



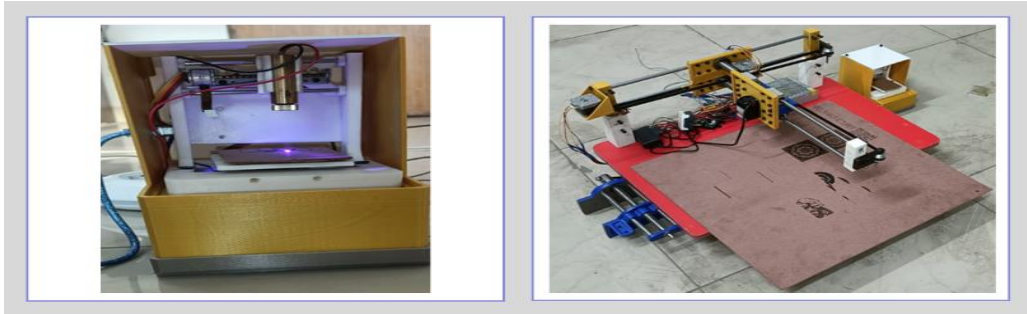
Sant Longowal Institute of Engineering & Technology

(Deemed-to-be-University)

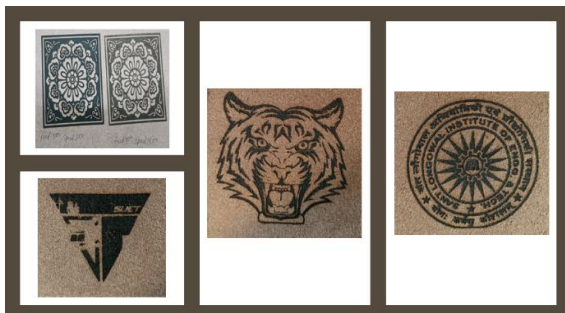
Longowal, Distt. Sangrur, Punjab-148106



Institute Innovation Cell (IIC)



Title of the Project		Project ID
Design and Development of Low Cost Laser Engraver Using 3D Printer		P-2022-14
List of Major Components: Laser Module, Pulley, Stepper Motor, Linear Bearing, Linear Bearing, Timing Belt, Power Supply, Controller, Safety Glasses, Limit Switch, Bush, Pin, Fork, Mounting Plate, Base.	Faculty Advisors: Prof. Surita Maini (H.O.D. EIE) Sh. Jasvir Singh Kalsi (Guest Faculty)	Student's Team: Abhinav Sharma PGICE / 2150201 Utsav Raj GIN / 2130621 Anmol Tiwari GIN / 2130611 Kumar Bhaskar GIN / 2130627 Shitanshu GIN / 2233056
Total Expenditure Incurred	This project was designed and financially supported of Rs. 25000/- under the Institute Innovation cell (IIC) in collaboration with AICTE-IDEA Lab.	
Unique Value Proposition	Low cost, Non-contact, No need of tool or ink for engraving and Low energy consumption.	
Summary: It is used to mark various pictures and symbols on different materials. This laser engraving setup is advantageous due to its low operational cost, light weight, portability and easy to learn features. The 3D modeling and simulation for this machine is done using Cura and Solidworks softwares. A 250mw diode laser is used to engrave the various materials. Various advance software and hardware like Benbox , Arduino microcontroller are assembled together to the execution of the final engraving. The advantage of this machine is that the technique we are using does not involves the use of ink. It does not involve tool bit which contact the engraving surface and wears out. It has fast order fulfilment with accuracy.		



IET Karmaveer Expo 2023
Design and Development of Low Cost Laser Engraver
 Sant Longowal Institute of Engineering and Technology,
 Longowal, Sangrur, Punjab-148106
 Organized by: K.K. Wagh Institute of Engineering Education & Research,
 Nashik-422003

This project is related to "Design and Development of Low Cost Laser Engraver". It is used to mark various pictures and symbols on different materials.
 The laser engraving setup is advantageous due to its low operational cost, light weight, portability and easy to learn features. The 3D printing and modelling of this machine is done using Cura and Solid works software. A 250mw diode laser is used to engrave the various materials.
 Various advance software and hardware like Benbox , Arduino microcontroller are assembled together to the execution of the final engraving.
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Material it can Engrave:

- Soft Wood
- Polyethylene Sheets
- Acrylic
- Fabric
- Leather
- Thin Metal Sheets
- Cardboards and Paper

This project was designed and financially supported under the Institute Innovation cell (IIC), Sant Longowal Institute of Engineering and Technology, Longowal, Sangrur, Punjab, India.

