GSTIN : 20AAAAI0686D1ZA

भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्त्व का एक संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@iitism.ac.in || Website : www.iitism.ac.in

No. MME-500469-2017-18 **Date: 1 May 2018**

NOTICE INVITING TENDER

Subject: Supply & Installation of PCB Prototype Making Machine, its Software and other Accessories

Indian Institute of Technology (Indian School of Mines), Dhanbad invites quotations for the following to be supplied and delivered in MME Department.

S No	Full Description of items/ store	Qty	Delivery
1	**Supply & Installation of Supply & Installation of PCB Prototype Making Machine, its Software and other Accessories** (Detailed Specification is given in Annexure – I)	01 Set.	At the Earliest /Ex-Stock

Tender Schedule

Particulars	Date & Time
Bid Security or Earnest Money Deposit	**Rs. 10,000.00 (Ten Thousand Only)**
Last date and time for submission of tenders	**29.05.2018 at 1:00 P.M.**
Date and time of opening of tenders	**29.05.2018 at 4.00 P.M.**

1. You are requested to quote your lowest rates for the supply of above items in the attached format for Financial Bid (Annexure – II)
2. You may send your representative in the office of the undersigned at the scheduled date and time of opening of tender.
3. Tender should be submitted in sealed cover only superscribed with Enquiry No. and due date at the following address only:

The Deputy Registrar (P&S)
Indian Institute of Technology (Indian School of Mines),
Dhanbad – 826 004 Jharkhand

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Terms & Conditions

1) The rates should be quoted for each item separately.
2) Conditional offer will not be accepted.
3) IIT (ISM) does not issue any Form 'C' or 'D' towards sales tax concessional rate. Hence, full rate of sales tax/VAT, GST applicable should be quoted.
4) ***Educational discount,*** if any, should be clearly mentioned.
5) You are requested to submit your quotation strictly as per the specifications mentioned in the NIT.
6) Tender Fees (non refundable) & EMD is to be paid by way of separate Demand Draft drawn in favor of Registrar, IIT (ISM) payable at Dhanbad. Non-submission will lead to rejection of your bid.
7) Your tender must be valid for **minimum 90 days** from the date of opening of tender.
8) Please mention warranty/ guarantee in your offer clearly. Material/ equipment to be supplied must have minimum warranty/guarantee of **12 months.**
9) Each page in the bid document must be numbered properly and duly signed & sealed by the bidder on every page of the bid.
10) **The items/ materials shall be required to be delivered at MME Department/ Section through Purchase & Store Section, IIT (ISM) Dhanbad** at the risk and cost of the tenderer.
11) Unloading and installation shall be the complete responsibility of the supplier.
12) The stores are required to be delivered within 30 days. Late delivery may not be accepted.
13) The items offered should be of good quality confirming to BIS standards, wherever applicable.
14) Successful bidders will have to submit Performance Security (PBG) in the form of Bank Guarantee as per the Purchase Order before releasing payment.
15) ***Advance payment is not admissible***. Payment shall normally be made within 30-45 days subject to receipt and acceptance & installation of the ordered materials/items PBG and other documents.
16) In the event date on which the tender is opened for acceptance is declared to be a holiday, the tenders shall be deemed to remain open for acceptance till the next working day.
17) Please send your sealed offer by Regd. Post/ Speed Post/ Courier along with Courier receipt. Tender/ quotation will be received during IIT (ISM) working hours only (i.e. Monday to Friday). *Late or delayed tenders shall be summarily rejected.*
18) Any other information that you may like to obtain, you are free to contact IIT (ISM) before submission of tender.
19) IIT (ISM) reserves the right to accept and/or to reject any/ all tenders without assigning any reason.

Deputy Registrar

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Annexure – I

PCB Prototype Making Machine, its Software and other Accessories

Specification

1. Prototype Making Machine

Features	Specification
PCB Prototyping System	PCB Prototyping Standard Kit
Software	Copper CAM and Mach3 Mill
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	0.1mm (4 mil) & 0.15mm (6 mil)
Max Travel Speed (mm/sec)	58 (2.28 “)
Drilling (mm)	0.2 -3.175 (8-125 mil)
Maximum Drilling Cycles/ Min	50
Depth sensing and adjustment	Automatic
File format supported	Gerber, DXF, Excellon Drill output
Conversion Software	Converts Gerber into G code
Positioning Camera	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
Power	220 V AC, 50 Hz single phase
Weight	60 Kg or less

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2. Software Specification

2A.	**G Code Convertor Software – Copper CAM:** G code Convertor is an 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
2B.	**Machine Operating Software – Mach3 Mill:** • 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.
2C.	**Surface Levelling Software - Auto Leveller:** • Reads from a GCode, output GCode file. • Written in Java which means its platform independent and can be used in any OS.

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	Linux, Windows, MacOS. • Is tied to either LinuxCNC or Mach3 software. • Stops the tool from going too deep. • Stops 'air cuts' where the tool tip is higher than the surface and therefore no etching takes place.
3.	**PCB Cabinet** • User Safety and Acoustic cabinet with storage space in Bottom of panel • Panel door having Emergency Stop Button • Length x Width x Height: 600 x 600 x 1200 mm
4.	**Vacuum Cleaner -** • Portable Vacuum cleaner with 800 watt, 230V motor power • Both suction and blower functions • Minimum 18 feet long cord • Blower accessory for multipurpose use Dust cup
5.	**Desktop Computer** • Intel – processor Dual core 2.9GHz, 4GB DDR3 RAM • 1TB 7200rpm SATA hard drive • 20-inch screen, Wireless Keyboard & Mouse • Windows 10 or better Operating System
6.	**Double Sided Copper Clad Laminate Circuit Board** 10 x 15 cm (Glass Epoxy FR4 PCB) : Total 20 Piece
7.	**Single Side Copper Clad Laminate Circuit Board** 10 x 15 cm (Glass Epoxy FR4 PCB) : Total 20 Piece
8.	**Drill Bits** • Diameter: 3.175mm • Rotary Burrs 0.3-1.2mm • Total bits: 0.3-1.2mm - 20 No's

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9.	**Engraving Bits** Shank diameter: 3.175mm (1/8") Total Length: 33mm Total Bits: 20 No's (details as below)

S. NO	Item	Qty. (No's).
1.	0.1mm 10 deg	2
2.	0.2mm 10 deg	2
3.	0.1mm 20 deg	4
4.	0.1mm 20 deg	4
5.	0.1mm 30 deg	6
6.	0.2mm 30 deg	2

10.	**Spring Collet Chuck Tool Bit Holder** 5.5mm **(One Piece)**
11.	**PCB Washing tub :** 20 Ltrs Capacity
12.	**Digital Microscope Camera** • Magnification Ratio: 500X (Manual) • Power Supply : USB Port (5V DC) • Software : Driver and Measurement • System Requirement : Pentium Computer with 700MHz & above, 20M HD Space CD ROM Driver, 128MB RAM, Direct X VGA Card • PC Interface: USB2.0 & USB1.1 •
13.	**PTH & Solder Mask Working Table with Accessories** • PTH Chemical – 25mg Silver Oxide with diluter pack – 2Nos • Solder Mask ink and Catalyst – 500gm Legend • Printing ink and Catalyst – 500gm •
14.	**Electronic digital caliper Vernier** • For a broad range of industrial and automotive applications made of hardened stainless steel • Internal, external and height dimensions can be easily and accurately measured linear capacitive measuring system • Zero setting in any position with a small locking thumb screw which locks the jaws in place with easy to read large LCD display

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Annexure - II

Format for Financial Bid

NIT No.: MME-500469-2017-18 Date: 1 May 2018

Bidders Ref. No.: Date:

GSTIN:

Subject: Supply & Installation of Installation of PCB Prototype Making Machine, its Software and other Accessories

Sl. No.	Full Description of Items (With HSN Code/SAC Code)	Qty.	Rate	Amount
			Packing & Forwarding (if any)	
			Total	
			GST (if any)	
			Freight (if any)	
			Installation (if any)	
Amount should be in figure as well as word			**Grand Total**	

Note:

1) Price basis must be FOR IIT(ISM) Dhanbad only.
2) All the details must be provided as per prescribed format only.
3) Prices quoted by the bidders should include all local taxes, VAT, service tax, GST, HSN Code, SAC Code, livies, transportation cost and insurance costs etc. if any
4) All the rates must be quoted in Indian Rupees.