



# JSS MAHAVIDYAPEETHA

## JSS ACADEMY OF TECHNICAL EDUCATION, NOIDA



- **Tools Covered (Open Source CAD tools)**
  1. **Eagle CAD / Cadence Orcad CIS & PCB Design**
  2. **PrusaSlicer / Cura – 3D Printer**
  3. **Inkscape – Scalable Vector Graphics (Vector Images)**
  4. **Vcarve Pro – CNC Machine/Router**
  5. **FreeCAD /Solidworks / Fusion 360 / Inventor**

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- Major Equipment's:
  1. CNC Router Machine



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- **Major Equipment's:**

- 1. CNC Router Machine**

**Applications:** Widely used in 3D carved plates with wave patterns. cabinet door, craft wooden door, non-painting wooden door, screen, craft windows, computer desk and panel furniture auxiliary processing, etc.

**Usage:** To cut and engrave wood, brass, aluminium, ACP, plastic board, MDF, acrylic, etc

**Manufacturer:** Daksh Enterprises – Automatic CNC machine

### Machine configurations:

- 1300x2500x200mm working area
- Spindle Speed: 24000 RPM
- 6KW Air Cooling spindle.
- HQD brand Ncstudio control system
- stepper motor driver
- Square liner rail and ball screw
- X Y rack and pinion transmission
- Z axis ball screw transmission
- Control system with both Hand and Remote

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- **Major Equipment's:**

### 2. LASER ENGRAVING & CUTTING MACHINE

- Exhaust Fan-- Single
- Industrial Water Chiller (SIL)
- Air Compressor
- Focusing Lens
- DÍa 20 mm Mirrors
- 64 Bits Offline DSP Controller (SIL)
- Stepper motor with belt drive system
- Belt transmission drive on x and y axis
- honey comb table 3x2 feet
- X axis up and downs

**Usage:** Producing images on paper in artistic printmaking and to cut and etch into flat material. Acrylic Laser Engraving.

**Manufacturer:** Laser Labs, India



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## 2. LASER ENGRAVING & CUTTING MACHINE - Samples



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- **Major Equipment's:**
  3. 3D Printers –
    - (a) Form 3 LFS

**Usage:** Professional desktop 3D printer can print stronger and more resistant parts.

**Manufacturer:** Adroitec - 4DS



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- **Major Equipment's:**
  3. 3D Printers –
    - (b) FDM

**Usage:** Professional desktop 3D printer can print stronger and more resistant parts.

**Manufacturer:** Adroitec - 4DS



INDUSTRIAL  
ROBUSTNESS  
NOW  
ON YOUR DESK!!

Multi Material FDM 3D Printer for  
Professional and Industrial use

### 6. 3D Printers – (Sample - 1)





### 6. 3D Printers – (Sample - 2)



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### 6. 3D Printers – (Sample -3)



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### 6. 3D Printers – (Sample -4)



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- **Major Equipment's:**
  4. **3D Scanner - Shining 3D EinScan SP**

**Manufacturer:** Adroitec - 4DS

**Usage:** Capture objects with smooth or flat surfaces with great accuracy.



- **Major Equipment's:**
  4. **3D Scanner - Shining 3D EinScan SP (Sample)**



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- **Major Equipment's:**  
**5. PCB Prototype Mac  
(Lab-Mill Laser)**

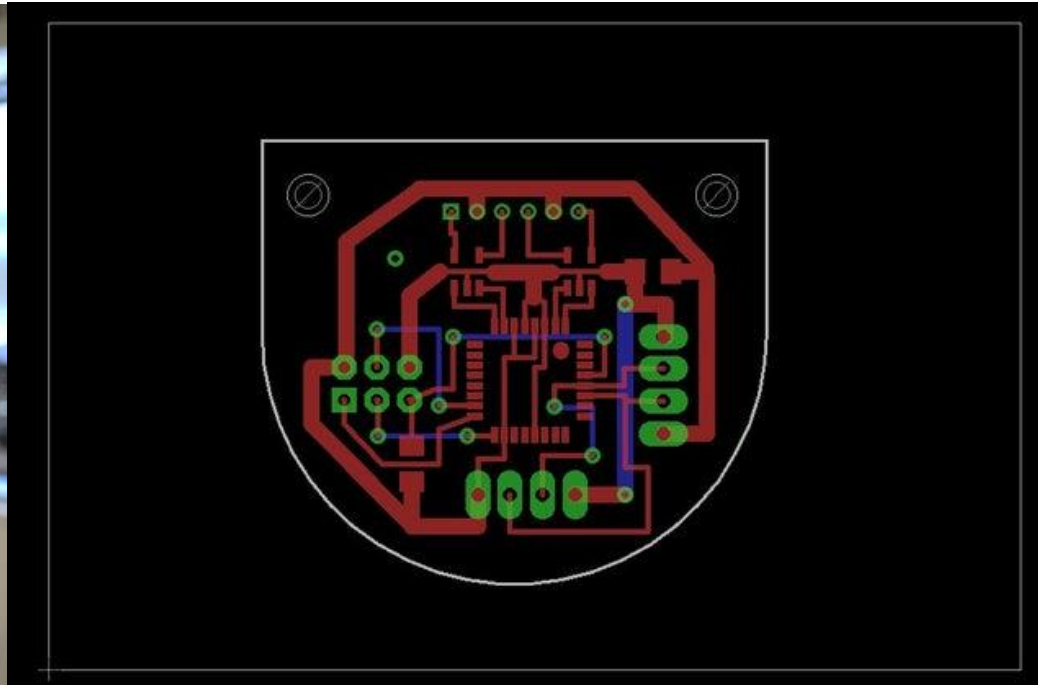
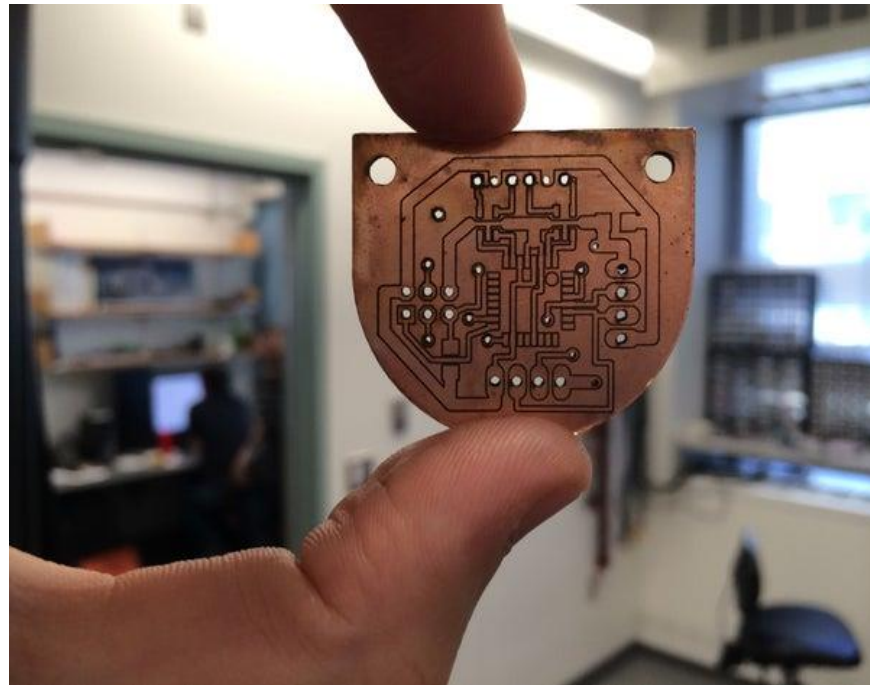
**Manufacturer:** MITS/ORKIRE

**Usage:** To produce fully functioning boards quickly and easily by drilling, engraving and routing.



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- **Major Equipment's:**
  5. PCB Prototype Machine (Lab-Mill Laser)



- **Major Equipment's:**
  6. Solder Station  
(Weller Make,  
WE1010)

**Usage:** Capable of reaching high temperatures & Lightweight. It's designed in the soldering pencil style and enables highly precise soldering.





- **Major Equipment's:**
  7. De-soldering Machine (Weller Make, WR2002)



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- **Major Equipmen  
t's:**

**8. DSO's  
(Digital  
Storage  
Oscillosc  
ope)  
/MSO's  
(Mixed  
Signal  
Oscillosc  
ope)**



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- Major Equipment's:  
9. Benchtop Digital Multi-meter (DMM)



Fast reading speed of up to 190 readings/sec  
0.015% DCV accuracy

34450A Multimeter  
5.5 Digit Dual Display, Benchtop DMM

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- **Major Equipment's:**
  10. Mini Desktop Lathe cum Milling/Drilling

**Manufacturer:** Exelique Tech



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- **Major Equipment's:**
  - 11. Hexa/Quadcopter Assembly Kit**

**Manufacturer:** Exeliq Tech

**Usage:** Drone Technology - autonomous flying, object tracking, and it can capture aerial data needed



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