

JSS Mahavidyapeetha  
**JSSATE-Science & Technology Entrepreneurs Park, Noida**  
Regd. Office: JSS-STEP, JSSATE Campus, C-20/1, Sector 62, Noida-201301  
Ph. No. +91-120-2401446/2401514

Ref No.: JSS-STEP/NIDHI PRAYAS/2024-25/02

Date: 09/09/2024

The JSSATE Noida has invited a Tender in the prescribed form as per the standard tender documents from the reputed firms for procurement of the following equipments from SI NO. 1 to 7. The details of the Tender notification, are available on **the website <http://www.jssstepnoida.org>** with schedule, Specifications & tender documents which are downloadable. The EMD shall be paid using net banking. **The last date and time for uploading the tender is 24-10-2024, up to 17.00 hours.** The Technical bid will be opened on 26-10-2024 at 11.00 Hours at the JSSATE office. JSSATE reserves the right to accept or reject any or all the Tenders without assigning any reasons.



**Chief Executive, JSSATE**



JSS MAHAVIDYAPEETHA

**JSSATE – Science & Technology Entrepreneurs Park, Noida (JSS-STEP)**

(A Society registered under Societies Registration Act 1960)

Supported by the Dept. of Science & Technology, Govt. Of India

JSSATE-STEP, JSSATE Campus, C-20/1, Sector 62, Noida 201301,

Ph. No. +91-120-2401446/2401514

## **JSS-STEP : NIDHI PRAYAS**

### **SHORT-TERM TENDER DOCUMENT**

**For “Supply, Installation, and maintenance of Machineries”**

Tender Reference Number: JSS-STEP/NIDHI PRAYAS/2024-25/02

Date: 09/09/2024

Tender documents can be downloaded from the website

**JSS Academy of Technology Education - Science & Technology Entrepreneurs Park  
(JSS-STEP),**

**JSSATE Campus, Noida**

**Uttar Pradesh – 201301**

**Phone: +91-120-2401514**

**E-mail: [info@jssstepnoida.org](mailto:info@jssstepnoida.org) | Website: <http://www.jssstepnoida.org>**

## Request for Quotation

JSSATE-STEP invites offers through our official website from eligible reputed OEMs or their authorized dealers/vendors hereinafter called 'vendor/bidder' for Supply, Installation, and maintenance of Machineries to JSS Academy of Technology Education - Science & Technology Entrepreneurs Park (JSS-STEP), JSSATE CAMPUS, NOIDA – 201301.

The details are given below:

Tender Reference	JSS-STEP/NIDHI PRAYAS/2024-25/02
EMD	2.5% on each quoted price of the equipment.
Tender Publishing date	09/09/2024
Last Date for receipts of offer	24.10.2024 - 17:00 Hours
Date and time of opening of Technical offer	26.10.2024 - 11:00 Hours
Opening of financial bid	29.10.2024
Address for Communication	The Chief Executive Officer JSS Academy of Technology Education- Science & Technology Entrepreneurs Park JSSATE Campus, Noida – 201301, Uttar Pradesh, India
Contact Telephone Numbers	+91-120-2401514

### 1. About the JSS-STEP;

JSS Academy of Technology Education - Science & Technology Entrepreneurs Park is a Technology Business Incubator to support startup entrepreneurs.

### 2. Objective and scope of this Tender

Supply, Installation, and maintenance of machinery.

### 3. Qualification Criteria

Only the vendor/ bidder who meets all the qualifications mentioned in Annexure-1 "Qualification Criteria" of the tender is eligible to participate in the tender.

### 4. Terms and Conditions

The Terms and conditions for the vendor/ bidder who participates in this tender are specified in Annexure-2 "Terms and Conditions". These terms and conditions are binding on all the vendor/bidders. These terms and conditions will also form part of the purchase order, to be issued to the successful vendor/ bidder on the outcome of the tender process.

### 5. Earnest Money Deposit (EMD)

Vendor/Bidders are required to deposit an EMD of 2.5% on quoted price of each piece of equipment shall be paid using net banking.

**Online Payments:**

*i. Net banking- Bank details:*

*Account Name: JSSATE STEP*

*Account Number: 520101236611549*

*Bank Name: UNION BANK OF INDIA*

*Branch: NOIDA - SECTOR 31 BRANCH*

*IFSC Code: UBIN0920797*

Offers made without E.M.D. will be summarily rejected. No interest would be payable on the EMD amount. The EMD shall be refundable to unsuccessful bidders after placing the Purchase Order to the successful bidder. EMD of the successful tenderer will be refunded after the receipt of the Performance Bank Guarantee.

**6. Forfeiture of EMD**

If the successful vendor/ bidder fails to fulfill the obligations specified in this tender document, EMD paid by the successful vendor/ bidder will be forfeited.

**7. Offer Validity Period**

The offer should be valid for a period of 90 days from the date of the opening of the financial bid of the tender.

**8. Address for Communication**

The Chief Executive

JSS Academy of Technology Education- Science & Technology

Entrepreneurs Park, Noida

JSSATE Campus,

Noida – 201301, Uttar Pradesh, India

**9. Proposal Ownership**

The proposal and all supporting documents submitted by the vendor/ bidder in this tender process shall become the property of the JSS-STEP.

**10. Modification and Withdrawal of Offers**

Vendors/Bidder are not allowed to modify their offer once submitted. No offer can be withdrawn by a vendor/ bidder after the closing date and time for submission of offers.

**11. Opening of offers**

Vendors who qualify in the technical bid shall only be called during the opening of the financial bid. The vendor/ bidder present shall sign a register of attendance.

**12. Preliminary Scrutiny**

Offers from vendors/bidder not meeting the qualification criteria will be rejected. The Committee of the JSS-STEP will scrutinize the offers received to determine whether they are complete and as per tender requirements, whether documentation, as asked for and required to evaluate the offer, has been submitted, whether the documents have been properly signed, and whether items are offered as per the tender requirements.

**13. Clarification of Offers**

To assist in the scrutiny, evaluation, and comparison of offers, the JSS-STEP may, at its discretion, ask some or all vendors/bidders for clarifications on the offer made by them in writing or by email. The request for such clarifications and the vendor/ bidder's response will necessarily be in writing or email.

**14. No Commitment to Accept an Offer**

The JSS-STEP shall be under no obligation to accept any offer received in response to this tender and reserves its right to reject all offers including complete offers without assigning any reason whatsoever. The JSS-STEP reserves the right to make any changes in the terms & conditions of purchase as and when the need is felt.

The JSS-STEP will not be obliged to meet and have discussions with any vendor/ bidder and /or to entertain any representations that are deemed unfit.

**15. Documentation**

Technical information in the form of Brochures/ Manuals/CDs etc. must be submitted in support of the offer made.

**16. Submission of Technical Details**

It is mandatory to provide the technical details in the format of Technical Details & Specifications (as per subsection 17).

The offer may not be evaluated /may be rejected by the JSS-STEP in case of non-adherence to the format or partial submission of technical information as per the format given in the offer. The deviations in the technical details should be mentioned in the technical offer only [Annexure-3] and on the contrary specifying the deviations elsewhere in the offer is not acceptable and will not be considered.

The JSS-STEP shall not allow/permit changes in the technical details after the due date for the submission of offers.

**17. Technical Documents required in online submission**

1. Earnest Money Deposit (EMD) paid details
2. Documents required to be submitted as mentioned in Annexure -1
3. Document containing compliance & deviation against Technical Details & Specifications of the equipment as listed in Annexure-3.
4. Covering letter as per Annexure-4 and be on the letterhead of the vendor company.
5. Details of the vendor, as per Annexure-5.
6. Letter of Undertaking of Authenticity as in Annexure 6.
7. Manufactures Authorization Form (MAF) Annexure-7
8. OEM Warranty certificate.
9. Experience Details as in Annexure-10
10. Any other document

**Note: The above set of documents have to be compiled into a single PDF titled "Technical bid" and to be uploaded to the prescribed link in the submission window as below.**

Link: <https://forms.gle/yEhhEB6SvFxfWGV07>

**18. Commercial bid required in online submission**

The documents required to be submitted online are Annexure-2 & Annexure-9.

**Note: The above set of documents have to be compiled into a single PDF titled “Commercial bid” and to be uploaded to the prescribed link in the submission window as below.**

Link: <https://forms.gle/yEhhEB6SvFxfWGV07>

#### **19. Erasures or Alterations**

The Offers containing erasures or alterations will not be considered. There should be no hand-written material, corrections, or alterations in the offer. Technical details must be filled in. Correct technical information about the product being offered must be filled in. Filling up the information using terms such as “OK”, “accepted”, “noted”, and “as given in the brochure/manual” is not acceptable. The JSS-STEP may treat such Offers as not adhering to the tender guidelines and as unacceptable.

#### **20. Fixed Price**

The offer shall be on a fixed price basis in INR, inclusive of all taxes and levies. No price increase due to increases in tax, dollar price variation, etc. will be permitted. However, any downward revision of tax, or dollar price, the benefit of which has to be passed on to the JSS-STEP.

#### **21. Guarantees**

The vendor/ bidder should guarantee that the items delivered to the JSS-STEP are brand new, including all components.

#### **22. Letter of Undertaking of Authenticity**

The vendor/ bidder should give an undertaking in the format given in Annexure 6.

#### **23. Negotiation**

The vendor/ bidder needs to quote the lowest price at the time of making the offer in their interest, as the JSS-STEP will not enter into any price negotiations, except with the lowest quoting vendor/ bidder (L1), in case of absolute necessity.

#### **24. Liabilities of JSS-STEP**

This tender is not an offer by the JSS-STEP, but an invitation for vendor/ bidder responses. No contractual obligation on behalf of the JSS-STEP, whatsoever, shall arise from the tender process unless and until a formal work order is issued by a duly authorized officer of the JSS-STEP to the successful tenderer.

#### **25. Proposal Process Management**

The JSS-STEP reserves the right to accept or reject any/all proposals/ to revise the tender document, to request one or more re-submissions or clarifications from one or more vendors/bidders, or to cancel the process in part or whole. No vendor/ bidder is obligated to respond to or to continue to respond to the tender. Additionally, the JSS-STEP reserves the right to alter the requirements, in part or whole, during the tender process. Each party shall be entirely responsible for the costs and expenses that are incurred while participating in the tender, subsequent presentation, and contract negotiation processes.

#### **26. Downloading of Tender document from the following website: <https://www.jssstepnoida.org>**

But, it should be strictly noted here that the documents should be uploaded to the Tender submission window only (Link: <https://forms.gle/yEhhEB6SvFxfWGV07>) In case of any dispute/discrepancy, the physical version of the tender available with the JSS-STEP will be final & binding on all who participate in the tender.

**Annexure-1****QUALIFICATION CRITERIA**

1. The vendor/bidder must have an office in Uttar Pradesh. The vendor/bidder **should enclose attested copies of the Property tax bill/ Lease agreement/Electricity Bill/Telephone Bill, GST Registration, and PAN.**
2. The vendor/ bidder company/ firm should have an annual turnover of Rs 40 lakhs or above from businesses relating to sales and support of machinery in India during the last 2 years (2022-23 & 2023-24). **The vendor/ bidder should furnish copies of audited balance sheets for the last two years (2022-23, & 2023-24) in support of annual turnover or Certificates issued by a Chartered Accountant.**
3. The vendor/bidder should have experience in the Supply, Installation, and maintenance of machinery. The bidder must have at least 1 customer reference site installed in Uttar Pradesh. **(Annexure- 10).**
4. The vendor/bidder should have an MAF for the Supply, Installation, and maintenance of machinery from well well-reputed manufacturer. **Copy of the same need to be submitted.**
5. The OEM should have a Service & Maintenance Center operating in Uttar Pradesh. Communication address and telephone number should be provided. **A copy of the document needs to be submitted.**

## Annexure-2

### TERMS and CONDITIONS

1. Quotes submitted must be legible, and duly signed by authorized signatories.
2. Time Schedule
  - Indicating delivery, installation, and commissioning.
3. Supply, Installation, and maintenance of machinery.
4. Bid Pricing and Process:
  - Prices shall be quoted in Indian Rupees only.
  - Price shall be inclusive of all freight, forwarding, transit insurance & installation charges.
  - Prices stated in the bid offers submitted by vendors/bidders/OEMs are in accordance with the tender document. The vendor/bidder further understands that the quantities and scope of work as specified in this tender may vary at the time of award of the work order as per the discretion and requirements of JSS-STEP
5. Payment terms:
  - No advance payment will be made.
  - 90% of the cost for the items supplied and on successful implementation as certified by JSS-STEP
  - A balance of 10% will be made after 45-60 days of satisfactory installation, acceptance by JSS-STEP, and submission of the performance bank guarantee.
6. Taxes/Duties/etc.: Prices shall be inclusive of taxes/duties. The prices shall strictly be submitted in the given format. Quoted prices shall be indicated with the tax components as applicable and shall be mentioned separately in the respective columns.
7. Penalty:
  - Failure to supply and installation of machinery within the time schedule as mentioned in the Terms and Conditions above shall entail a penalty equal to 2% of the value of the bid price or forfeiture of EMD.
  - During the warranty period, if the complaint is not attended to within 48 hrs, a penalty of Rs. 500 per day will be levied. The amount of penalty will be recovered from the Performance Bank guarantee will be forfeited.
8. Performance Bank Guarantee: Once the work order is raised and the successful Supply, Installation, and maintenance of JSS-STEP but before putting a request for the release of the balance 10% payment, the vendor/ bidder shall submit to the JSS-STEP a Performance Bank Guarantee as in **Annexure-8** (PBG) worth 5% of the cost of the Work Order value, valid for the entire warranty period.
9. The goods must be Delivered within 45 days or earlier from the date of PO unless otherwise mentioned to and accepted by JSS STEP
10. Warranty:
  - Onsite warranty shall be for a minimum period of (1) one year from the date of supply/ installation.
  - In case, a part thereof or the whole equipment is found defective the same will have to be rectified/replaced on a free-of-charge basis without lapse of time.



- If any equipment gives continuous trouble, say 3 times in one month during the warranty period, the bidder shall replace the equipment with a new one without any additional cost to JSS-STEP.
11. The location where the Machineries is to be installed shall be identified and finalized in consultation with the JSS-STEP
  12. Resolution of Disputes: Machinery and the vendor/ bidder shall make every effort to resolve issues amicably, by direct informal negotiation, any disagreement or dispute arising between them under or in connection with the contract. If after 30 (thirty) days from the commencement of such informal negotiations, the JSS-STEP and the vendor/bidder are unable to resolve amicably a contract dispute; either party may require that the dispute be referred for resolution by formal arbitration.
  13. All questions, disputes, or differences arising under and out of, or in connection with the contract, shall be referred to two Arbitrators: one Arbitrator to be nominated by the JSS-STEP and the other to be nominated by the Vendor/ bidder. In the case of the said Arbitrators not agreeing, then the matter will be referred to an umpire to be appointed by the Arbitrators in writing before proceeding with the reference. The award of the Arbitrators, and in the event of their not agreeing, the award of the Umpire appointed by them shall be final and binding on the parties. The Arbitration and Reconciliation Act 1996 shall apply to the arbitration proceedings and the venue of the arbitration shall be Gautam Buddh Nagar.

Signature

\_\_\_\_\_ (name)  
on behalf of

\_\_\_\_\_  
(Name of the vendor/ bidder)

**Annexure-3 (List of Machines)**

Minimum Technical Specifications for Machinery

Bill of quantity per unit:

1. Equipment Specification for Composite 3D Printer
2. Equipment Specification for SLA 3D Printer
3. Equipment Specification for 3D Scanner
4. Equipment Specification for CNC Router
5. Equipment Specification for Laser Engraving and Laser Cutting Machine

**Note: Refer Schedule S1-S5 for detailed specifications of the equipment**

**Annexure 4**

(Should be on the letterhead of the Company)

Offer Reference No.: \_\_\_\_\_

Date: \_\_\_\_\_ 2024

To:

The Chief Executive Officer

JSS Academy of Technology Education- Science & Technology Entrepreneurs Park

JSSATE Campus,

Noida – 201301, Uttar Pradesh, India

Dear Sir/Madam,

Tender Ref: JSS-STEP/NIDHI PRAYAS/2024-25/02

Having examined the tender document including all Annexures the receipt of which is hereby duly acknowledged, we, the undersigned, offer to “*Supply, Installation, and maintenance of Machineries*” in conformity with the said tender in accordance with the Schedule of Prices indicated in the offer and made part of this offer.

If our offer is accepted, we undertake to complete delivery & installation within the time frame mentioned in the terms and conditions.

We agree to abide by this offer till --- days from the date of opening of the commercial offer by the JSS-STEP and our offer shall remain binding upon us and may be accepted by the JSS-STEP any time before the expiration of that period.

Until a formal contract is prepared and executed, this offer, together with the JSS-STEP’s written acceptance thereof and the JSS-STEP’s notification of award, shall constitute a binding contract between us.

We understand that the JSS-STEP is not bound to accept the lowest or any offer the Corporation may receive without assigning any reason whatsoever.

We certify that we have not been blacklisted/barred to participate in Tender or to supply hardware by any of the Public Sector Undertakings, Government Organizations, and Public Sector Banks in India.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024

Signature: \_\_\_\_\_

(in the Capacity of:) \_\_\_\_\_

Name:

Contact No:

Email id:

**Annexure 5****Details of the Vendor/bidder**

Details filled in this form must be accompanied by sufficient documentary evidence, in order to facilitate the JSS-STEP to verify the correctness of the information.

S.No.	Item	Details
1	Name of Company/Firm	
2	Postal Address	
3	Telephone, mobile detail	
4	Company Identification Number(CIN)	
5	Name and designation of the person authorized	
6	Bank Name	
7	Account No	
8	Branch Name	
9	IFSC Code	
10	MICR No.	
11	Email Address	
12	Year of commencement of Business	
13	Udhyog Aadhar (if any)	
14	Income Tax PAN Number	
15	GST number	
16	Whether OEM or authorized dealer/agent	
17	Name and Address of OEM	
18	Website address of the Company	

Signature

\_\_\_\_\_ (name)

on behalf of

\_\_\_\_\_  
(Name of the vendor/ bidder)

**Annexure 6**

## LETTER OF UNDERTAKING OF AUTHENTICITY

1. We undertake that all the components/parts/software used in the Supply and Installation of Supply, *Installation and maintenance of Machineries* supplied shall be original, new components & software only and that no refurbished/duplicate/ second hand components/ parts/ assembly/ software are being used.
2. We hereby undertake to produce the certificate from an OEM in support of above undertaking at the time of delivery/ installation. It will be our responsibility to produce such letters from our OEM suppliers at the time of delivery or within a reasonable time.

Signature

\_\_\_\_\_ (name)

on behalf of

\_\_\_\_\_  
(Name of the vendor/ bidder)

**Annexure 7**

## MANUFACTURER'S AUTHORIZATION FORM (MAF)

No.

Dated ...../2024

To:

The Chief Executive Officer  
 JSS Academy of Technology Education- Science & Technology Entrepreneurs Park  
 JSSATE Campus,  
 Noida – 201301, Uttar Pradesh, India

Dear Sir/Madam:

We \_\_\_\_\_ who are established and reputable manufacturers of having factories at \_\_\_\_\_ (address of factory) do hereby authorize M/S \_\_\_\_\_ (Name and address of Agent) to submit a bid, negotiate and receive the order from you.

No company or firm or individual other than M/s. \_\_\_\_\_ is authorized to bid, and conclude the contract in regard to this business.

We hereby extend our full guarantee and warranty as per the Tender Document JSS-STEP/NIDHI PRAYAS/2024-25/02 of the Terms and Conditions for the goods and services offered by the above firm.

Yours faithfully,  
 (Name)  
 (Name of manufacturers)

**Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a competent person who has the power of attorney to bind the manufacturer. It should be included by the Bidder in its bid.**

**Annexure 8**

PERFORMANCE BANK GUARANTEE  
(From Scheduled Commercial Bank of India)

To:

The Chief Executive Officer  
JSS Academy of Technology Education- Science & Technology Entrepreneurs Park  
JSSATE Campus,  
Noida – 201301, Uttar Pradesh, India

WHEREAS ..... (Company Name) registered under the Indian Companies Act 2013 and having its Registered Office at ....., hereinafter referred to as the VENDOR/BIDDER has undertaken to “*Supply, Installation and maintenance of Machineries*” to JSS-STEP, Noida, Uttar Pradesh, and demonstration of Guaranteed Performance in terms of the Purchase Order bearing No. .... dated ....., hereinafter referred to as the CONTRACT.

AND WHEREAS in terms of the Conditions stipulated in the said Contract, the VENDOR/ BIDDER is required to furnish, a performance Bank Guarantee issued by a Scheduled Commercial Bank in your favor to secure due and satisfactory compliance of the obligations of the VENDOR/ BIDDER in accordance with the Contract;

THEREFORE, WE, .....(Name of the Bank) furnish you this Performance Guarantee in the manner hereinafter contained and agree with you as follows:

1. We, ..... Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand, which has to be served on us before the expiry of this guarantee, time being the essence of the contract, from you stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by you by reason of a breach by the said vendor/ bidder of any of the terms and conditions contained in the Contract or by reason of the vendor/ bidder's failure to perform the said contract. Any such demand made on us within the time stipulated above shall be conclusive as regards the amount due and payable by us under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.50% of the work order (Rupees ..... only).
2. We undertake to pay to you any money so demanded notwithstanding any dispute/s raised by the vendor/ bidder in any suit or proceeding before any Court or Tribunal relating thereto, our liability under these presents being absolute and unequivocal. The payment so made by us under this guarantee shall be a valid discharge of our liability for payment there and the vendor/ bidder shall have no claim against us for making such payment.
3. We further agree that, if demand, as stated above, is made on us within the stipulated period, the guarantee herein contained shall remain in full force and effect and that it shall continue to be enforceable till all your dues under or by virtue of the said contract have been fully paid and your claims satisfied or discharged or till you certify that the terms and conditions of the said contract have been fully and properly carried out by the said vendor/ bidder and accordingly discharge this guarantee. Provided, however, serving of a written claim/demand in terms hereof on us for payment under this guarantee on or before the stipulated period, time being the essence of the contract, shall be a condition precedent for accrual of our liability/your rights under this guarantee.
4. We further agree with you that you shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said Contract or to extend the time for performance by the said vendor/

bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by us against the said VENDOR/ BIDDER and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of such variation, or extension being granted to the said Vendor/ bidder or for any forbearance, act or omission on our part or any indulgence by us to the said vendor/ bidder or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of so relieving us.

5. This Guarantee will not be discharged due to the change in the constitution of our JSS-STEP or the Vendor/ bidder.
6. We lastly undertake not to revoke this guarantee during its currency except with your written consent.

NOTWITHSTANDING anything contained herein above;

- i) Our liability under this Guarantee shall not exceed Rs.50% of the work order (Rupees .....only);
- ii) This Guarantee shall be valid up to and including the warranty time period from the date of commissioning (mention date); and
- iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before the expiry of this guarantee.

Dated the ----- day of -----2023  
For and on behalf of  
Branch Manager, Seal Address



**Annexure 9**

**Quotes are to be furnished on the letterhead of the bidder. Also, highlight each line item of the bill of material along with the transportation & taxes mentioned separately.**

**Annexure – 10****Experience Details (Customer References)**

Sl.No.	Name of the Organization	Contact Person	Contact Telephone no, email id and Address	Date/ Period of Implementation	No. of printers and related accessories installed	Type of supporting document submitted
1						
2						
3						
4						
5						

Signature

\_\_\_\_\_ (name)  
on behalf of

\_\_\_\_\_  
(Name of the vendor/ bidder)

Note: Please fill out this form and submit the supporting documents for each customer reference. Failing the same may lead to the rejection of the bid. You may add the customer references by adding multiple rows.

### S1. Equipment Specification for composite printer

	TECHNICAL SPECIFICATIONS FOR COMPOSITE 3D PRINTER
Technology	Continuous Fiber Reinforcement (CFR) Composite 3D Printing technology Dry Box 02 No
Printer	Should be Rugged Should support plug-and-play electronics system Should be capable for firmware upgradation as per latest version 3.2" X 2" LCD Display and storage memory of minimum 1 GB
Material Support	Ability to produce strong functional parts with strength as per ASTM standards Tensile strength – 800 Mpa(25.8 x ABS , 2.6 x 6061-T6 Aluminum) Tensile modulus (ASTM D3039) – 60 GPA(26.9 x ABS , 0.87 x 6061-T6 Aluminum) IZOD impact – 3000 J/m Tensile Strength (MPa) - 800 Mpa ,Flexural strength – 540 Mpa – through Base plastic Material reinforced with continuous fibers.
Module Materials	Nylon , Nylon with chopped carbon Onyx ,Smooth TPU 95A,Precise PLA.
Fiber Material	Carbon Fiber ,Fiberglass,Kevlar  HSHT Fiberglass (High-Strength High-Temperature Fiberglass)  PI specify if Printer supports any other Fiber
Printing Speed	50 mm/sec (min) or Better (in X and Y plane)
Nozzle	Dual Nozzle should be capable of supporting the offered material type
Filament Dia	Standard Dia should 1.75 mm (min)
Resolution	100 microns or better
Build Size	300 x 130 x 150 mm or better
Build Platform	Print bed with flexibility to remove the bed during print and reposition to continue the print (Required for Metal insert, etc)
Software	Pre-processing and slicing cloud based. Support STL / OBJ / VRML file formats Support Windows OS
Power Requirements	Voltage : 230 V +/- 10% Single Phase Frequency : 50 Hz Physical On/Off Switch
Interface	USB 3.0 Ports (External), WLAN: Wi-Fi Capable or better
Certification	CE /FCC certified
Qualification	The supplier successfully printed the specified. Test Components (Ref. Enclosed Drawing). Acceptance and Qualification during Pre-Dispatch Inspection (PDI), at the supplier end. Release of machine for dispatch after successful completion of acceptance test post PDI.  The complete installation and commissioning shall be carried out by the supplier at destination/premises. A final acceptance test with the identified "Test Component" to be conducted by the Purchaser/Consignee and Supplier. Final acceptance would be given after conducting the acceptance test at the installation location.

## S2. Equipment Specification for SLA 3D Printer

TECHNICAL SPECIFICATION OF SLA 3D PRINTER		
1	Equipment Dimensions Height	1750 mm +/-10 mm
2	Equipment Dimensions Width	800 mm +/-10 mm
3	Equipment Dimensions Length	980 mm +/-10 mm
4	Print Volume	400 × 400 × 300 mm <sup>3</sup>
5	Layer Thickness	50 – 200 μm / 0.002 – 0.008 in
6	Accuracy	±0.1mm (L<100mm); ±0.1%×L (L≥100mm)
7	Technology	STEREOLITHOGRAPHY / Wavelength: 355 nm
8	Laser	Diode Pump Solid State 3W Laser
9	Spot Size	80 μm
10	Scanning Speed	Typical speed 6-15m/s
11	Optical Focusing System	F-theta lens
12	Spot Mode	fixed facula
13	Build Platform	Removable Magnetic Build Platform
14	Marble Platform	Grade 00
15	Motion Platform	Three axis marble base board
16	Building Speed	50 g to 150 gms
17	Printing Format	STL, SLC, CLI
18	Weight	~350 Kg ( without Resin)
19	Operating Temperature	20 – 26° C / 68 – 79° F
20	Power Requirements	230 V / 50/60 Hz / 1200 W
21	Material	ABS Like
22	Material Supply	80 Kgs of ABS Like Material
23	Two-tier Deodorization System	Activated Carbon & HEPA Filter

24	Dehumidification Req	Internal System
25	Mainframe System	Windows 7, 8 GB Memory, Processor I5
26	Controlling Software	AsterRay latest version Preferred
27	Print Recovery Feature	Power Outrage Print Recovery System
28	Print Feature	One Click Print
29	Machine Design	Neatly Labelled Control Panel
30	Support	Onsite Support within 6 hours

<b>S3. Equipment Specification for 3D Scanner</b> <b><u>TECHNICAL SPECIFICATION OF 3D Scanner</u></b>		
<i>Sl No.</i>	Specification	Description
1.	Type of Instrument	Multifunctional High-resolution White light 3D Scanner that can be mounted on Tripod, It works on structured light technology, It is designed for scanning complex objects and is ideal for reverse engineering or use in Augmented Reality and Virtual Reality.
2.	Camera Resolution	The resolution of the camera will be 2.0 megapixels
3.	Projector resolution	Full HD
4.	FOV size, mm	200 x 150 x 150 mm
5.	Accuracy	The accuracy will be 0.05mm
6.	Working distance	0.3m
7.	Scanning Speed	An LED light system capable of capturing 1,800,000 points per second with a fixed tripod.
8.	Output file	Output files should mandatorily be in stl, .obj, .stl, .wrl, .ascll formats apart from other compatible formats. Data output should be in Monochrome mode with an option for color output as well.
9.	Alignment Method	Standard alignment with calibration pad.
10.	Scanner weight	Scanner weight (without accessories) will be 1 kgs or lesser
11.	Light Source	Structured White light
12.	Calibration & Calibration Plate	The system has a calibration process completely automatic. Tools required for calibration will be provide. The system has the ability to calibrate for the entire measurement volume and applicable plates will be supplied.
13.	Systems (Optional)	The Scanner Requires a workstation with a recommended specs as follows: Processor: Intel® Core™ i5, RAM: 8GB DDR4, Dedicated Graphics:2GB , Storage: 240GB SSD, OS: Win 10

14.	Integrated Software	Comes with integrated software and has a lifetime free license and free upgrades, It will help you optimize the resulting 3D model with automated functions: stitching fragments, filling voids, and aligning the 3D model. As a result, you get a high-precision 3D copy of the object.
15.	Third Party Software (Optional )	<p>Geomagic Design X™ to create CAD models from 3D scans.          Capability to Process large scan data sets with millions of points</p> <ul style="list-style-type: none"> <li>● Create complex hybrid 3D models for solid, surface, and mesh.</li> <li>● Connects directly to your CAD environment and create native files to accurately represent a scanned object.</li> <li>● Rapidly create solids or surfaces just like in CAD.</li> <li>● Transfer 3D parametric models with full design history directly to any popular CAD software.</li> </ul> <p>The Software should come with a one-year warranty.</p>
16.	Application	Educational, Reverse engineering, Production, Design.
17.	Automatic turntable	Turntable allows the user to automate the scanning process of small to medium-sized objects. The turntable platform performs a series of rotations, which add up to 360°, obtaining scans in between, allowing to scan the object from every angle and automatically align the scans.

#### S4. Equipment Specification for CNC Router

The CNC Router machine will be used to do 2D cutting & 3D Engraving for wood, all Types of woods, MDF, Acrylic, Brass, Aluminum, etc. It will be used for advertising, sign making, arts, crafts, fine jewelry carving, portraits, landscapes, calligraphy lettering, seal carving and other plane surface carving, basso-relieve applications. The specifications are as follows:

Power supply	AC 240V/1 Phase
Machining Area	600mm x 900 mm (2ft x 3ft)
Spindle Motor	3.5 KW (Air cooled)
Z MAX Travelling	150mm
Cutting tools Diameter	Ø3, Ø4, Ø6, Ø12
Operating System	Rich Auto
Linear Guide	20mm Square type
Axis Motion	Ball Screw
Drive & Motors	STEPPER Motor (Yako make)
With Machine Accessories	5 Nos. (3Nos. -End Mill, 2Nos. -Ball nose), 4 Nos. Collet, 4Nos.Vibration Ped , Hook Spanner
Working Bed	Aluminium T-slot with Rigid PVC Sheet
RPM	18000 Max



## S5. Equipment Specification for Laser Cutting and Engraving Machine

### Specifications of a Laser Cutting and Engraving Machine

Working Area	600x400 mm
Laser Power	80w
Laser tube	Co2 sealed glass tube
Control system	High speed DSP controller
Firmware	RD cam
Cooling system	Water cooled
Cutting Speed	60,000mm/min
Position Accuracy	< 0.1mm
Power Supply	220V/50Hz
Power Consumption	3Kv , Single phase
Graphic format supported	PLT, DXF, BMP, TIF, AI
Software Supported Coreldraw, Photoshop, Autocad	Coreldraw, Photoshop, Autocad
Driving Motor	Stepper Motor
Operating temperature	0-45°C
Operating humidity	5-95%
Equipment Size	1360x800x1080mm
Weight	250 Kg
Other Features: <ul style="list-style-type: none"> <li>• +4000 working hours of laser</li> <li>• Non-contact process.</li> <li>• Quality controller for fine-engraving</li> <li>• Can be upgraded to multiple heads</li> <li>• Updated software</li> <li>• Two table options: Honey comb or knife blade</li> </ul>	

Material	Cutting	Engraving	Cutting Thickness
Acrylic	Yes	Yes	Upto 8 mm
MDF	Yes	Yes	Upto 5-6mm
Glass	No	Yes	n/a
Stone	No	Yes	n/a
Paper	Yes	Yes	All
Fabric	Yes	Yes	All in single layer
Leather	Yes	Yes	All (synthetic Leather)