



AKHIL BHARATIYA MARATHA SHIKSHAN PARISHAD'S ANANTRAO PAWAR COLLEGE OF ENGINEERING & RESEARCH



Approved by AICTE, New Delhi, Govt. of Maharashtra • Affiliated to Savitribai Phule Pune University, Pune
Institute is under Mentorship of College of Engg. Pune. (COEP)

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Think Career, Think APCOER !!!



About APCOER

ABMSP's Anantrao Pawar College of Engineering & Research is established in year 2012 with six under graduate, two post graduate and four B-Voc courses along with Ph.D. Research Center for Civil and Mechanical Engineering affiliated to Savitribai Phule Pune University. Institute is committed to impart quality technical education as per the needs and expectations of stakeholders. APCOER, Pune is under the mentorship of College of Engineering Pune (COEP). National & Internationally recognized researchers are involved in the innovation club of institute guiding the faculties and students for product development, Startups & to become Entrepreneurs through Business Incubation Center. APCOER, Pune is committed to comprehensive development of students through quality technical education.

Our Vision

Committed to comprehensive development of students through quality technical education.

Our Mission

- 1) To provide state of art infrastructure that shall create ambience to encourage novel ideas, research activities and consultancy services.
- 2) To inspire students in creation & entrepreneurship.
- 3) To create future technocrats with intelligence, technical skills & good ethical moral values so as to serve needs of society & industries.
- 4) To provide healthy Teaching-Learning environment that will cultivate contemporary research activities, innovations & inventions.
- 5) To develop center of excellence in technical education.

DST PRAYAS SHALA



Department of Science & Technology
Government Of India



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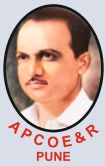


For More Details Contact :

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Measuring Equipments

Sr. No.	Equipment Name	Equipment Detail
1	Gas Welding Torch with welding electrodes	Specification - Welding mild steel from 0.6mm to 8 mm Operations - Welding
2	Dial Gauge	Specification - As per DIN 878:2006, Range: 10,0 mm, Reading : 0,01 mm, Graduation : 0-100, Type K02 Operations - Precision Measuring Instrument
3	Dial Gauge	Specification - As per DIN 878:2006, Range: 10,0 mm, Reading: 0,01 mm, Graduation: 0-100, Type K02 Operations - Precision Measuring Instrument
4	Bore Gauge	Specification - As per JIS B 7515, Range : 1, 2 mm, Bore Gauge Range: 18-50mm Operations - Precision Measuring Instrument
5	Height Gauge	Specification - 45cm Operations - Height Measurement.
6	Vernier Calliper	Specification - 150 x 0.02 mm, Size: 6 x 0.001 in.
7	External Micrometer	Specification - Reading: 0.01 mm, Range: 25-50 mm
8	External Micrometer	Specification - Reading: 0.01 mm, Range: 0-25 mm
9	Weighing Machine	Specification - Size: 200 x 250mm, Max. capacity: 10 kg, Accuracy: 0.5 gm
10	Weighing Machine	Specification - Heavy duty platform scale, size: 600 x 600mm, Max. capacity: 300 kg, Accuracy: 20 gm
11	Steel Rule	Specification - 30cm
12	Metal-L	Specification - 15 cm Operation - Engineer's Square (6 in.)
13	Metal-L	Specification - 30 cm Operation - Engineer's Square Graduated (12 in.)
14	Steel Rule	Specification - 60cm
15	Measuring Tape	Specification - 7.5m
16	Spirit Level	Specification - 300 mm Operations - leveling
Hand Tools		
17	Square adjustable	Specification - 15 cm blade
18	Angle plate	Specification - 100 x 125 x112mm
19	Taps and dies	Specification - 6mm-12mm Operations - Threading
20	File	Specification - warding 15 cm smooth, knife edge 15 cm smooth, cut saw 15 cm smooth, feather edge 15 cm smooth, triangular 15 cm smooth, round 20 cm second cut, square 15 cm second cut, square 25 cm second cut, triangular 20 cm second cut, flat 30 cm second cut, flat 20 cm bastard, flat 30 cm bastard, half round 25 cm second cut, half round 25 cm bastard, round 30 cm bastard, hand 15 cm second cut, Card file
21	File Swiss type	Specification - Swiss type needle set of 12, 16 C/m, Shapte Cut Assorted 0/2, Size : 160 mm Operations - Filing
22	Oil Stone	Specification - 15 cm x 5 cm x 2.5 cm Operations - Lubricating
23	Plier	Specification - 165 mm, plier with joint cutter
24	Blow Lamp	Specification - 500 ml
25	Spanner	Specification - D. E. 6 -26 mm, Set of 12 pcs Double Open End Spanner"
26	Straight Edge	Specification - 18 Operations - Straightness Measurement.
27	Surface Plate	Specification - 45cm x 45cm Granite. Operations - Levelling. Materials - Metals.
28	Box spanner	Specification - set of 11 sockets plus 4 accessories
29	Magnifying Glass	Specification - 7 cm
30	Toolmaker Clamp	Specification - 50 mm
31	Toolmaker Clamp	Specification - Size 3 in.
32	Clamp "C"	Specification - 5cm
33	Clamp "C"	Specification -10cm
34	Scraper flat	Specification - Flat, 15 cm Operations - Scrapping
35	Scraper triangular	Specification -Triangular, 15 cm Operations - Scrapping
36	Scraper half round	Specification - Half round, 15 cm Operations - Scrapping
37	Chisel cold	Specification -19mm flat Operations - Chisel
38	Tennon Saw	Specification - 30cm
39	Hand hammer	Specification - 340g/12oz, Hickory Handle Operations – Hammering
40	Hacksaw frame fixed	Specification - Plastic Handle, 30cm Operations - Cutting
41	Mallet	Specification - 680g/24oz. Operations - Hammering
42	Straight Grinder	Specification - 650W, Max. Grinding Tool Diameter : 50mm, Spindle Collar Diameter : 43 mm Operations - Grinder
43	Metal Cut-off Saw	Specification - 2200W
44	Spanner adjustable	Specification - 15 cm



Facility Available at DST PRAYAS SHALA

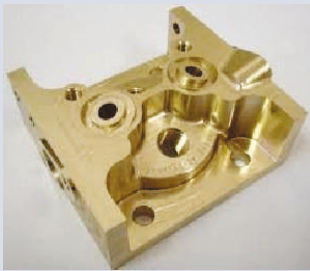


Vertical Milling Center



- Operations Performed** - Milling
Operable Materials - Metals
Technical Specifications
- Travels (x, y, z) - 600 mm, 400mm, 300 mm
 - Maximum feed rate - 0.1 mm/sec
 - Spindle runout - 10 microns
 - Spindle speed range - 10 to 600 rpm
 - Maximum tool weight - 5 kg
 - Number tools in ATC - 12 tools
 - Air pressure requirement - 5 bar
 - Overall machine dimensions - 2000 mm × 700 mm × 2100 mm
 - Table size - 800 mm × 400 mm
 - Maximum load on table - 75 kg
 - Net weight of the machine - 2 tons
 - Axis motor type - servomotors
 - Power requirement - 5 to 6 kw

Jobwork Sample

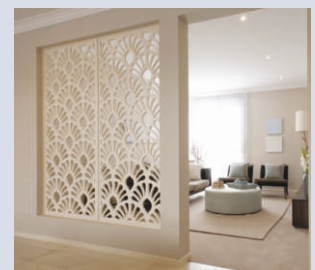


CNC Router

- Operations Performed** - Cutting
Operable Materials - Non-ferrous Metals, MDF, Wood, Foam, PVC, Plywood, Marble, Acrylic
Technical Specifications
- Working area - 1200 mm x 1200mm x 20mm
 - Precision - +/- 0.05 mm/300mm
 - Repeatability - +/- 0.05mm
 - Spindle speed - 24000 rpm
 - Drive system - Servomotor
 - Spindle power - 5.5kw water cooled
 - Collet Diameter - Er25
 - Maximum power consumed - 6kw
 - Maximum working speed - 20m/min
 - Maximum rapid - 25m/min
 - Command Format - G code uoo mmg



Jobwork Sample





Facility Available at DST PRAYAS SHALA

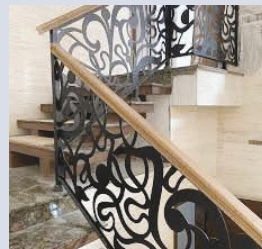


Laser Cutting and Engraving machine



- Operations Performed** - Cutting, Engraving
- Operable Materials** - Plastics, Fabrics, Glass (only engraving), Rubber, Wood
- Technical Specifications**
 - Laser type - CO2 DC glass laser tube
 - Laser power - 60/80/100/130Watt
 - Wavelength - 10.6 μm
 - Supply voltage - AC 220 V ± 10 %
 - Reposition accuracy - ± 0.05 mm
 - Cutting speed - 0 to 30000 mm/min
 - Engraving speed - 0 to 64000 mm/min
 - Cooling method -Water Cooled
 - Work environment - Temp (0°C - 45°C)
 - Humidity (5 % - 95 %)
 - Working area -1200 mm× 1200 mm
- Graphic file support**
 - .plt, .cdr, .ai, .dwg, .dst, .dxf, .bmp, .jpeg, .tiff, .gif, .pcx etc.

Jobwork Sample

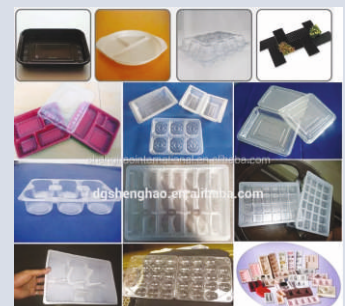


Vacuum Forming Machine



- Operations Performed** - Forming
- Operable Materials** - Thin Metals, Plastics, Acrylic
- Technical Specifications**
 - Maximum coil temperature - 650°C
 - Dimensions of the clamp - 670 mm × 550mm
 - Speed of vacuum pump - 3000 rpm

Jobwork Sample



3D Scanner



Specification

- Scan volume - min 30 x 30 x 30 mm, max 700 x 700 x 700 mm, Range of Single Capture 200x150 mm,

Single Shot Accuracy

- ≤ 0.1 mm, Scan Speed - < 8 s

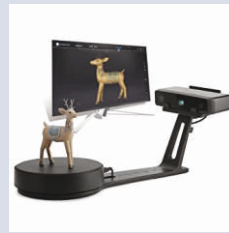
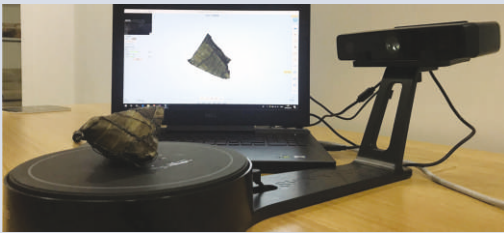
Operational Area

- Scanning, Observe a scene in three dimensions

Software Support

- Graphics card: Nvidia series

Jobwork Sample



3D Printer

Specification

- Build volume : 223 x 223 x 205 mm,
- Max layer resolution - 20 microns,
- XY positioning precision - 12.5 microns,
- Z positioning precision - 5 microns,
- Print speed - 30 to 300 mm/s,
- Print technology - FDM,
- Filament diameter- 2.85 mm,

File Supported

- *.stl, Software support - CURA

Operational area

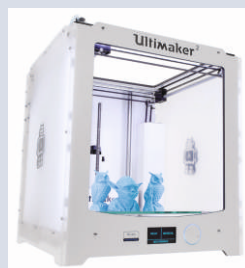
- Product development, Manufacturing, \ End-use parts, Architecture, Education

Material support

- PLA, ABS Filament



Jobwork Sample




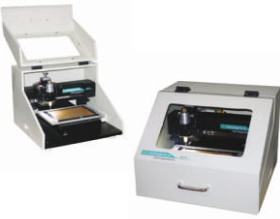






















Facility Available at DST PRAYAS SHALA



Facility Equipments

Sr. No.	Equipment Name	Image	Equipment Detail
1	Painting Booth		Specification - width 4100/3600mm, depth 3250/1800mm, Height 3600/2100mm, Capacity - 1x7900 cu.m/hr, Motor rating : 3.70Kw Operations - Painting
2	Lathe Machine		Specification - bed Length - 5 ft, Center height - 170 mm, Swing over bed - 340 mm, Spindle bore - 40mm, Spindle speed - 60 to 1050 rpm, Width of bed - 240 mm, Lead screw - 6 mm, Weight - 600 kg. Operations - Facing, Turning, Drilling, Boring, Threading. Materials - Metal, Wood.
3	Soldering Station		Specification - 1 Channel, 70W/230V Soldering Station with A020271711 - MXTA 1.6mm Soldering Tips Operations - Soldering
4	PCB Prototyping Machine (PTH Setup with Power Supply, TINALOCK)		Specification - Working area : 220 x 200 mm, Min. drill hole size : 0.3 mm, Min. Cutting trace/ space : 0.2 mm, Spindle speed (Max.rpm) : 25000 rpm spindle, Motor : BLDC Motor, Milling depth sensing : Automatic, Tool change : Manual, Tool Holder : 1/8 inc, X/Y/Z driver : Stepping, Software CD, Learning Material CD, Copper clad boards (single side 140 x 140mm) pack of 10: 05 nos, Copper clad boards (double side 140 x 140mm) pack of 10 : 1 No Engrave bits 0.15mm (60) -2 : 2 Nos. Tinning liquid (125ml) : 1 No. V11DS) Operations - PCB routing Material - PCB boards (Glass fiber reinforced epoxy resin)
5	3D Pen		Specification - Lix 3d pen, Diameter: 9-15mm, Length : 15.9 cm, Heating Point : 200 deg. Cel., External Power Adapter, USB-DC cord, 2 pack of ABS filaments (random color) with Lix 3D Filament Pack of 25 ABS or PLA strands (each 25cm long)
6	Plasma Arc Cutting Machine		Specification - Current rating - 20 amp to 100 amp, Power factor - 0.93, Power Supply - 3 phase, Maximum thickness allowed - 30 mm, Technology - Inverter Technology. Operations - Cutting carbon steel, alloy steel stainless steel, cast iron, aluminum, copper etc. Materials - Metals.
7	Portable Arc Welding Setup		Specification - Current rating - 0 to 200amp, Technology - Inverter based, IGBT based, Welding type - Arc welding, Duty cycles - 90 to 200 amps, Cooling - Fan cooled, Open circuit voltage - 45 V. Operations - Metal Welding. Materials - Metals.
8	Radial Drilling Machine		Specification - Drilling Capacity - 25mm, Pillar diameter - 129mm, Spindle nose to table distance - 615 mm, Distance form to base distance - 815 mm, Distance form spindle center to pillar face - 700 mm, Taper in spindle - MT 3, Number of speed - 8 speed, Range of speed - 116rpm to 2880rpm, Table size - 275mm x 200mm x 200mm, Base size (machine area) - 480mm x 800mm, Overall base size - 580 mm x 910 mm, Spindle travel - 180 mm, Pillar length - 1070 mm, Weight - 450 kg. Operations - Metal and Wood Drilling. Materials - Metal, Wood.
9	Sheet Metal Press Machine		Specification - Straight line cutting of sheet metals up to 3.0 mm thick. Operations - Cutting Materials - Sheet Metals.

10	Sheet Metal Bending Machine		Specification - Heavy duty fly press, Screw Diameter - 76 mm, Length - 600 mm, Diameter of wheel - 812mm, Width between Hole in bed -31.75 mm, frames - 330mm, Bed to guide - 254 mm, Size of bed - 406 mm × 609mm. Operations - Metal Bending and Shearing, Drawing. Materials - Metals.
11	Hydraulic Pipe Bending Machine		Specification - Pressure - 30 tons, Size - 3/8 inch to 6 inch, Maximum bending radius - 0 to 50 mm, 50 to 100 mm, Maximum bending angle - 90 degrees, Power - Hydraulic. Operations - Metal Pipe Bending. Materials - Metal Pipes.
12	Stone Grinding Wheel Machine		Specification - Power - 1300 W, Disc Capacity - 180 mm. Operations - Metal grinding. Materials - Metals.
13	Radial Band saw		Specification - Diameter of saw wheels - 455 mm, Throat depth - 430 mm, Maximum cutting capacity - 254 mm, Work table size - 535 mm × 585 mm, Table tilt degree - 45°, Width of saw wheels - 50 mm, Blade length - 3500 mm, Speed of saw wheels - 500 rpm / 750 rpm, Power required (HP/rpm) - 2/1440, Approx. weight of machine - 300 kg. Operations - Wood cutting. Materials - Wood.
14	Surface planner with circular saw		Specification - Power required HP/rpm - 2/1440, Cutter block speed - 4000 mm/s, Max circular saw diameter - 300 mm, Length of surface table - 1220 mm, Rebating capacity - 12.5 mm, Up/Down movement of circular saw - 75 mm, Approximate weight of machine - 150 kg. Operations - Wood planning and cutting Materials - Wood.
15	Circular saw with tilting model		Specification - Circular saw diameter × bore - 305 mm × 25.4 mm, Maximum depth of cut - 89 mm, Table tilt degree - 45°, Work table size - 660 mm × 560 mm, Circular saw speed - 4000 rpm, Power required (HP/rpm) - 3/1440, Approx. weight of machine - 175 kg. Operations - Wood cutting. Materials - Wood.
16	Wood Belt Sander with Disc		Specification - Sanding belt size - 150 mm × 1220 mm, Sanding disc size (diameter) 254 mm, Spindle (rpm) - 1400 rad/s, Power required (HP/rpm) - 1/1440, Approximate weight of machine - 50 kg. Operations - Wood grinding. Materials - Wood.
17	Portable Hand Drill (Electric) 0 to 6mm		Specification - 500W, Chuck capacity : 1.5 -10mm, No load speed : 0-2600 rpm, Max. Drilling diameter in concrete/masonry : 10mm, Max. Drilling diameter in steel : 8mm, Max. Drilling dia. In wood: 20mm, Compact tool for screw driving. Operations - Drilling
18	Cordless Drill		Specification - Battery Operated upto 8mm (14V/18V). Operations - Drilling
19	Hammer Drill Wired		Specification - Rotary Hammer, 550W, Stroke rate: 0-1550 min ⁻¹ , Depth: 20mm. Operations - Drilling
20	Hand held sander /		Specification - 250W, Stroke rate: 12000 min ⁻¹ /rpm, Oscillating circuit diameter : 2.5mm, Standing plate dimension: polisher 125mm Operations - Sanding
21	Jig Saw Portable		Specification - 580W, Stroke rate: 500-3100 min ⁻¹ / rpm, Stroke length : 26mm, Max. cutting depth : 85/10/20mm Operations - Cutting Material - Wood, Metal and Aluminium
22	Portable Grinder		Specification - 1400W, Disc diameter: 125mm, Spindle thread: M14, Speed: 11000 min ⁻¹ /rpm Operations - Grinding

Facility Equipments

Sr. No.	Equipment Name	Equipment Detail
1	Lenses	Specification - 4x and 6x magnifying capacity, 75mm. Operations - Circuit magnification.
2	Hot Air Heat Gun	Specification - 50W/230V
3	Table Top Maginifier with Lamp	Specification - 5LED Auxilary clip magnifier, AC/DC interchangeable, Size: 2.5x90, 7.5x34, 10x34. Operations - Circuit magnification.
4	Digital Multimeter	Specification - AC DC 600V, Current DC 10A Specification - No. of counts: 3100, Basic Accuracy: 025%, Current AC 3mA, 300mA, 10A
5	Handheld Digital Multimeter	Specification - 6000 count, Handheld Digital Multimeter
6	Handheld LCR Meter	Specification - 20000 count, 0.2 % basic accuracy
7	Tachometer	Specification - Combo Tachometer : contact & non-contact
8	Clamp meter	Specification - RMS 1000AAC
9	Function / Arbitrary Waveform Generator	Specification - 20 MHz, 2 Channel
10	Oscilloscope	Specification - 100MHz (Basic Version)
11	Digit DMM	Specification - 100MHz (Basic Version)
12	Oscilloscope	Specification - 200MHz, 1000V 1 KV scope probe
13	Mixed Signal Oscilloscope	Specification - 100 MHz, 4 Analog Plus 16 Digital Channels with all Serial Triggering and Analysis (CAN, LIN), I2C, SPI, RS232C
14	Industrial Design & Development Tool	Creo Simulate
15	ISRO (Feast) Tool	Linear static analysis, Free-vibration analysis, Buckling analysis, Transient response, Frequency response, Random response, Base excitation, Inertia relief method, Visco-elastic analysis, Thermal analysis.
16	Industrial Simulation Tool	MSC Pack, Adams Studio Package, MSC Apex Modeler with Patran Bundle, MSCApex structures, MSC Nastran Linear Structures Package, Simufact Forming Hub, Simufact Forming Parallel Core, scFlow - Standard Set.
17	Thermal Imaging Camera	Operations - Thermal Camera.
18	3D Object Modeling Software	Sketchup Pro
19	CAD/CAM Software	Brand - Mastercam software for VMC and CNC Router
20	CAD software	Brand - ZWCAD Professional software for basic CAD
21	PCB Design Software	Brand - Pads Standard 3D suite AP SW
22	Digital Sketching Pad	Specification - Size : 10.4 x 7.8 x 0.4 inches, Active area : 8.5 x 5.3 inches, Weight: 410 gm. Operations - Sketching and Designing.
23	Vacuum Extractor	Specification - 15L, 1100W, 220 mbar, 33 ltr/sec. Operations - Vaccum cleaning.
24	Hydraulic Hand Pallet Truck	Specification - Capacity: 2500 kg, Fork Length: 1150 mm, Fork Width: 550 mm, Lowered Fork Height : 85 mm, Lifting Height : 115 mm, Raised Height: 200 mm, Individual Fork Width : 160 mm, Width between Forks: 230 mm, Steering/Load Wheel Tandem : Nylon, Chasis Colour : Yellow
25	M.S. Platform Trolley	Specification - Capacity: 1000 kg, Size: 600 mm x 900 mm, Platform Thickness : 5 mm, Wheels: Nylon, 02 swivel with brakes, 02 fixed.

Courses Offered

Bachelor of Engineering			
Sr. No.	Course	Intake	Choice Code
1	Civil Engineering	60	679419110
2	Computer Engineering	60	679424510
3	Information Technology	60	679424610
4	Electronics & Telecommunication Engineering	60	679437210
5	Mechanical Engineering	60	679461210
6	Artificial Intelligence and Data Science	60	679499510
7	Electronics Engineering (VLSI Design & Technology)	60	679437810
8	Electronics and Communication (Advanced Communication Technology)	60	679492810

Master of Engineering			
Sr. No.	Course	Intake	Choice Code
1	M.E. (Mechanical Engineering Design)	24	679490410
2	M.E. (Civil Environmental Engineering)	24	679457710
3	M.E. - Electronics & Communication (VLSI Design)	12	679496810
4	Master of Computer Application (MCA)	120	679424110

Bachelor of Vocational Courses (3 Years Degree)

Sr. No.	Course (CET is not required)	Intake	Choice Code
1	Refrigeration and Air Conditioning	60	679411310
2	Software Development	60	679410910
3	Electronics Manufacturing Services	60	679410710
4	Automobile Servicing	60	679410110
5	Plumbing	60	
6	Electrical	60	

Ph.D. Research Center for Civil & Mechanical Engineering

For More Detail Please Visit on www.abmspcoerpune.org

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