and Expanded rubber. (03)
(b) Mention various processes which can be used for latex thread manufacturing. (04)
(c) Describe in detail about Dunlop process with schematic diagram. (07)
- OR**
- Q.3** (a) Give graphical representation showing Mooney viscosity and Degree of Expansion for cellular rubber. (03)
(b) Write about important features influencing latex thread manufacturing process. (04)
(c) Explain about technology of Talaly process. (07)
- Q.4** (a) Give basic reasons for incorporation of latices in cementitious compositions. (03)
(b) Write in brief about rotational casting for manufacturing of latex hollow products. (04)
(c) List the essential stages of paper coating process. Write about any three processes with schematic diagram. (07)
- OR**
- Q.4** (a) Mention various problems associated with incorporation of latices in cementitious compositions. (03)
(b) Write about differences between latex casting by using Porous molds and Non-porous moulds. (04)
(c) Draw the schematic diagram for paper saturation process and explain it in detail. (07)
- Q.5** (a) List the advantages of latex carpet –backing. (03)
(b) Give schematic representation for any one Latex spreading technique and explain in brief. (04)
(c) Explain about selection of Polymer for formulation of latex based Adhesives for various types of substrates. (07)

OR

- Q.5**
- (a) What is Bound-crumb carpet underlay? (03)**
 - (b) Draw the schematic diagram showing Latex Doubling technique and explain in brief. (04)**
 - (c) Explain about different additives and their importance in latex based adhesives. (07)**