

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June- 2010

Subject code:142604

Subject Name: Introduction of Rubbers & Rubbery Materials

Date: 21 /06 /2010

Time: 10.30 am – 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** Answer The following **14**
- (1). Write the importance of mastication in Mixing.
 - (2). Give the difference between Banbury Mixer & Show Intermix.
 - (3). How the Zinc oxide & Stearic acid works as a Activator?
 - (4). Wax blooming is preferable or not? Why?
 - (5). Give the difference between Rate of cure & State of cure.
 - (6). Define the term(i) Hysteresis (ii) Shape factor
 - (7). Give the difference between Thermoplastics & Thermosetting Polymers.
- Q.2** (a) Discuss the properties of Accelerators. **07**
(b) Short note on Factice. **07**
- OR**
- (b) Write properties & applications of Styrene Butadiene Rubber and Silicone Rubber. **07**
- Q.3** (a) Explain Construction and Working of Internal Mixer. **07**
(b) Explain the Theory of Sulfur Vulcanization. **07**
- OR**
- Q.3** (a) Define the term Mixing & explain the different stages of mixing. **07**
(b) Discuss in detail about the Non-Sulfur Vulcanizing system for Olefin Rubbers. **07**
- Q.4** (a) Write in detail about the Classification of Polymers. **07**
(b) Explain in detail about Rubber Elasticity in Shear & Compression. **07**
- OR**
- Q.4** (a) Define the term 'Glass Transition Temperature'. Explain its importance in Polymers. **07**
(b) Short note on Stress Relaxation during Ageing. **07**
- Q.5** (a) Define the term Latex. Short note on 'Tapping of Latex.' **07**
(b) What do you mean by Cold flow? Discuss the techniques for reduction of clod flow & improvement of green strength. **07**
- OR**
- Q.5** (a) Short note on 'Processing of Latex'. **07**
(b) Write in detail about Electrical Properties of Polymers. **07**
