

Terms & Conditions

1. The quotation must specify the period within which the supply could be effected from the date of receipt firm orders.
2. Quotation received after the due date mentioned on the reverse will not be considered.
3. Your quotations should be for materials strictly in accordance with the specifications shown. In case you are offering substitutes state clearly the exact specification etc, of the materials offered Drawing sketches or any other technical data should be submitted separately.
4. The prices quoted should clearly specify charges for delivery of the goods to destination indicated overleaf.
5. The prices quoted should include all packing costs and it will be assumed that packing materials (cases etc..) are non-returnable unless otherwise stated.
6. Sales tax or any other taxes if applicable should be shown separately giving the full rate of taxes for each items giving ex-incidence of such levies.
7. The Director reserves the right to accept the whole or part of any quotation without assigning any reason and the lowest or any quotation, will not necessarily be accepted, and the Director's decision shall be the final.
8. Samples must accompany the quotation when so specified or within two days when asked for later.
9. If it is discovered that the materials supplied are not exactly according to the specification, the entire stock will be rejected.
10. We reserve the right to inspect the goods offered at any stage of manufacture / supply at your premises.
11. Any dispute arising out of or relating to this Enquiry shall be deemed to have arisen in Madras and is subject to adjudication of the Madras Courts.
12. Rates quoted once will remain firm for that particular dealing.
13. The quotation should be kept valid for a period of 60 days from the date of opening for acceptance.
14. Payment will be made after confirmation on receipt of the materials in good condition at this Institute (normally within 30 days.) Advance payment will not be entertained at any circumstances.
15. Printed conditions of the firm sent along with the quotation form if any, shall not be binding on us.
16. In case of Printing the Proof should be got approved before final strike.
17. Materials should be supplied at this institute in good condition.
18. Price quoted by the suppliers accepted by the Director is final, and no deviation therefrom will be accepted without the Director's agreement in writing.
19. If the rates are under D.G.S. & D. Please specify the same clearly enclosing necessary documents.

NATIONAL INSTITUTE OF TECHNICAL TEACHERS' TRAINING AND RESEARCH

Taramani P.O., Chennai – 600 113.

(Government of India, Ministry of Human Resource Development)

No.NITTTR/EE&CE/PCB/2017-18/

Date:17.01.2018

To

Addresses as per list enclosed (10 nos.)Delivery required by :

immediately

QUOTATION DUE DATE

(a) Please send your quotation within the due date on sealed envelope on or before:

Date: 30.01.2018

(b) Delivery required at : NITTTR, TARAMANI, CH-113

| Sl.No. | Description of Items | Material Code | Approximate Quantity Required |
|--------|---|---------------|-------------------------------|
| 1. | PCB Prototype Making and Antenna Designing Machine with Accessories (Detailed Specification is enclosed as Annexure) | | 1 set |
| 2. | G Code Convertor Software – Copper CAM – 1 user (Detailed Specification is enclosed as Annexure) | | |
| 3. | Machine Operating Software – Mach3 Mill – 1 user (Detailed Specification is enclosed as Annexure) | | |
| 4. | Surface Levelling Software - Auto Leveller – 1 user | | |
| 5. | PCB Cabinet – 1 no. (Detailed Specification is enclosed as Annexure) | | |
| 6. | Vacuum Cleaner - 1 no. (Detailed Specification is enclosed as Annexure) | | |
| 7. | Double Side Copper Clad Laminate Circuit Board – 20 nos. (Detailed Specification is enclosed as Annexure) | | |
| 8. | Single Side Copper Clad Laminate Circuit Board – 20 nos. (Detailed Specification is enclosed as Annexure) | | |
| 9. | Drill Bits – 5 sets (Detailed Specification is enclosed as Annexure) | | |
| 10. | Engraving Bits – 5 sets (Detailed Specification is enclosed as Annexure) | | |
| 11. | Spring Collet Chuck Tool Bit Holder (One Piece) | | |
| 12. | Digital Microscope Camera - 50x-500x Magnification 8-led USB Camera | | |
| 13. | PCB Washing tub (20 Ltrs Capacity) | | |

Note:

- Technical Training should be provided to our department
- TIN No. must be specified in your quotation
- Specify warranty period,
- Specify educational institute discount
- Sales tax and any other charges should be mentioned separately in each item
- Reference No. and Date should be written on the cover.

Cover should be addressed:Name: **Associate Professor & Head i/c – Electrical Electronics & Communication Engineering**National Institute of Technical Teachers Training and Research,
Taramani P.O., Chennai – 600 113.**(For terms and conditions please see overleaf)****DIRECTOR**

Detailed Specification for Purchase of PCB Prototype Making and Antenna Designing Machine with Accessories – 1 set

1. PCB Prototype Making and Antenna Designing Machine with Accessories

| Features | Specifications |
|--|--|
| PCB Prototyping System | PCB Prototyping Standard Kit |
| Software | G code convertor software, machine operating software, surface leveling software |
| Accessories | Handheld Remote Control unit for Machine Setting |
| Resolution (X/Y) | 3.125 Micro Meter (0.123 Mil) |
| Working Area (X/Y/Z) (mm) | 220x330x120 |
| Minimum Width Line & Space in mm | 0.1 (4 mil) |
| Max Travel Speed (mm/sec) | 58 (2.28 “) |
| Drilling (mm) | 0.2 -3.175 (8-125 mil) |
| Maximum Drilling Cycles/ Min | 50 |
| Conversion Software | Converts Gerber, G code |
| Vision Camera | Supported |
| Dust extractor | Available |
| Acoustic Cabinet | Available |
| Main Axle Power Rate | 300 W |
| Main Axle Rotating Speed | 25000 RPM |
| Max working speed | 3500mm/min |
| Feeding Height | 120 mm |
| Working drive | 0.02-0.05mm |
| Repositioning accuracy | 0.01-0.02mm |
| Capability of Processing various materials | FR4, Copper clad, Acrylic, Metal, Aluminum and etc., |
| Power | 220 V AC |

2. G Code Convertor Software – Copper CAM – 1 user:

Features:

- Application for managing isolation engraving, drilling and cutting printed-circuit board prototypes.
- Native 32 bits program for Windows 7 / 8 / 10
- Import of Gerber & Excellon files, with automatic or manual alignment
- Reading Gerber RS274-X format with macros, polygon surfaces and negative polarity traces
- Real-time display of equipotential paths through layers
- Manual modification of isolation contours (deletion or addition with auto-snap)
- Enforcement of isolation between very close pads
- Selection of tracks to be engraved at path centre (texts, logos or references)
- Possible drills with boring cycles, reducing the number of tool changes
- Automatic calculation of board contour cut-path, with manual addition of support bridges
- Management of a tool library and drilling strategies depending on available cutters
- G-code output, or HPGL, DXF, Isel-NCP, Roland RDGL, etc.
- Automatic chaining to a machining driver, or output to a virtual printer driver or a COM / LPT port
- Opening Gerber file containing one circuit layer
- Opening next layers (maximum 4), if any
- Detecting or plotting card cut-out contour
- Opening Excellon file for drillings, if any

- Aligning layers (automatic or manual)
- Plotting tracks that are centerline texts
- Hatching zones for removing all the copper
- Checking drill tools and eventual boring cycles
- Sending output data to the driver software or to the machine

3. Machine Operating Software – Mach3 Mill:

Features:

- Converts a standard PC to a fully featured, 6-axis CNC controller
- Allows direct import of DXF, BMP, JPG, and HPGL files through LazyCam
- Visual G code display
- Fully customizable interface
- Spindle Speed control
- Multiple relay control
- Manual pulse generation
- Video display of machine
- Touch screen ability & Full screen eligibility

4. PCB Cabinet

- User Safety during Machine Working Time
- This types of cabinet having storage space in Bottom of panel
- Panel door having Emergency Stop Button
- Length x Width x Height: 600 x 600 x 1200 mm

5. Vacuum Cleaner

- Power: 800 watts
- Suction power: 1600mm of water column
- Powerful suction and blower function with 800 watt motor. Wide range of 7 accessories to suit varied cleaning needs
- Lightweight, handy and portable with shoulder strap for easy usage and dust cup for easy dust disposal
- 5 meter long power cord for feasible round and home cleaning.
- Dust Capacity : 0.5 Ltrs

6. Double Sided Copper Clad Laminate Circuit Board

- 10 x 15 cm (Glass Epoxy FR4 PCB)
- Layers: Double Sided; Material: FR4 Glass Fiber;
- Surface Finishing: Copper Clad;
- Total 20 Pieces

7. Single Sided Copper Clad Laminate Circuit Board

- 10 x 15 cm (Glass Epoxy FR4 PCB)
- Layers: Single Sided; Material: FR4 Glass Fiber;
- Surface Finishing: Copper Clad;
- Total 20 Pieces

8. Drill Bits

- Diameter: 3.175mm
- Rotary Burrs 0.6-1.5mm
- Total bits: 5(each 1)

9. Engraving Bits

- Shank diameter: 3.175mm (1/8")
- Total Length: 33mm
- Router Bit: 0.1mm 30Degree
- Total Bits: 5