

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-I • EXAMINATION – WINTER 2014

Subject Code: 2712401**Date: 07/01/2015****Subject Name: PLASTICS MATERIALS****Time: 2:30 to 5:00****Total****Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|-----|--|-----------|
| Q.1 | (a) | With help of flow diagram, describe the emulsion process for manufacturing PVC. What are the main advantages and disadvantages of this process? | 07 |
| | (b) | What are the differences between Chain and Step polymerization processes? | 07 |
| Q.2 | (a) | Describe the manufacturing process of Polypropylene by Ziegler Natta process with diagram. Give its general properties, manufacturers list with trade names. | 07 |
| | (b) | Describe the production process of unsaturated polyester resin and its properties. | 07 |
| OR | | | |
| | (b) | How Nylon 6 and Nylon 66 are prepared and give their applications? | 07 |
| Q.3 | (a) | Write down the important properties, processing characteristics and applications of PEEK. | 07 |
| | (b) | Write short notes on (I) PTFE (II) PCTFE | 07 |
| OR | | | |
| Q.3 | (a) | Describe the production process of unsaturated polyester resin and its properties. | 07 |
| | (b) | How polycarbonates are made and give its properties? | 07 |
| Q.4 | (a) | Explain in details the important properties, processing characteristics and applications of Liquid crystal polymer (LCP). | 07 |
| | (b) | How styrene is made and describes the methods of producing Polystyrene (PS)? | 07 |
| OR | | | |
| Q.4 | (a) | Explain the manufacturing process of Melamine Formaldehyde resin. | 07 |
| | (b) | Name some fluorine containing polymers and give their molecular structures. What are the specific characteristics related to their molecular structures? | 07 |
| Q.5 | (a) | How epoxy resins are produced and describe their applications. | 07 |
| | (b) | Explain the manufacturing process of Polyurethane and Silicones. | 07 |
| OR | | | |
| Q.5 | (a) | Explain in details the Conducting polymer. List various conducting polymers and give their applications. | 07 |
| | (b) | Write short notes on (I) PVF (II) PVDF | 07 |
