

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – VI EXAMINATION – WINTER 2015

Subject Code:162302**Date:17 /12/ 2015****Subject Name: PLASTIC STRUCTURE PROPERTY & RELATIONSHIP****Time:2:30pm to 5:00pm****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) Discuss about C-Cl bond and its effect on properties of polymer. **07**
(b) Discuss effect of crystallinity on polymer structure. **07**
- Q.2** (a) Write chemical structure of Polyacetal. Discuss about properties of Polyacetal related to its chemical structure. **07**
(b) Explain about Hydrogen Bonding and its effect on the properties of polymer. **07**
- OR**
- (b) Discuss about structure and properties of PTFE. **07**
- Q.3** (a) Discuss effect of Oxygen on polymer properties. **07**
(b) What is Tacticity? Explain about effects of Tacticity on properties of polymer with example. **07**
- OR**
- Q.3** (a) Explain How the structure of polymer affects the chemical properties of polymer? **07**
(b) Explain about effect of Plasticizer and Heat stabilizers on Polymers. **07**
- Q.4** (a) Write structure of PMMA. List the properties of PMMA. **07**
(b) Define: Hydrogen Bond, Covalent Bond, Polar Bond, Dissipation factor, Dielectric strength, Volume resistivity and Surface resistivity. **07**
- OR**
- Q.4** (a) What is Glass Transition Temperature (T_g)? Explain effect of T_g on properties of Polymer. **07**
(b) Explain the effect of temperature upon modulus of amorphous polymer. **07**
- Q.5** (a) Discuss how electrical properties of polymer are related to their structure. **07**
(b) Discuss about Homo Polymer and Co- Polymer in detail. **07**
- OR**
- Q.5** (a) List the properties of Polyethylene. **07**
(b) Define curing. Discuss about properties of Phenol Formaldehyde. **07**
