

SYLLABUS of Certificate Course in ' PRODUCT DESIGN & TOOLING'



(A Unique Job Guaranteed Course, designed to suit the needs of the industry, by a Product Designer having 25 Years of Industrial experience)

TOTAL DURATION = FULL TIME 3 to :3-1/2 months (100 to 120 Hrs)

Sr. No.	DESCRIPTION OF TOPICS	Time in Hrs.	
		Theory	Practicals
Module-1(P ART-A)	Plastics Technology:- (Materials & Process Technology)		
1	What is the difference between metal & plastics ?	1	
	How Plastics behave ? Types : a) Thermoplastic b) Thermosetting plastics		
	Molding of Plastics, basics		
2	Different Plastic Materials:- a) Thermoplastics:- PP,HDPE,PVC,NYLON,PC etc.	1	
	b) Thermosetting Plastics: Urea,Melamine,SMC/DMC,Phenolic Resins		
3	Compounding of Plastics & Composite Plastics Materials	1	
4	Different Processes: a) Injection Molding for Thermoplastics	1	
	b) Compression Molding for Thermo-sets		
5	Other Processes: c) Vacuum Forming of sheets d) FRP Molding e)Calendering f) Extrusion g) Blow Molding l) Stretch Blow molding (j) Rotational Molding	1 1/2	
	k)Casting Processes l) Gas Assisted Molding		
6	Decorating of Plastics: a) Hot Stamping b) Vacuum Meattalizing c) Electroplating of Plastics d) Hot-Embossing,	1	
7	Injection Molding machine : Features & how it operates ?	1	
8	Processing of Plastics : The processing parameters & their importance	1	
	The molding defects & how to solve them ? The defects which can be solved only by judicial use of process parameters.	1	
9	Testing of Plastics:- Raw material Testing- Important functional properties & how those are important for the product. & Testing of Plastic Components	1	
10	Assembly methods of Plastics: a) Ultrasonic Welding b) Hot-Plate Welding	1	
	c) Vibration Welding		
11	Applications of Plastics (a) Non-Engg. Plastics (b) Engg. Plastics	1	
14	Costing of molded component & Overall Economics of molding Plant	1	
Module-1(P ART-B)	Product Design & Plastics Component Design		
15	Plastics Product Design : Basics, What can cause wrong design ? Examples of Correct & wrong design	12	18
16	Industrial Design, Designing of Products & Plastic Components for Aesthetics, Application/End Use, Value engg.etc.	6	6
17	Introduction to Engg design & Finite Element Analysis concepts	1.5	
18	Materials Properties for Design		
	Properties of Non-ferrous materials & selection plastic material .	3	
	Sub Total in hrs.	36	24
	TOTAL HRS FOR MODULE:1 = 60 HRS; Module Cost in Rs.10000=00		

MODULE-2

Module-2	Injection Mould Design		
19	Mould Design, Ejection system ,Gate /Runner design. Types of Moulds (Three Plate/ Two Plate),Hot-Runner System ,Hydraulically operated side core systems	9	12
20	Mould Flow Analysis Techniques for design validation	1.5	
21	Mould Making Techniques, Basics of mould making & manufacturing , Mould materials	1 1/2	
	Sub Total in hrs.	12	12
	TOTAL HRS FOR MODULE:2 = 24 HRS; Module Cost in Rs.6000=00		

MODULE-3

Module-3(P art-A)	Press Tool Design		
22	Sheet Metal processes:-Blanking, Piercing, Drawing, Embossing,	1	
23	Sheet Metal Component design for each process,	3	
24	Designing for other processes like: Metal casting, Die-casting, Forging etc.	3	
Module-3(P ART-B)	Fundamentals of Jigs, Fixtures & Gauges Design	3	6
Module-3(P art-C)	VISITS (Optional if time permits)		

	1: Visit to Molding Shop		2
	2: Visit to Tool-room		2
Module-4	Final Project Work		10
	EXAM :	3	3
		13	23

Other Option:	TOTAL COURSE DURATION IN HRS.= 120 HRS., Course Fees: Rs.20000=00	120	3-1/2 months
	Total Course Except; Press Tool & jigs Fixtures:100 hrs; FEES: Rs.16,000=00	100	3 months

No. of students/ Batch maximum : 7 to 10 nos.

Admission:- Strictly against Entrance test &/ or Interview

Timing:a) One Batch (Every Sunday)
 Once a week, 10.15 AM to 6.15 PM (7.5 Hrs a week , 30 Hrs a month)

b) Second Batch (Thursday)
 Total Hrs = 100 TO 120 Hrs., 3 to 3-1/2 Months
 Once a week, 10.15 AM to 6.15 PM (7.5 Hrs a week , 30 Hrs a month)

SCOPE:
 The successful candidates would be easily absorbed in a) CAD/CAM industries b) Consumer durable Industries c) Electro-mechanical industries d) Plastics Industries e) Tool-rooms f) Design houses doing business of exporting
 * We are having a bunch of well known MNCs, Big Indian Giants who are ready to opt for the pass-outs completing this course.

Eligibility:
 Minimum Degree or diploma in Mechanical engg.or Production Engg., With first class marks (Fresh Pass-outs) or engineers with 2-3 years experience, opting for the change of discipline to design field and CAD Engineers with skills on UG/ CATIA / Solid-Works / Pro-E softwares. and Auto-Cad

NOTE:-
100% Placment Assistance, ADD-ON 3D Modelling Software Training can be provided.
Designed & Conducted By: Hemchandra Agashe
(B.E-Mech,D.I.I.T.(Ind.Design) , L.P.R.I.(Plastics Tech.)-London , MCAD (Cad/Cam)
 Proprietor-(DARPAN INDOTECH -A CAD/CAM Training & Complete Solutions Provider)
 OFFICE: 'Flat No.4, 'Vidurkrupa Co.Op. hsg.Soc.,Paramhans Nagar Lane no.11, Off Paudroad, Pune-411038
 Tel: 020-32538333 ; M: 9881140750
 E-mail: hsagashe@darpanindotech.com ; www.darpanindotech.com