

1. SALIENT FEATURES OF THE DIPLOMA PROGRAMME IN PLASTIC TECHNOLOGY

- 1) Name of the Programme : Diploma Programme in Plastic Technology
- 2) Duration of the Programme : Three years (Six Semesters)
- 3) Entry Qualification : Matriculation or equivalent as Prescribed by State Board of Technical Education, Haryana
- 4) Intake : 60
- 5) Pattern of the Programme : Semester Pattern
- 6) Ratio between theory and practice : 40 : 60

7) Industrial Training:

Four weeks of industrial training is included after IV semester during summer vacation. Internal assessment out of 50 marks and external assessment out of another 50 marks will be added in 5th semester. Total marks allotted to industrial training will be 100.

Distribution of Marks:

- Daily diary and reports of training - 50 Marks
- Viva Voce (External) - 50 Marks

8) Ecology and Environment:

As per Govt. of India directives, a subject on Environmental Education has been incorporated in the scheme.

9) Entrepreneurship Development:

A subject on Entrepreneurship Development and Management has been incorporated in the scheme.

10) Student Centred Activities:

A provision of 5-6 hrs per week has been made for organizing Student Centred Activities for overall personality development of students. Such activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.

2. JOB OPPORTUNITIES

Plastic Technologists can get employment with:

- Plastic Processing Industries such as
 - Packaging
 - Carry Bag
 - Raw Material
 - Household Articles
 - Paints, Coatings and Lacquers
 - Adhesives
 - Wire and Cable Coating
 - Polymeric Composites, Elastomers and Sealants
 - Conduit Pipes

- Polymer Manufacturing Industry
- Industries manufacturing Electrical Components and Accessories
- Chemical Industry
- Automobile Industry
- Textile Industry
- Agricultural Appliances Industry
- Footwear Industry
- Furniture Making Units
- Toy Manufacturing
- Rexin (artificial leather cloth) Manufacturing Unit.
- Dairy Industry
- Medical Industry
- Sports Goods Industry
- Hand Tool Manufacturing Industry

In industry, diploma holders in plastic technology can be placed in departments like inventory, quality control, testing, production, sales, marketing and customer care.

These diploma holders can also be placed in educational organizations as teachers, demonstrators and laboratory technicians.

Plastic technologists can also get employment in:

- Biomedical Applications
- Defense (Plastic Research)

Diploma holders in plastic technology can also set up their own small-scale industries and could be self-employed.

3. COMPETENCY PROFILE

Keeping in view the employment opportunities of diploma holders in plastic technology, the course is aimed at developing following competencies in the students:

1. Appreciation of the role of Plastic Technologist.
2. Understanding of various plastic raw materials, additives and compounds used for commodity, products and engineering items, and their selection for various applications.
3. Ability to formulate suitable compounds so as to make plastic products of desired properties.
4. Ability to prepare, read and interpret engineering drawings.
5. Ability to interpret, design and prepare drawing of products, moulds and dies for fabricating the component.
6. Understanding of various manufacturing processes and processing machinery used for various plastic products.
7. Understanding of basic concepts and principles of instrumentation and control.
8. Understanding of basic testing standards and ability to achieve quality assurance of plastic components/materials.
9. Ability to manage shop floor with a view to optimise the use of men, material and machines for achieving the laid down targets.
10. Understanding of various aspects of human and industrial relations, leadership, motivation and human resource development.
11. Understanding of various aspects of industrial legislation, safety and environment at work place.
12. Ability to use computers and design softwares related to plastic industry.
13. Understanding of general principles of applied sciences and basics of engineering to function effectively as a plastic technologist.
14. Ability to prepare feasibility report and project report for the manufacturing of plastic product; start and manage a small venture in plastics with the basic facility for a specified industry.
15. Ability to estimate the cost of manufacturing plastic products.
16. Ability to promote marketing of the product and guide consumers.
17. Ability to install, maintain and upkeep plastic processing machines.
18. Ability to cope up with advancements in the field of plastics and to gain speciality.
19. Development of good personality in order to have effective communication and business ethics.
20. Awareness about recycling, waste management reusability and eco-friendly use of plastics.
21. Ability to analysis, detect and rectify problems encountered during day-to-day production of plastic

4. DERIVING CURRICULUM AREAS FROM COMPETENCY PROFILE

1.	Appreciation of the role of Plastic Technologist.	<ul style="list-style-type: none"> • Engineering Drawing • Design of Dies and Moulds
2.	Understanding of various plastic raw materials, additives and compounds used for commodity, products and engineering items, and their selection for various applications.	<ul style="list-style-type: none"> • Plastic Materials and Properties • Compounding and Formulation of Plastics • Polymer Science and Technology
3.	Ability to formulate suitable compounds so as to make plastic products of desired properties.	<ul style="list-style-type: none"> • Compounding and Formulation of Plastics • Polymer Science and Technology
4.	Ability to prepare, read and interpret engineering drawings.	<ul style="list-style-type: none"> • Design of Dies and Moulds • Computer Aided Mold and Die Design • Plastic Product Design
5.	Ability to interpret, design and prepare drawing of products, moulds and dies for fabricating the component.	<ul style="list-style-type: none"> • Plastic Processing Techniques • General Workshop Practice
6.	Understanding of various manufacturing processes and processing machinery used for various plastic products.	<ul style="list-style-type: none"> • Engineering Fundamentals • Viscous Flow of Fluids
7.	Understanding of basic concepts and principles of instrumentation and control.	<ul style="list-style-type: none"> • Plastic Testing, Characterization and Quality Control • Strength of Materials
8.	Understanding of basic testing standards and ability to achieve quality assurance of plastic components/materials.	<ul style="list-style-type: none"> • Entrepreneurship Development and Management
9.	Ability to manage shop floor with a view to optimise the use of men, material and machines for achieving the laid down targets.	<ul style="list-style-type: none"> • Student Centred Activities • Industrial Training
10.	Understanding of various aspects of human and industrial relations, leadership, motivation and human resource development.	<ul style="list-style-type: none"> • Entrepreneurship Development and Management

11.	Understanding of various aspects of industrial legislation, safety and environment at work place.	<ul style="list-style-type: none"> ● Pollution Control in Plastic Industry ● Entrepreneurship Development and Management ● Environmental Education
12.	Ability to use computers and design softwares related to plastic industry.	<ul style="list-style-type: none"> ● Computer Aided Mold and Die Design ● Computer Aided Drafting ● Basics of Information Technology
13.	Understanding of general principles of applied sciences and basics of engineering to function effectively as a plastic technologist.	<ul style="list-style-type: none"> ● Applied Mathematics ● Applied Physics ● Applied Chemistry ● Applied Mechanics ● Viscous Flow of Fluids ● Fundamentals of Chemical Engineering
14.	Ability to prepare feasibility report and project report for the manufacturing of plastic product; start and manage a small venture in plastics with the basic facility for a specified industry.	<ul style="list-style-type: none"> ● Entrepreneurship Development and Management
15.	Ability to estimate the cost of manufacturing plastic products.	<ul style="list-style-type: none"> ● Entrepreneurship Development and Management
16.	Ability to promote marketing of the product and guide consumers.	<ul style="list-style-type: none"> ● Entrepreneurship Development and Management
17.	Ability to install, maintain and upkeep plastic processing machines.	<ul style="list-style-type: none"> ● Maintenance of Plastic Processing Machinery
18.	Ability to cope up with advancements in the field of plastics and to gain speciality.	<ul style="list-style-type: none"> ● Plastic Processing Techniques
19.	Development of good personality in order to have effective communication and business ethics.	<ul style="list-style-type: none"> ● Communication Skills ● Employability Skills
20.	Awareness about recycling, waste management reusability and eco-friendly use of plastics.	<ul style="list-style-type: none"> ● Pollution Control in Plastic Industry ● Environmental Education
21.	Ability to analysis, detect and rectify problems encountered during day-to-day production of plastic	<ul style="list-style-type: none"> ● Maintenance of Plastic Processing Machinery ● Project Work

5. ABSTRACT OF CURRICULUM AREAS

Following is the abstract of curriculum areas:

a) **General Studies**

1. Communication skills
2. Basics of Information Technology
3. Employability Skills
4. Environmental Education
5. Entrepreneurship Development and Management

b) **Applied Science**

6. Applied Mathematics
7. Applied Physics
8. Applied Chemistry

c) **Basic Courses in Engineering/Technology**

9. Applied Mechanics
10. Strength of Materials
11. Engineering Drawing
12. General Workshop Practice
13. Engineering Fundamentals
14. Fundamentals of Chemical Engineering

d) **Applied Courses in Engineering/Technology**

15. Viscous Flow of Fluids
16. Polymer Science and Technology
17. Plastic Materials and Properties
18. Computer Aided Drafting
19. Plastic Processing Techniques
20. Plastic Testing, Characterization and Quality Control
21. Fundamentals of Chemical Engineering
22. Computer Aided Mold and Die Design
23. Design of Dies and Moulds
24. Plastic Product Design
25. Compounding and Formulation of Plastics
26. Pollution Control in Plastic Industry
27. Maintenance of Plastic Processing Machinery
28. Project Work

