

Curriculum Laboratories

S.No	Name of the Laboratory	No.ofStudentsperSetup(Batchsize)	NameoftheImportantEquipment	WeeklyUtilizationstatus(alltheCourses forwhichthe LabisUtilized)	Technical Manpowers upport		
					Name of the TechnicalStaff	Designation	Qualification
1.	Dynamics of Machines [M – 36 C]	30	<ul style="list-style-type: none"> • Motorized Gyroscope • Internal shoe brake • Universal Governor • Triflar suspension set-up • Torsional vibration- Single rotor system • Rotary and reciprocating balancing set-up • Torsional vibration- Double rotor system • Schenck balancing machine • Whirling of shaft 	12	Mr. Sachin Pancholi	Lab Assistant	Diploma Mechanical

			<ul style="list-style-type: none"> • Steering mechanism • Hooke's joint • Undamped dynamic vibration absorber • Centrifugal Governor • Forced vibration set-up • Cam and follower • Coefficient of friction experimental set-up • Chain drive • Coriolis acceleration setup • Belt drive • Different types of gears 				
2.	Turbo Machine Lab [C]	30	<ul style="list-style-type: none"> • Supersonic wind tunnel set up • Two shaft gas turbine set up • Nozzle performance test rig set up • Ducted axial flow fan test set up 	12	Mr. Sachin Pancholi Mr. Ravi O More	Lab Assistant Lab Attender	Diploma Mechanical ITI Carpentry
3.	Heat Engine / Thermal Lab [D]	30	<ul style="list-style-type: none"> • Babcock and Wilcox boiler • Cochran boiler • Cornish boiler • Dual fired reverse flame steam generator • Two cylinder 4 stroke diesel engine • 4 stroke diesel engine • 2 stage reciprocating compressor • Centrifugal blower test set-up • Cascade test tunnel 	12	Mr. P M Solanki	Lab Attender	8 th Pass
4.	Refrigeration and Air-	30	<ul style="list-style-type: none"> • Vapour Compression Refrigeration 	12	Mr. Dinesh Panchal Mr. P P Chudasama	Lab Attender	8 th Pass 8 th Pass

	Conditioning [G]		System Set-up <ul style="list-style-type: none"> • Room Air-Conditioning System • Water Chilling Plant set-up • Air Handling Unit and cooling Tower • Demonstration of Evaporative Cooling Process • Himalux Refrigerator • Domestic Refrigerator • Window Air-Conditioner 			Lab Attender	
5.	Unconventional Machining lab [L]	30	<ul style="list-style-type: none"> • Electro discharge machine (EDM) • Abrasive jet machine • Ultrasonic welding machine • Plasma cutting machine • Water hammer forming 	12	Mr. S S Pendhari	Lab Attender	12 th Pass
6.	Metrology and Measurement Lab [Siemens CoE Hall-1]	30	<ul style="list-style-type: none"> • Height gauge • Vernier callipers • Micrometer with stand • Slip gauges • Digital calliper • Bore gauges • Inside micrometer • Surface plate • 30° Sine bar • Filler gauge • Wire gauge • Dial gauge • Universal protector • Pin gauge • Screw pitch gauge • Force gauge 	12	-	-	-

7.	Hydraulic Lab [N-1]	30	<ul style="list-style-type: none"> • Two-cylinder double acting reciprocating pump • Single stage centrifugal pump • Double stage centrifugal pump • Amsler's pitot tube • Hydraulic Ram • Cup type current meter • Kaplan turbine • Francis turbine • Turbo wheel • Reynolds number apparatus • Set up to find losses through pipe and pipe fittings 	12	Mr. S S Pendhari	Lab Attender	12 th Pass
8.	Heat and Mass Transfer [I-7]	30	<ul style="list-style-type: none"> • Free and forced convection apparatus • Natural convection apparatus • Emissivity measurement apparatus • Two phase heat transfer apparatus • Condensation in drop and film forms • Shell and tube heat exchanger • Set up to find thermal conductivity of metallic rod • Set up to find thermal conductivity of oil • Set up to find thermal conductivity of powder material • Pin fin apparatus 	12	Mr. Jitesh Talati Mr. P M Solanki	Lab Assistant Lab Attender	ITI Welding 8 th Pass
9.	Automobile Lab [D]	30	<ul style="list-style-type: none"> • Single cylinder diesel engine test rig • 4- cylinder diesel engine test rig • Cut-section of IC engine • Hydraulic car 	12	Mr. Jitesh Talati Mr P P Chudasama	Lab Assistant Lab Attender	ITI Welding 8 th Pass

			<ul style="list-style-type: none"> • Gas analyzer 				
10.	Foundry Lab [B-1]	30	<ul style="list-style-type: none"> • Moulding boxes • Moulding sand • Rammers, patterns, vent wires, shovel • Sprue pin, Riser pin • Metal dice • Induction furnace 	12	Mr. M. P. Datir Mr. A. N. Patel	Lab Assistant Lab Assistant	ITI ITI Carpentry
11.	Machine Shop [B-3]	30	<ul style="list-style-type: none"> • Lathe machines • Shaping machine • Radial drilling machine • Surface grinding machine • Universal grinding machine • Turret lathe (Semi- Automatic) • Single spindle automatic • 4 in 1 combination machine (Lathe, shaper, drilling and milling all 4 operations) • Milling machine • Planning machine • Pillar drill • Wood-saw machine • Mechanical press • Bend saw machine • Power tools 	12	Mr. V. D. Rathva Mr. S K Sonara	Lab Assistant Lab Assistant	ITI Hammer ITI Welding
12.	Cognizance of Machines and Components and Lifelong learning [M-30]	30	<ul style="list-style-type: none"> • Machine components - Bearings, Springs, Levers, Fan, Mixer grinder, Juicer, Alarm clock, Scooter, Printer, Engine, Motor, Shaft, Gears, Brakes, Clutches, Switches, Indicators, Controllers, Screws, Nuts and 	12	-	-	-

			Bolts, Toy drones, Toy robots, Pump, Pulleys				
13.	Drawing Hall [M – 43]	20	<ul style="list-style-type: none"> • Mini Drafter • A pair of set- squares • Small Bow compass/divider • Roller scale • Drawing board • French Curves 	24	-	-	-
14.	Industrial Engineering [L]	30	<ul style="list-style-type: none"> • Nut, bolts, and washers • Wooden board • Stop watch • Table with fixture • Sheet metal board with wooden base • Measuring tape 	12	Mr. Jitesh Talati Mr. S S Pendhari	Lab Assistant Lab Attender	ITI Welding 12 th Pass
15.	Computer Aided Design & Computer Aided Manufacturing Lab (Under Siemens CoE)	30	<ul style="list-style-type: none"> • 60 Computers • 2 Servers • On-Campus Server Shared Licenses of NX CAD, NX CAM, Teamcenter, NASTRAN • Cloud Based Licenses of SolidWorks • 2 Machine FMS System from MTAB with • CNC Milling Machine having gantry loader arm • CNC Turning Machine having gantry loader arm 	12	-	-	-

			<ul style="list-style-type: none">• ASRS• Fixed Path AGV• Automatic Assembly Station• 6 Axis Robot• Computer Vision Based Inspection System• SINUMERIK 808D Controller Based Training Kit for CNC Milling (2 Nos)• SINUMERIK 808D Controller Based Training Kit for CNC Turning (2 Nos)• SINUMERIK 840D SL Controller KIT• Air Compressor• 4 Axis CNC VMC				
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Sample pictures of all the basic facilities/ equipments



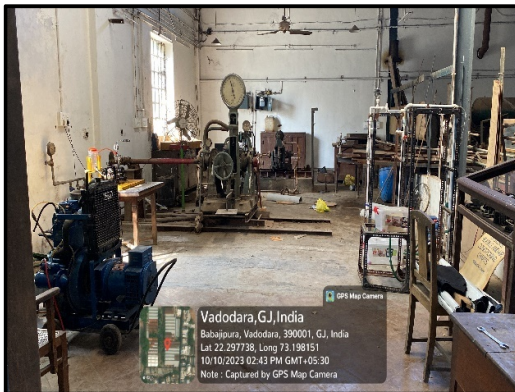
Dynamics of Machine Lab



Refrigeration and Air Conditioning Lab



Heat and Mass Transfer Lab



Automobile Lab



CAD-CAM Lab (Siemens Centre of Excellence)



Industrial Engineering Lab



Turbo Machine Lab



Refrigeration and Air Conditioning Lab



Babcock Wilcox Boiler



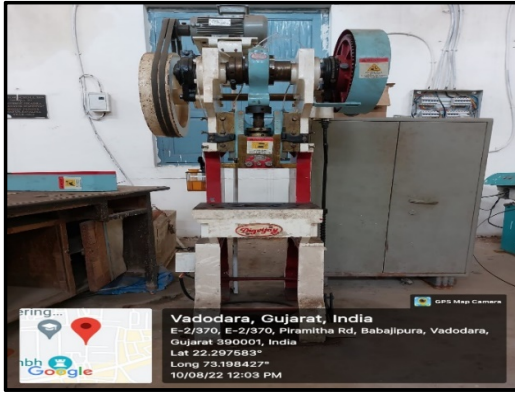
Capston Lathe



Fitting Shop



Machine Shop



Mechanical Press



Radial Drilling Machine



**Single Spindle Automatic Lathe
Smithy Shop**



Subsonic Wind-Tunnel



3D Printer