



## CIPET Profile

- Central Institute of Petrochemicals Engineering & Technology (CIPET) is a premier national Institution functioning under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India.
- CIPET, Chennai is an ISO 9001:2015 certified institution for its academic, Technology Support Services and the Plastics Testing centre is accredited by NABL as per ISO/IEC 17025:2017 for Quality Control and Testing of raw materials and products of plastics.
- CIPET, Chennai has an enviable interface with its business and industry partners. We provide Technical / Consultancy services in CAD/CAM, Mould Design, Tooling, Plastics Processing, & Testing for the benefits of plastics and allied industries. We have been in the fore front of strengthening technological capabilities and have been constantly building capacities and leveraging our expertise, calibre and skill sets to meet the emerging and evolving needs of the industry.
- CIPET Chennai offers Ph.D., UG, PG, Diploma, Post Diploma, PG Diploma & Skill Development training programs, Short terms Courses and Tailor Made Courses inline with industry needs.

## Processing

CODE: PRO/P1

### PRINCIPLES OF INJECTION MOULDING PROCESS (Production, Process Control & Trouble Shooting)

Duration: 16 hrs / Two days  
Proposed dates: 14.05.2025 & 15.05.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. A. Rajendran**  
Mobile No: 9840504889

#### Contents:

Understanding on Plastics Materials and its properties – Introduction to Injection moulding – Machine parts – Specification – Cycle time – Process Parameters and its control – Defects and Trouble Shooting – Types of Injection moulds – operator safety and machine safety. Machine maintenance - Testing and Quality control.

CODE : PRO/P2

### PRINCIPLES OF PLASTICS PROCESSING TECHNIQUES (Injection, Extrusion and Blow Moulding)

Duration: 16 hrs / Two days  
Proposed dates: 29.10.2025 & 30.10.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. Balasubramanian R.**  
Mobile No: 9444009564

#### Contents:

Understanding on Plastics Materials and its properties – Introduction to Plastics Processing Techniques – Injection Moulding, Extrusion, Blow Moulding Process – Machine Parts – Specification – Cycle time – Process Parameters and its control – Trouble Shooting on products – Testing and Quality control.

## Design

CODE: DES/D1

### FUNDAMENTALS OF PLASTICS PRODUCT DESIGN

Duration: 16 hrs / Two days  
Proposed dates: 12.02.2026 & 13.02.2026

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. Velladurai A.**  
Mobile No: 73583 82001

#### Contents:

Plastic materials – Properties – Mechanical – Thermal – Electrical - Processing Methods – Plastics material selection criteria - Product Design features – Wall thickness – Rib, Bosses, Gussets, Undercuts – Draft – Holes – Tolerance – Moulded in threads - Structural Considerations – Stiffness – Impact – Long term & Short term loading - Design for Assembly – Press fits – Snap fit – Welding – Insert Moulding - Post Moulding Process - Moldflow Analysis reports – product design check list

CODE: DES/D2

### FUNDAMENTALS OF INJECTION MOULD DESIGN

Duration: 16 hrs / Two days  
Proposed dates: 17.12.2025 & 18.12.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. Y. Hidayathullah**  
Mobile No: 7598145203

#### Contents:

The moulding cycle – Mould Classifications - Nomenclature and function of mould components - Mould Details – Design steps – The Cavity and Core – feed systems - Runner and gates – Runnerless mould – Gate types - Temperature Control – Parting line - Vents – Ejector systems – Cooling system - Mould Actions and Undercuts – Split moulds – Unscrewing Moulds - Shrinkage of Plastics – Types of injection moulds – Plastic Part Analysis.

## Testing

Code: TES/T1

### TESTING & QUALITY CONTROL OF PLASTICS MATERIALS AND PRODUCTS

Duration: 16 hrs / Two days  
Proposed dates: 24.07.2025 & 25.07.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. D. Kumar**  
Mobile No.: 9444049689

#### Contents:

Introduction of Plastics Materials, properties, Plastics material selection criteria, Mechanical behaviour of polymers, stress strain curves, Viscoelastic behaviour, Creep and stress relaxation, impact/fatigue and cyclic stress, Additives, Specimen preparation, Mechanical, Thermal, Optical and Electrical Testing, Characterization (DSC, TGA & FTIR) and Identification of Plastics by simple methods.

CODE: TES/T2

### TESTING AND QUALITY CONTROL OF PLASTICS PRODUCTS AS PER INDIAN STANDARDS

Duration: 16 hrs / Two days  
Proposed dates: 19.11.2025 & 20.11.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mrs. T. Bharani**  
Mobile No: 9629360251

#### Contents:

Introduction of Plastics Materials, plastics materials used for pipes, LDPE, MDPE, HDPE, & UPVC. Additives used for pipes, Compounding of uPVC material. Testing of UPVC pipes as per IS: 4985 & IS: 12818, Testing of HDPE pipes as per IS: 4984. Pipe Extrusion Technology – Overview.



**TOOL ROOM****CODE: MTR/TR1****MOULD  
TECHNIQUES****MANUFACTURING**

Duration: 16 hrs / Two days  
Proposed dates: 17.09.2025 & 18.09.2025

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Mr. Velladurai A.**  
**Mobile: 73583 82001**

**Content:**

Mould parts and its functions – Selection of Mould materials – Conventional machining process – Role of CNC Milling, CNC Lathe, CNC EDM & Wire EDM machines in mould making - Development of mould parts using CNC machines - Steps involved in mould manufacturing – Mould Assembly & Polishing - Selection of moulding machine - Standard mould base - Case studies on mould manufacturing.

**TESTING****CODE: TES/T3****ASSESSMENT AND CHARACTERIZATION  
OF COMPOSTABLE POLYMERS**

Duration: 16 hrs / Two days  
Proposed dates: 21.01.2026 & 22.01.2026

Fee: Rs.8,000 / person + GST 18%

**Coordinator: Dr. Radhashyam Giri**  
**Mobile 9662638530**

**Contents:**

Introduction to Polymer, Bio-polymers, Importance, Classification, Biodegradable & Compostable polymers, Polymers derived from renewable resources, Identification of polymers and its characterization technique. Training on standard methodology and protocol for biodegradation test. Compostability study and its test protocol. Different test methodology available on biodegradable study. Production technologies for Biopolymers, Extrusion and compounding, Injection moulding, other processing methods.

**TECHNOLOGY BASED ENTREPRENEURSHIP  
DEVELOPMENT PROGRAM****CODE: TEDP/PR&WM1****PLASTICS RECYCLING & WASTE  
MANAGEMENT**

Duration: 16 hrs / Two days  
Proposed dates: 21.08.2025 & 22.08.2025  
Fee: Rs.8,000 / person + GST 18%

**Coordinator: Dr. Syed Amanulla**  
**Mobile No: 9937872419**

**Contents:** Introduction of Plastic Materials, its properties & applications – various plastics processing methods – life cycle of plastics – environmental and social impact of plastics – plastics scenario in India and the world - sustainability in plastics - Introduction to plastics recycling – types and sources of plastics waste – pre & post consumer plastic waste - collection and sorting - various methods of recycling - guidelines for plastics recycling - recycling of Polyolefin, PET, PVC, etc. - recycling of mixed plastics – Plastic recycling equipments & machineries - additives for recyclates – use of recycled plastics – Plastics waste management .

**TAILOR MADE COURSES**

CIPET: IPT, Chennai also conducts Tailor Made Courses / Onsite training programs exclusively for the participants from any company either at company's premises or at CIPET: IPT, Chennai. The content of the course can be customized based on their requirement or by CIPET.

For further details please Contact :  
**The Principal Director & Head**  
**CIPET: IPT,**  
**TVK Industrial Estate,**  
**Guindy, Chennai – 600032.**  
**Tel : 044-22254701 - 6**  
**Email: [chennai@cipet.gov.in](mailto:chennai@cipet.gov.in)**  
**Website: [www.cipet.gov.in](http://www.cipet.gov.in)**

**Short Term Course****Annual Calendar  
2025 – 2026****Skill****Technology  
support****Academics****Research**

केंद्रीय पेट्रोसायन अभियांत्रिकी एवं प्रौद्योगिकी संस्थान  
**CENTRAL INSTITUTE OF PETROCHEMICALS  
ENGINEERING & TECHNOLOGY (CIPET)**  
**INSTITUTE OF PETROCHEMICALS TECHNOLOGY (IPT)**  
(Department of Chemicals & Petrochemicals,  
Ministry of Chemicals & Fertilizers,)  
**Government of India**  
T.V.K. Industrial Estate, Guindy, Chennai – 600032.  
[www.cipet.gov.in](http://www.cipet.gov.in)



S. No.	Dates	Name of the Programme	Code	Name of Course Coordinator	Contact No.
1	14.05.2025 & 15.05.2025	Principles of Injection Moulding Process (Production, Process Control & Trouble Shooting)	PRO/P1	Mr. A. Rajendran	9840504889
2	24.07.2025 & 25.07.2025	Testing & Quality Control of Plastics Materials and Products	TES/T1	Mr. D. Kumar	9444049689
3	21.08.2025 & 22.08.2025	Plastics Recycling & Waste Management	TEDP/PR&WM1	Dr. Syed Amanulla	9937872419
4	17.09.2025 & 18.09.2025	Mould Manufacturing Techniques	MTR/TR1	Mr. Velladurai A.	73583 82001
5	29.10.2025 & 30.10.2025	Principles of Plastics Processing Techniques (Injection, Extrusion and Blow Moulding)	PRO/P2	Mr. Balasubramanian R.	9444009564
6	19.11.2025 & 20.11.2025	Testing and Quality Control of Plastics Products as per Indian Standards	TES/T2	Mrs. T. Bharani	9629360251
7	17.12.2025 & 18.12.2025	Fundamentals of Injection Mould Design	DES/D2	Mr. Y. Hidayathullah	7598145203
8	21.01.2026 & 22.01.2026	Assessment and Characterization of Compostable Polymers	TES/T3	Dr. Radhashyam Giri	9662638530
9	12.02.2026 & 13.02.2026	Fundamentals of Plastics Product Design	DES/D1	Mr. Velladurai A.	73583 82001