

**Prayas Centre Name : DAYANANDA SAGAR ENTREPRENEURSHIP RESEARCH AND BUSINESS INCUBATION
FOUNDATION**

City : Bangalore

State : Karnataka

Fablab Page Link : <https://derbifoundation.com/dst-prayas-shala/>

Equipment available at DERBI DST PRAYAS Shala

Section		Analytical Instruments
Sr. No.	Equipment Name	Equipment detail
1	FTIR (mid infrared) Spectrometer	Brand - SHIMADZU Model - 206-31010-58 Specification - <ul style="list-style-type: none"> Shimadzu Fourier Transform Infra-Red Spectrophotometer, IR Spirit Advanced PC based FTIR system for operation on 220V / 50Hz IR Spirit Accessory Kit 230V (English) KRS-5 Window (Humidity-resistant type) Q-ATR S – Single Bounce Diamond ATR Accessory for IR Spirit with Diamond Operational area – Bio-Analysis: Fingerprint region Link of the user manual - https://www.youtube.com/watch?v=Y_A8xzCsFu0
2	Raman Microscope	Brand - Holmarc Model - HO-ED-SP-CRM215 Specification - Confocal Laser RAMAN Spectrometer Operational area – Bio Analysis Link of the user manual - https://www.youtube.com/watch?v=oDiu-5crSRg
3	Phase Contrast Microscope	Brand - Holmarc Model - HO-MH-IMR Specification - Inverted Microscope – Routine (Phase contrast Microscope) Operational area – Bio Analysis
4	Bio Spectrophotometer (Fluorescence spectrometer)	Brand - Holmarc Model - HO-SP-1911 Specification - Spectrophotometer Operational area – Bio Analysis Link of the user manual - https://www.youtube.com/watch?v=WBdtNVc57w0

5	Thermal Imaging Camera	<p>Brand - FLIR Model -ETS320</p> <p>Specification -Thermal Imager, TrueIR, -20 °C to 350 °C, 320 x 240 Resolution,9Hz</p> <p>Operational area – Electronic product development. PCB analysis</p> <p>Link of the user manual - https://www.youtube.com/watch?v=nbkGM0BwfPs</p>
6	Hot plate with magnetic stirrer	<p>Brand -Holmarc Model -HO-MS-02</p> <p>Specification -Digital Magnetic Stirrer with Hot plate</p> <p>Operational area – Bio Analysis</p>

Section Prototyping Software		
Sr. No.	Equipment Name	Equipment detail
7	NI LabVIEW Professional	<p>Brand - NI Model - 776678-35WM</p> <p>Specification - LabVIEW Professional Development System, Windows, All Languages, With Media</p> <p>Operational area – System engineering software for rapid prototyping</p> <p>Link of the user manual - https://www.ni.com/en-in/shop/data-acquisition-and-control/add-ons-for-data-acquisition-and-control/what-is-labview-real-time-module.html</p>

Section Prototyping		
Sr. No.	Equipment Name	Equipment detail
8	NI-cDAQ-9179 with Accessories	<p>Brand - NI Model & Specification</p> <ul style="list-style-type: none"> • 785040-01: NI 9207 Spring, 16-Ch voltage/current, 24-bit, 500 S/s AI module • 785080-01 : NI 9940 Backshell for 36-pos Spring Terminal Connector (qty 1) • 779351-01 : NI 9401 8-Channel, 100 ns, TTL Digital Input/Output Module • 781081-01 : 25-Pin DSUB to Screw Terminal Block, DIN Rail Mount • 192568-02 : SH25F-25M-2 25-Pin Female to Male Shielded I/O Cable, 2 m • 763072-01 : Power Cord, 250V, 10A, India • 783597-01 : NI CDAQ-9179 CompactDAQ Chassis(14-Slot USB 3.0) <p>Operational area – Data acquisition system : Rapid prototyping</p>

9	Rework Station	<p>Brand - Weller Model -WXD 2010</p> <p>Specification -Rework Station, Dual Channel, 450 °C, 230 V</p> <p>Operational area – Electronic product development</p> <p>Link of the user manual - https://www.youtube.com/watch?v=7vdoclyvvCA</p>
10	Soldering and De Soldering Machines Weller	<p>Brand - Weller Model -stirrer</p> <p>Specification -Soldering Station, Set, 200W, 230V, 550°C Max Temp, EU / UK Plug</p> <p>Operational area – Electronic product development</p> <p>Link of the user manual - https://www.youtube.com/watch?v=FWR6TfjG8nc</p>
11	ESD Workbenches with accessories	<p>Brand - NA Model -NA</p> <p>Specification -</p> <ul style="list-style-type: none"> • Lab Table Size 1500mm X750mm X 1600mm(H)MS Tube powder coated with ESD laminated Table top & one top shelfedge binding with electrical feting as per drawing MFT/DRG/DBF/01 • ESD 3L MAT 2mm thick • ESD Tiles • NON ESD MAT • Wooden pedestal with three drawer • Adjustable wrist Strap withCoil cord & Alligator • Grounding Cord for tables • ESD SAFE SPU slippers <p>Operational area – Electronic product development</p>
12	Fume extraction system with accessories for soldering/ rework station	<p>Brand - Weller Model -WSA350EU</p> <p>Specification -Fume Extraction, Smoke Absorber, Bench Top, 230 V, 1.25m³/min</p> <p>Operational area – Electronic product development</p> <p>Link of the user manual -</p>
13	Illuminated magnifying scope with stand	<p>Brand - DURATOOL Model - DT000089</p> <p>Specification - Magnifier, LED, 5 Dioptre Magnification, 15w, UK Plug</p> <p>Operational area – Electronic product development</p> <p>Link of the user manual -</p>
14	Hand-Moldable Plastic - Low Temperature Thermoplastic - 100g Bag	<p>Brand - Adafruit Model -2504</p> <p>Specification -Adafruit Accessories Hand-Moldable Plastic - Low Temperature Thermoplastic - 100g Bag</p> <p>Operational area –Mechanical prototyping</p>

15	Electric Heating Pad - 10cm x 5cm	Brand - Sparkfun Model -COM-11288 Specification -SparkFun Accessories Heating Pad - 5x10cm Operational area – Mechanical prototyping
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Section		Electronics
Sr. No.	Equipment Name	Equipment detail
16	Digital storage oscilloscope with accessories such as current probe	Brand - Tektronix Model - TBS2102B Specification - Digital Oscilloscope, TBS2000B Series, 2 Channel, 100 MHz, 2 GSPS, 5 Mpts Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=fFqtpxl1wN4
17	MSO / MDO Oscilloscope	Brand - Tektronix Model - MSO2004B Specification - MSO / MDO Oscilloscope, MSO2000B Series, 4+16 Channel, 70 MHz, 1 GSPS, 1 Mpts, 5 ns Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=Df0j8YkTFI0
18	Programmable Power Supply	Brand - Keithley Model - 2230G-60-3 Specification - Bench Power Supply, Programmable, 3 Output, 0 V, 60 V, 0 A, 3 A Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=lmzxbVgFDLg
19	Arbitrary Function Generator	Brand - Tektronix Model - AFG1062 Specification - Function Generator, Arbitrary, 2 Channel, 60 MHz, AFG1000 Series Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=DiZTrAKLvwQ
20	Spectrum Analyser	Brand - B&K Precision Model -2682 Specification -Spectrum Analyser, w/TG, Bench, FPC Series, 5kHz to 1GHz, 178 mm, 396 mm, 147 mm Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=LaAR-wBWxPU
21	Power Supply	Brand - AIM-TTI Model -CPX400S Specification -Bench Power Supply, Powerflex, Adjustable, 1 Output, 0 V, 60 V, 0 A, 20 A Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=XCT20lpKb7s
22	LCRQ Meter	Brand - Keysight Model -U1732C Specification -LCR Meter, Hand Held, 10 kHz, 2 kH, 20 pF, 0.2 Gohm, U1730C Series Operational area – Electronic product development

23	IC Tester Linear/Digital	Brand - PEAK Model -DCA75 Specification -COMPONENT ANALYZER, SEMICONDUCTOR Operational area – Electronic product development
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Section		Mechanical Prototyping
Sr. No.	Equipment Name	Equipment detail
24	Benchtop lathe and accessories	Brand - PROXXON Model -FD 150/E Specification -Precision Lathe, Metal Working, Electronic Control, 360mm x 150mm x 150mm, 4.5KG & Accessories Operational area – Mechanical prototyping Link of the user manual - https://www.youtube.com/watch?v=12YQJuvXYWg&t=17s
25	Jig Saw	Brand - PROXXON Model -28530 Specification -MICROMOT super jig saw STS/E Operational area – Mechanical prototyping
26	Hand power tools like drill, etc	Brand -FEIN Model - NA Specification -FEIN universal Hand drill-chuck capacity 10mm Operational area – Mechanical prototyping
27	Hand tools like screw driver sets, wrenches	Brand - Proxxon Model -23104 Specification -54 piece foldable screwdriver set with ratcheting function Operational area – Mechanical prototyping Link of the user manual -
28	Hot wire cutter/ Thermo cut	Brand - PROXXON Model -27080 Specification -Hot wire cutter THERMOCUT 230/E Operational area – Mechanical prototyping

29	Bench drill with stand and accessories	Brand - CLARKE INTERNATIONAL Model -CDP5EB Specification -Bench Drill, 5 Speed, 230V, 620 RPM Min, 2620 RPM Max, UK Plug Operational area – Mechanical prototyping
30	Air Compressor	Brand - MULTICOMP PRO Model -MP740111 Specification -HOT AIR STATION, 700W, 240VAC, EU/UK Operational area – Mechanical Prototyping
31	Vacuum Pump /Dust Collectors	Brand - EINHELL Model -TH-VC 1820 S Specification -20 Litre 1250W Wet & Dry Vacuum Cleaner - 230V Operational area – Mechanical Prototyping
32	Bench Vice	Brand - PANAUISE Model -381 Specification -Bench Vice, Vacuum Base, 2.5" Jaw, 2.25" Opening, 3-Plane Rotation Operational area – Mechanical Prototyping Link of the user manual - https://www.youtube.com/watch?v=7bjR8Vz8VDI
33	Precision vise with clamp	Brand - STANLEY Model -1-83-069 Specification -Multi Angle Vice, Large C Clamp, Ball Jointed, 3" Jaw, 3" Opening, 360° Rotation Operational area – Mechanical Prototyping Link of the user manual -
34	Dial indicator with stand	Brand - LINEAR TOOLS Model -MB-UNI-KIT Specification -Dial Indicator, 10 mm Max Range, 0.01 mm Resolution, 400 N Max Force Operational area – Mechanical Prototyping Link of the user manual - https://www.youtube.com/watch?v=Ew7KmAMcyxA
35	Weighing balance-precision	Brand -KERN Model -EMB 500-1 Specification -Weighing Scale, Precision, Balance, Digital, 500g Max Load, 0.1g Resolution Operational area – Mechanical Prototyping Link of the user manual - https://www.youtube.com/watch?v=VU0CYaBSSOU
36	Bench Grinder/polisher and accessories	Brand -EINHELL Model TH-BG 150 Specification -Bench Grinder, 150mm, 230VAC, 150W, 2950 rpm, Rough/Fine Wheels, 2 Glass Reflectors, Low Vibration Operational area – Mechanical Prototyping

37	Vacuum forming machine	Brand - NORGREN Model - M/58112/09 Specification - Pump, Vacuum, Compact, Low Sound, 8Bar, -0.85Bar, 74dB, 3mm, 6mm Operational area – Mechanical Prototyping
38	Digital Vernier calipers	Brand - DURATOOL Model - 48-500-150 Specification - Digital Caliper, Carbon Fiber, 6"/150mm, 0.1mm Resolution Operational area – Mechanical Prototyping Link of the user manual - https://www.youtube.com/watch?v=4fBycE1dk0I
39	Weighing balance-gross	Brand - CK TOOLS Model - T6202 066 Specification - Pocket Balance, with Tin Hook, Hanging Scale, 30kg Max Load Operational area – Mechanical Prototyping
40	Digital Screw Gauge	Brand - MULTICOMP PRO Model - MP700108 Specification - DIGITAL THICKNESS GAUGE, 0.01MM, 12MM Operational area – Mechanical Prototyping
41	Screw Gauge	Brand - HITEC Model - 207-01 Specification - Micrometer, 25 mm Max Measuring Range, 1 Anvil Operational area – Mechanical Prototyping Link of the user manual - https://www.youtube.com/watch?v=X3LN0STZ-xU

Section	Simulators	
Sr. No.	Equipment Name	Equipment detail
42	Vital Sign Simulator	Brand - Fluke-Prosim3
		Model - 4307790
		Specification - Prosim 3 Vital Sign Simulator Includes: Two 9-volt alkaline batteries, IBP cable unterminated, CI-3 cable assembly cardiac output box USB cable, carry case , location-specific power cord
		Operational area – Patient Simulation: Biomedical device development
		Link of the user manual - https://www.youtube.com/watch?v=DKZjDOKtifM

Section		Validation
Sr. No.	Equipment Name	Equipment detail
43	Electrical Safety Analysers	Brand - Fluke
		Model -ESA609
		Specification -ELECTRICAL SAFETY ANALYZER INDIA Includes:
		Test lead set, TP1 test probe set
		AC285 alligator clip set null post adapter customized carrying case
		multi-lingual CD-ROM, country-specific power cord safety sheet
		Operational area – Pre-compliance validation
		Link of the user manual - https://www.youtube.com/watch?v=wZJeHLkN0cQ

Section		Test and measurement
Sr. No.	Equipment Name	Equipment detail
44	Logic Analyser - Digilent	Brand - IKAllogic Model -SQ200 Specification -Logic Analyser, 4, 16MB, 50 MHz, 15 mm Operational area – Electronic product development
45	Multi meter	Brand - Fluke Model -FLUKE 115 Specification -Technicians Digital Multimeter, 110 Series, 6000 Count, True RMS, Auto, Manual Range, 3.5 Digit Operational area – Electronic product development Link of the user manual - https://www.fluke.com/en-in/products/electrical-testing/digital-multimeters
46	Conductivity meter	Brand - WURTH ELEKTRONIK Model -499904 Specification -Component Tester, Conductivity, Fuses, LED, PCB, Switch, Resistance Operational area – Electronic product development
47	Meco Clamp Meter	Brand - Tenma Model - 72-3500 Specification - Clamp Meter, True RMS, 200 A AC, 17 mm Jaw Opening Max. Operational area – Electronic product development Link of the user manual - https://www.youtube.com/watch?v=aDb0i7tzn4w&list=RDCMUcb4jpHFD3b5Kf3Wzxf-c5Rg&index=2

Section		Evaluation modules
Sr. No.	Equipment Name	Equipment detail
48	MyoWare Muscle Sensor Development Kit	Brand - Sparkfun Model -KIT-14409 Specification - Multiple Function Sensor Development Tools MyoWare Muscle Sensor Dev Kit Operational area – Medical device product development
49	Adafruit FLORA Wearable Ultimate GPS Module	Brand - Adafruit Model -1059 Specification - GPS Development Tools Flora Wearable Ultimate GPS Module Operational area – Electronic product development
50	ZX Distance and Gesture Sensor	Brand - Sparkfun Model -SEN-13162 Specification - Position Sensor Development Tools ZX Distance and Gesture Sensor Operational area – Electronic product development Link of the user manual: https://www.youtube.com/watch?v=lvr1SKRGgqc
51	Adafruit MiCS5524 CO, Alcohol and VOC Gas Sensor Breakout	Brand - Adafruit Model -3199 Specification - Multiple Function Sensor Development Tools MiCS5524 CO Alcohol, VOC Sensor Breakout Operational area – Electronic product development
52	Biomedical Sensor Pad	Brand - Sparkfun Model -SEN-12969 Specification - Biometric Sensors Biomedical Sensor Pad Operational area – Medical device product development
53	Heart Rate Educational Starter Pack with Polar Wireless Sensors	Brand - Adafruit Model -1077 Specification -Adafruit Accessories Heart Rate Educational Starter Pack with Polar Wireless Sensors Operational area – Medical device product development