

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Plastic Engineering

Semester: 3

Subject Code

Subject Name INJECTION MOULDING TECHNOLOGY

Sr. No.	Course content
1.	INJECTION MOULDING MACHINES : <ul style="list-style-type: none">1.1. Introduction1.2. Specifications & glossary of terms<ul style="list-style-type: none">i. Injection unitii. Clamping unit1.3. Machine Types/ Classification1.4. Constructional Features<ul style="list-style-type: none">a. Injection unit<ul style="list-style-type: none">i. Hopperii. Screwiii. Barreliv. Nozzlev. Drive systemsvi. Heating & Cooling of screw, barrel, mould and nozzleb. Clamping Unit<ul style="list-style-type: none">i. Types of clamping mechanism and its comparison
2.	MATERIALS FOR INJECTION MOULDING : <ul style="list-style-type: none">2.1. Types of Materials2.2. Material selection criteria2.3. Injection Moulding applications
3.	INJECTION MOULDING PROCESS : <ul style="list-style-type: none">3.1. Start-up and shut-down process steps3.2. Process steps3.3. Injection Moulding cycle diagram3.4. Process variables3.5. Advantages & Disadvantages3.6. Post Moulding Operations3.7. Trouble Shooting3.8. Machine maintenance and process control
4.	AUXILLIARY EQUIPMENTS : <ul style="list-style-type: none">4.1. Hopper Loader4.2. Hopper Drier4.3. Chilling Plant4.4. Cooling Tower4.5. Heat Exchangers4.6. Scrap Grinders4.7. Magnetic Separators

5.	Miscellaneous injection Moulding process :
	6.1 Gas injection
	6.2 Reaction Injection Molding (RIM)
	6.3 Sandwich injection moulding
	6.4 Foam injection moulding
	6.5 Reinforced TP Flow moulding
	6.6 Metal filled
	6.7 Multicolor moulding
	6.8 Injection moulding of reinforced thermoplastics.

Reference Books:

<u>SR NO</u>	<u>NAME OF REFERENCE</u>	<u>AUTHOR</u>
1	Injection Moulding Handbook	Rosato
2	Injection Moulding Machines	Whealan
3	Injection Moulding Machines	Jhonnabeer
4	Handbook of Plastic Processing Technique	D.V. Rosato
5	Plastics Engineers Handbook	J. Fradeos
6	Injection Moulding	Rubin