

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN PLASTICS ENGINEERING

Semester: 4

Subject Name EXTRUSION TECHNOLOGY

Sr.No	Course content0
1.	<p>EXTRUDER MACHINE</p> <p>1.1 Introduction</p> <p>1.2 Specification and glossary of terms</p> <p>1.3 Machine types/ classification Ram and Screw extruder</p> <p>1.4 constructional detail explanation of each of element with:</p> <p style="padding-left: 20px;">1.4.1 Screw</p> <p style="padding-left: 20px;">1.4.2 Barrel</p> <p style="padding-left: 20px;">1.4.3 Thrust bearing</p> <p style="padding-left: 20px;">1.4.4 Drive system</p> <p style="padding-left: 20px;">1.4.5 Hopper</p> <p style="padding-left: 20px;">1.4.6 Screen</p> <p style="padding-left: 20px;">1.4.7 Breaker plate</p> <p style="padding-left: 20px;">1.4.8 Heating system of screw and barrel</p> <p style="padding-left: 20px;">1.4.9 Cooling system of screw and barrel</p> <p style="padding-left: 20px;">1.4.10 Take off and Haul off</p> <p style="padding-left: 20px;">1.4.11 Winder and cutting unit</p> <p style="padding-left: 20px;">with respect to</p> <p style="padding-left: 40px;">A Material and construction</p> <p style="padding-left: 40px;">B Types</p> <p style="padding-left: 40px;">C Function</p> <p style="padding-left: 40px;">D Positioning</p> <p>1.5 Machine specification.</p>
2.	<p>MATERIALS FOR EXTRUSION PROCESS</p> <p>2.1 Types of Materials</p> <p>2.2 Material characteristics and selection criteria</p> <p>2.3 Applications – Products of Extrusions</p>
3.	<p>EXTRUSION PROCESS</p> <p>3.1 Types of Extrusion process dry and wet</p> <p>3.2 Melting process</p> <p>3.3 Equation of output</p> <p>3.4 Manufacturing Processes of film, pipe, sheet, profile, and wire/cable</p> <p>3.5 Manufacturing Processes of monofilaments, coating-lamination, palletizing</p> <p>3.6 Process variables</p> <p>3.7 Start-up and Shut-down of extruder</p> <p>3.8 Trouble shooting of Manufacturing Processes</p> <p>3.9 Post extrusion techniques</p> <p>3.10 Machine maintenance and Process Control</p>

	3.11 Plant specification for film, pipe, sheet, profile 3.12 Plant specification wire/cable and monofilaments
4.	AUXILLIARY EQUIPMENTS 4.1 Automatic feeding 4.2 Automatic Screen 4.3 Rotating Die 4.4 Oscillating haul-off 4.5 Scrape Grinder
5.	MISCELLANEOUS EXTRUSION PROCESS 5.1 Reinforced pipes (hose pipe) 5.2 Nylon braided pipes 5.3 Fishing Nets 5.4 Corrugated sheets 5.5 Cling film 5.6 Heat Shrink film 5.7 Shrink film

Reference Books:

Sr.No.	Name of Reference	Author
1	Extrusion of Plastics	E.G.Fisher
2	Extrusion	Allen Grifth
3	Plastics Extrusion technology handbook	S.Levy
4	Handbook of Plastic Processing Technology	D.V.Rosato
5	Plastics Extrusion Technology	Fried helm Hence
6	Polymer Extrusion	Chris Rauwendaal
7	Plastics Engineering Hand book	Fredoss
8	Plastics Engineering Hand book	Bering