

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (OLD) EXAMINATION – WINTER 2017****Subject Code:132602****Date:21/11/2017****Subject Name: Rubber 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) Describe in detail about Cellulose as a Natural Polymer. **07**

(b) Explain the detailed structure of Mature trunk of Hevea Brasiliensis tree. **07**

Q.2 (a) Give the Schematic diagram of typical bud-grafting process and explain in detail. **07**

(b) Discuss about the Impurities in final Polymer Composition. **07**

OR

(b) "Carbon is the most important element in organic chemistry and polymer chemistry." – Justify the statement. **07**

Q.3 (a) Give a short note on Axes of Orientation. **07**

(b) Write in detail about Thermal transitions in polymers. **07**

OR

Q.3 (a) List the methods of Orientation. Explain any two methods in detail. **07**

(b) Discuss about the factors influencing the Glass Transition Temperature. **07**

Q.4 (a) Explain the reaction mechanism of phenol and formaldehyde for the production of Phenolic Resins. **07**

(b) List out the different methods for forming porous structure of polymer. Write in detail about any three. **07**

OR

Q.4 (a) Discuss about the properties and applications of Amino Resins. **07**

(b) Explain the mechanism of sorption of Inert Sorbets on polymer. **07**

Q.5 (a) List the methods for the production of Vinyl Acetate monomer. Discuss any one in detail. **07**

(b) Write a short note on oxidative degradation of polymers. **07**

OR

Q.5 (a) Explain the Repee process for production of Butadiene monomer. Also list the other methods for the production of Butadiene monomer. **07**

(b) Discuss in detail about Mechanical Degradation of polymer. **07**

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