2.17 31517 PLASTICS EXTRUSION TECHNOLOGY

UNIT-1 INTRODUCTION

Extrusion, Classification of extruder machines, Principle of working of Single and Twin Screw, Basic Terminologies of extruder, Drag flow, Pressure flow, Leak flow.

UNIT-2 CONSTRUCTIONAL FEATURES OF SCREW EXTRUDER

Extruder Screws Barrel and feed throat Feed Hopper Grooved Barrel Technology Heating & Cooling systems, Thrust bearing assembly Die assembly: Breaker plate, screen and screen changers Extruder drives DE volatilization in screw extruder Material Selection Criteria Melting Mechanism

UNIT-3 TWIN SCREW EXTRUDER

Twin vs. single screw extruder Intermeshing (Co-rotating and counter-rotating) and non-intermeshing twin screw extruders

UNIT-4 SCREW DESIGN FOR EXTRUDER

Standard extruder screw and modification of the standard extruder screw, Vented extruder screw designs Multi-flighted extruder screw Mixing screws

UNIT-5 EXTRUSION LINES

Pipe and tube Wire coating and Cable coating Sheet and film (Tubular and Flat) Monofilaments Profile extrusion Palletizing Coating Co extrusion

UNIT-6 DIES FOR EXTRUDER TYPICAL EXTRUSION DIES

Straight through, cross head dies and offset dies. Wire covering cross head die Dies for tubular film, Flat film dies Sheet dies Pipe and Tube dies for solid sections Extrusion dies

UNIT-7 TROUBLE SHOOTING EXTRUDERS

Problems, its causes and remedies

Reference Books:

1. Polymer Extrusion by Rauwendaal
2. Extrusion of Plastics by Fisher
3. Twin Screw Extrusion by White
4. Plastics Extrusion technology by Allan Griff
5. Plastics Extrusion Technology by Hensen