

UNIT-1. → ADVANCED INJECTION MOULDING

CO-1. → To operate Advanced Injection moulding machines.

LO-1. → To describe consteuctional features & working of the Thermoset Injection moulding.

CONTENT → ① Thermoset Injection Moulding.

- (i) Working principle & process.
- (ii) Machine parts & their function.
- (iii) Process Parameters.
- (iv) Merits & Demerits.
- (v) Set up procedure.

Method of Assessment → External

LO-2 → To describe consteuctional features & working of the Reaction Injection Moulding.

CONTENT → ② Reaction Injection Moulding (RIM)
→ Comparison of RIM & Thermoplastic Injection Moulding process.
→ Advantages & Disadvantages of RIM.

Method of Assessment → External

LO-3 → To describe working of the Advanced Injection moulding machines.

CONTENT → ③ Co-Injection OR Sandwich moulding.
④ Gas Assisted Injection Moulding.
⑤ Water Assisted Injection Moulding.
⑥ Electric Injection Moulding.

Method of Assessment → External

UNIT-2 → CELLULAR PLASTICS

CO-2. → To select suitable foam material.

LO-4 → Explain preparation of various foam.

CONTENT → ① Cellular Plastic Concept.

② Blowing agent & its type.

③ Polyurethane foam, PVC Foam, PS Foam, their processing, properties & applications.

Method of Assessment → Internal → ~~Assignment~~ Test-1

LO-5 → To select process to shape & solidify foam.

CONTENT → ④ Processes to shape & solidify foam.

(i) Structural Foam Moulding.

(ii) Low pressure foam moulding.

(iii) High pressure foam moulding.

(iv) Foamed Extrusion

(v) Expandable bead foam.

Method of Assessment → External

UNIT-3. → COATING

CO-3 → To select suitable coating technique for specific application.

LO-6 → To explain types of coating techniques.

CONTENT → ① Coating Concept

② Extrusion Coating

③ Calender coating

④ Transfer coating.

⑤ Air knife OR Roller Coating

⑥ Spray Coating.

Method of Assessment → External

LO-7. → To describe the constructional features & working of Powder coating methods.

CONTENT → ⑦ Powder Coating

① Fluidized - Bed Coating.

② Electrostatic - Bed Coating.

③ Electrostatic Powder Gun Coating.

Method of Assessment → External

UNIT-4. → MACHINING & JOINING OF PLASTICS

CO-4 → Select suitable machining & joining methods of plastics.

LO-8 → Select suitable finishing process.

CONTENT → Machining methods.

① Drilling

② Sawing & cutting

③ Filing

④ Buffing

⑤ Sanding & grinding.

Method of Assessment → Internal → Test-2

LO-9 → Select suitable joining process.

CONTENT → Joining Processes.

① Solvent Cementing

② Adhesive Bonding.

Method of Assessment → External

LO-10 → To describe the constructional features & working of the various welding techniques.

CONTENT → Welding Techniques.

- (i) Vibration Welding.
- (ii) Ultrasonic Welding.
- (iii) Hot Plate Welding.
- (iv) High Frequency Welding.
- (v) Induction Welding.
- (vi) Laser Welding.

Method of Assessment → External

UNIT-5. → PRINTING ON PLASTICS

CO-5. → To explain printing on plastics.

LO-11 → To explain need of printing.

CONTENT → Need of Printing
Pad Printing
Screen Printing
Hot Stamping.

Method of Assessment → Internal → Assignment.

LO-12 → To describe the working of various printing methods.

CONTENT → Flexographic Printing
Rotogravure Printing.
Film insert moulding.

Method of Assessment → External

PLASTIC MOULDING TECHNOLOGY

LIST OF PRACTICALS

- ① To paint plastic product using screen printing machine.
- ② Joining of plastic using solvent cement.
- ③ Joining of plastics by adhesive bonding.
- ④ Trial on Ultrasonic welding machine.
- ⑤ To make an article by welding using High frequency plastic welding machine.
- ⑥ Preparation of jobs involving drilling.
- ⑦ To produce foam product.