

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV • EXAMINATION – WINTER • 2014****Subject Code: 143602****Date: 31-12-2014****Subject Name: Rubber Chemistry and Natural Polymers****Time: 02:30 pm - 05:00 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) Explain in detail the chemistry of natural rubber. **07**  
(b) Write in short about the collection of latex and the process of purification of rubber. **07**
- Q.2** (a) Describe in short the chemistry of starch. **07**  
(b) Write in detail the modification process of the natural polymers. **07**
- OR**
- (b) Describe in short the chemistry of cellulose. **07**
- Q.3** (a) Write in brief about biopolymers with suitable example. **07**  
(b) Explain us the importance of biopolymers in our daily life. **07**
- OR**
- Q.3** (a) Describe the properties of biopolymers and also mention the application of the biopolymers. **07**  
(b) Explain the mechanism that is by what method the biopolymers can be produced. **07**
- Q.4** (a) Explain in detail the chemistry of butyl rubber. **07**  
(b) Write a short note on the chemistry of nitrile rubber. **07**
- OR**
- Q.4** (a) Describe in detail the chemistry of lignin. **07**  
(b) Explain in suitable manner the chemistry of protein. **07**
- Q.5** (a) Explain in detail the chemistry of Neoprene rubber. **07**  
(b) Describe in short the modification process of rubbers. **07**
- OR**
- Q.5** (a) Write in detail how the rubber is vulcanized. **07**  
(b) Describe in detail the chemistry of synthetic rubbers and elastomers. **07**

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