RoboCNC™
A FULLY PROGRAMMABLE MULTI-PURPOSE ROBOT

- A fully programmable accurate vision guided Cartesian robot

- Can be used in multiple configurations like CNC, CMM, Programmed Robot, Vision Guided Robot, etc.

- Complete Mechatronic system involving MULTI disciplinary engineering concepts.

- Ideal robotics learning platform for engineering students from various disciplines like Mechanical, Electrical, Electronics, Computer Science, Mechatronics etc.,

- Learn STEM (Science Technology Engineering Mathematics) Concepts using robotics

STEM CONCEPTS ILLUSTRATED

- Mechanical Engineering
- Precision motion control
- PLC programming
- Image Processing & Computer Vision
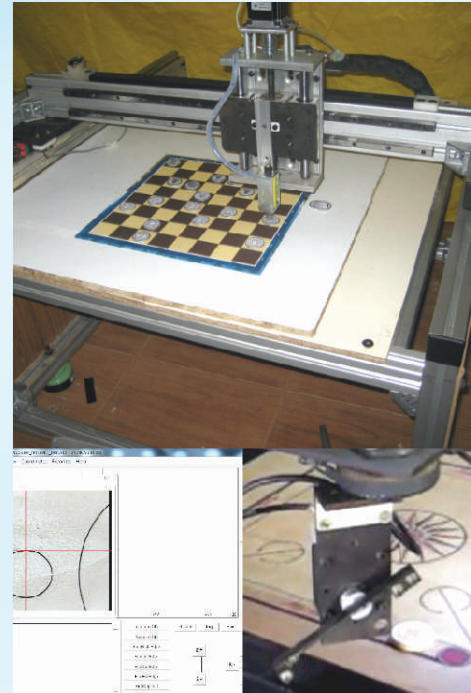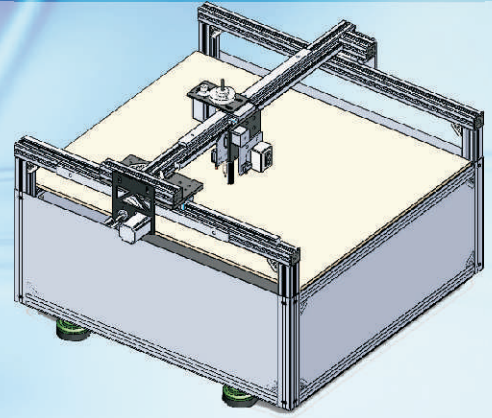- Scilab Programming
- Mathematical modeling.

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10 – IN – 1 CNC MACHINE

The machine can be used in several main configurations and some optional configurations as follows:

- CNC Plotter Machine
- CNC cutter Machine
- Sticker Cutting Machine
- Diamond Engraving Machine
- PCB etching and prototyping
- 2D CMM machine with camera
- 3D CMM machine with touch probe
- 3D CMM with 3D laser scanner
- Pick and place, palletizing programmed robot
- Vision guided robot capable of position, color, shape and orientation detection
- CARROMBOT, CHESSBOT, etc.,
- more coming soon …

COURSE MODULES

- Cartesian robot applications (CNC, CMM, Robotics)
- CNC programming and manufacturing
- Do It Yourself (DIY) CNC machine
- PLC programming for automation (I/O s, relays, Sensor interfacing, DC motor, Stepper, Servo motor control etc)
- Scilab programming and mathematical modeling (for carom robot)
- Image processing in scilab: camera calibration, color detection, position shape and orientation detection using I.P, Camera Calibration, Local camera, global camera.
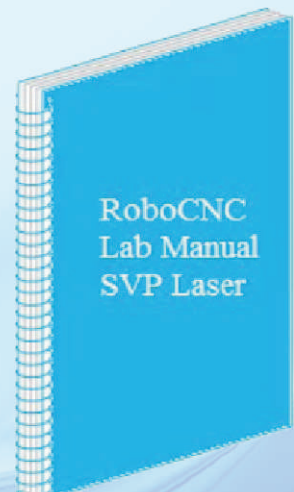
**Course Content developed by
IIT Alumni with decade of Industrial Experience**

RoboCNC Lab Manual SVP Laser

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