

Course Title	<b>CATIA V5-CAD</b>		
Purpose	Upgrading skills of Design and Production of Documentation for Manufacturing		
Eligibility	Degree/Diploma in relevant branch of Mechanical engineering or NTC/NAC		
Duration	02 weeks		
Location	ADVANCED TRAINING INSTITUTE, V N PURAV MARG CHUNABHATTI, MUMBAI -22		
Learning Outcomes	After Completion of Training the Candidate Will 1.Able to learn product design, industrial design and styling (optimize form, fit function) 2. Able to do streamline 2D design, drafting, documentation with powerful tools for layout, drawing, assembly design.		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.		
Assessment Methods	<b>A. Formative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	
	1	Attendance	
	2	Observations during in-class activities & Punctuality	
	3	Ability to grasp the topic	
	<b>B. Summative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	
	1	Test consist of Design Project (Practical)	
2	Test consist of Theoretical knowledge		
Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to Catia V5 GUI
	2	Introduction to Sketcher Workbench	Practical
	3	Practical	Practical
	4	Introduction to Part Modelling	Practical
	5	Practical	Practical
	6	Practical	Introduction to Wireframe and Surface Design
	7	Practical	Practical
	8	Introduction to Assembly Design	Practical
	9	Introduction to Drafting Workbench	Practical
	10	Design Project/Test	Feedback Valediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		



Course Title	<b>CNC Programming and Machining ( Milling)</b>		
Purpose	Upgrading skills of CNC programming and Machine Operation for Manufacturing		
Eligibility	Degree/Diploma in relevant branch of Mechanical engineering or NTC/NAC		
Duration	02 week(s)		
Location	Advanced Training Institute, V N Purav Marg Chunabhatti, Mumbai -22		
Learning Outcomes	After completion of this course, the student will be able to 1. Understand the basic procedures and concepts of programming, set up and Operation of a CNC Machining Centre. 2. The operator should be confident enough to tackle basic part programming. 3. Manufacture simple parts on the CNC machining centre.		
Teaching Methods	1 Lectures in class room.2 Practice sessions 3 Group exercises 4 Demonstrations. 5 Valediction session		
Assessment Methods	<b>C. Formative Assessment</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>D. Summative Assessment</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Examination-Practical	30
2	Examination-Theory	20	
Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to NC, CNC & historical perspective of CNC
	2	Introduction to CNC Control panel Axes designation	Practical on different Modes of Operations
	3	Co ordinate system, work Off set	Practical on W/O set at different position
	4	Fundamental of Part programming Interpolation/Linear interpolation	Practical on Face Milling
	5	Introduction to CRC	Practical
	6	Introduction to Circular Interpolation	Practical on Profile Milling
	7	Introduction to Subroutine nesting	Practical
	8	Introduction to Canned Cycles	Practical
	9	Practical	Practical
	10	Practical test (Group)/Test	Valediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		

Course Title	<b>CNC Programming and Machining (TURNING)</b>		
Purpose	Upgrading skills of CNC programming and Machine Operation for Manufacturing		
Eligibility	Degree/Diploma in relevant branch of Mechanical engineering or NTC/NAC		
Duration	02 week(s)		
Location	Advanced Training Institute, V N Purav Marg Chunabhatti, Mumbai -22		
Learning Outcomes	<p>After completion of this course, the student will be able to</p> <ol style="list-style-type: none"> <li>4. Understand the basic procedures and concepts of programming, set up and Operation of a CNC Turning Centre.</li> <li>5. Understand the main instruction and their function</li> <li>6. To create NC programs for different turnings operations</li> </ol>		
Teaching Methods	1 Lectures in class room.2 Practice sessions 3 Group exercises 4 Demonstrations. 5 Valediction session		
Assessment Methods	<b>E. Formative Assessment</b>		
	Sl.No	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>F. Summative Assessment</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Examination-Practical	30
2	Examination-Theory	20	
Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to NC, CNC & historical perspective of CNC
	2	Introduction to CNC Control panel Axes designation	Practical on different Modes of Operations
	3	Co ordinate system, work Off set	Introduction to Canned Cycles
	4	Introduction to Roughing and finishing cycles- G71 &G70	Practical
	5	Introduction to RoughinG72	Practical
	6	Introduction to Grooving Cycles-G76	Practical
	7	Introduction to Drilling Cycles-G74	Practical
	8	Introduction to Threading Cycle-G76	Practical
	9	Introduction to Stock removal/ Finishing/grooving	Practical
	10	Introduction to Threading Cycle/Practical/Test	Valediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		

Course Title	<b>AUTOCAD</b>																																		
Purpose	Upgrading the Skills of design and the shape for the products that needs to be created.																																		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC																																		
Duration	02 week(s)																																		
Location	ADVANCED TRAINING INSTITUTE,CHUNABHATTI, MUMBAI -22																																		
Learning Outcomes	After Completion Of Training the Candidate Will 1. An ability to create 2D and 3D plans and designs. 2. Use shortcuts to improve productivity 3. Draw orthographic views of shapes 4. Draw isometric view of shapes (3 views) Format and print designs																																		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.																																		
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Instruction Material	Softcopy of course material																																		

Course Title	<b>AUTODESK INVENTOR</b>		
Purpose	Upgrading the Skills and Capability of shape generation, Documentation for Manufacturing .		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC		
Duration	02 week(s)		
Location	ADVANCED TRAINING INSTITUTE,CHUNABHATTI, MUMBAI -22		
Learning Outcomes	After Completion Of Training the Candidate Will 5. able to Draw two-dimensional sketches and Solid Models. 6. Create the orthographic views of an object from the solid model 7. Explain and interpret the dimensions and some annotations		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.		
Assessment Methods	<b>I. Formative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	
	1	Attendance	
	2	Observations during in-class activities & Punctuality	
	3	Ability to grasp the topic	
	<b>J. Summative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	
	1	Test consist of Design Project (Practical)	
	2	Test consist of Theoretical knowledge	
		Max Marks	
	20		
	20		
	10		
	30		
	20		
Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to GUI of Autodesk Inventor
	2	Introduction to Basic drawing in Sketcher	Practical
	3	Introduction to Solid Modelling	Practical
	4	Design and sketch adaptive parts with features and occurrences	Practical
	5	Introduction to Surface design	Practical
	6	Introduction to Sheet Metals	Practical
	7	Introduction to Assembly Tools	Practical
	8	Introduction to Assembly Bill of materials	Practical
	9	Introduction to Drafting /Details Drawing	Practical
	10	Design Project/Test	Feedback Vaediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		

Course Title	<b>MasterCAM</b>		
Purpose	Upgrading skills of Design Part and tool paths for a modern CNC for Manufacturing		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC		
Duration	02 weeks		
Location	ADVANCED TRAINING INSTITUTE, CHUNABHATTI, MUMBAI -22		
Learning outcomes	Upon completion of the course the student will be able to: <ol style="list-style-type: none"> <li>1. Understanding of the principles of computer assisted NC Programming.</li> <li>2. Write, enter, and debug programs.</li> <li>3. Design or select tooling to solve manufacturing problems.</li> </ol>		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations. 5 Valediction session		
Assessment Methods	<b>K. Formative Assessment</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>L. Summative Assessment</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Examination-Practical	30
	2	Examination-Theory	20
Course schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to Master CAM GUI
	2	Introduction to Geometry and Operation Manager	Practical
	3	Introduction to 3D Solid Modelling	Practical
	4	Introduction to 2D contour tool path	Practical
	5	Introduction to 2D high speed tool path	Practical
	6	Introduction to 3D contour tool path	Practical
	7	Introduction to Lathe Design and Tool path	Practical
	8	Different turning machining Method	Practical
	9	Marching using different Canned cycles	Practical
	10	Design Project/Test	Valediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction material	Softcopy of course material		

Course Title	<b>Pro Engineer-CAD</b>		
Purpose	Upgrading skills and application of solid modeling techniques for product design and manufacturing		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC		
Duration	02 weeks		
Location	ADVANCED TRAINING INSTITUTE, CHUNABHATTI, MUMBAI -22		
Learning Outcomes	After Completion Of Training the Candidate Will 1. Understand to Identify with the capabilities of Pro Engineer as a mechanical engineering tool Use of its parametric functionality. 2. Able to Preparation of Pro Engineer drawings of parts and assemblies		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.		
Assessment Methods	<b>A. Formative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>B. Summative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Test consist of Design Project (Practical)	30
	2	Test consist of Theoretical knowledge	20
	Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>
1		Admission/ Introduction to course subject	Introduction to Pro Engineer User Interface Overview
2		Introduction to Sketcher	Practical
3		Practical	Introduction to Part Modelling
4		Practical	Practical
5		Introduction to Advanced Part Modelling	Practical
6		Introduction to Surface Modeling	Practical
7		Introduction to Sheet Metal	Practical
8		Introduction to Assembly Design	Practical
9		Introduction to Drafting Workbench	Practical
10		Design Project/Test	Feedback Vaediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		



Course Title	<b>Solid Works-CAD</b>		
Purpose	Upgrading skills of Design and Transformation of design into Manufacturing Process		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC		
Duration	02 weeks		
Location	ADVANCED TRAINING INSTITUTE, V N PURAV MARG CHUNABHATTI, MUMBAI -22		
Learning outcomes	After Completion Of Training the Candidate Will 1.Understand to produce and use a standard format of engineering drawings that defines an item to be built 3. Able to create part and assembly drawings and details of assembly using section and exploded views and rendered images		
Teaching methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.		
Assessment methods	<b>A. Formative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>B. Summative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Test consist of Design Project (Practical)	30
2	Test consist of Theoretical	20	
Course schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Solid Works Basics and the User Interface
	2	Introduction to Sketching	Practical
	3	Practical	Introduction to Part Modelling
	4	Practical	Practical
	5	Practical	Repairing and Editing
	6	Introduction to Wireframe and Surfacing	Practical
	7	Introduction to Sheet Metal	Practical
	8	Introduction to Assembly Design	Practical
	9	Introduction to Drawing	Practical
10	Design Project/Test	Feedback Valediction	
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction material	Softcopy of course material		

Course Title	<b>ANSYS</b>		
Purpose	Upgrading the Skills performing structural and thermal analyses , as related to geometry import, meshing, application of loads and supports, and post-processing.		
Eligibility	Degree/Diploma in relevant branch of engineering or NTC/NAC		
Duration	02 week(s)		
Location	ADVANCED TRAINING INSTITUTE,CHUNABHATTI, MUMBAI -22		
Learning Outcomes	After Completion Of Training the Candidate Will <ul style="list-style-type: none"> <li>• .</li> <li>• Be able to use the Ansys and solve a selected range of engineering problems.</li> <li>• Be able to validate a Finite Element model using a range of techniques.</li> </ul>		
Teaching Methods	1 Lectures in class room. 2 Practice sessions 3 Group exercises 4 Demonstrations.		
Assessment Methods	<b>M. Formative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Attendance	20
	2	Observations during in-class activities & Punctuality	20
	3	Ability to grasp the topic	10
	<b>N. Summative Assessment consists of following</b>		
	SLNO	Criteria for Assessment	Max Marks
	1	Test consist of Design Project (Practical)	30
2	Test consist of Theoretical knowledge	20	
Course Schedule	<b>DAY</b>	<b>FORENOON SESSION (9.00 am – 1.00 pm)</b>	<b>AFTERNOON SESSION (1.30 pm – 5.30)</b>
	1	Admission/ Introduction to course subject	Introduction to GUI of ANSYS and FEA/FEM
	2	Introduction to Ansys Creating geometry Generation of key points, lines,	Practical
	3	Introduction to Geometry Modeling and Elements/Meshing/Nodes	Practical
	4	Introduction to Analysis-Structure Linear	Practical
	5	Introduction to Analysis-Structure Non Linear/Test	Feedback Valediction
AIDS	LCD projector, white board, Marker pen, Computers, Drawings exercises		
Instruction Material	Softcopy of course material		