

AMPTE15 POLYMERIZATION ENGINEERING

UNIT-1 INDUSTRIAL METHODS OF POLYMERIZATION

- 1.1 Such as a bulk, solution, emulsion, suspension.
- 1.2 Layout and arrangement of polymer plant.
- 1.3 Stereochemistry of polymers and stereospecific polymerization.

UNIT-2 CATALYSTS-THEIR UTILITY IN POLYMERS AND STEREO-SPECIFIC POLYMERIZATIONS

- 2.1 Ziegler-Natta,
- 2.2 Metallocene and other catalysts.

UNIT-3 MANUFACTURING PROCESSES OF BASIC RAW MATERIALS AND INTERMEDIATES OF SYNTHETIC POLYMERS.

- 3.1 Production technology, properties and application of important plastics such as polyethylene,
- 3.2 Polypropylene, polystyrene and polyvinyl chloride.

UNIT-4 BRIEF INTRODUCTION OF COPOLYMERS

- 4.1 Based on the common monomers such as ethylene, vinyl chloride, styrene, acrylates and methacrylates etc.

UNIT-5 FORMALDEHYDE AND ITS REACTION PRODUCTS WITH PHENOL

- 5.1 Urea and melamine.
- 5.2 Preparation of moulding powders.

References Books:

1. Polymer Science by Gowriker-Viswanathan-Sreedhar. Odian; George, Principles of Polymerization, McGraw-Hill Book Co., New York, (1970).
2. Polymerization Process Modeling, N A Dotson, R Galvan, R L Laurence and M Tirrell, VCH Pub., Ind., 1996.