



Ministry of Culture
Government of India



National Council of Science Museums

33 Block GN, Saltlake Sector V

Bidhannagar, Kolkata 700 091

I-18012/7/24(150)

Technical Specification

1. Supply and installation of FDM 3D Printer:

- 1 Set

Specification:

Technology:	FFF/FDM 3D
Print head:	Single Extrusion
Extruder type:	Dual Metal Gear Direct Drive – All Metal Extruder
Build volume:	300 mm x 300 mm x 320 mm (in Z)
Filament diameter	1.75 mm or better
Nozzle diameter	0.15 mm, 0.25 mm, 0.6 mm, 1 mm, 1.2 mm or suitable
Nozzle type:	Easy swappable nozzle. User should be able to change nozzle without using any tools and by only use of hand. Nozzle diameter should be 0.15 mm, 0.25 mm, 0.6 mm, 1 mm, 1.2 mm
Layer thickness:	100 microns or less
XYZ Precision:	X: 12.5, Y: 12.5, Z: 2.5 micron
Print accuracy:	± 100 microns or 0.002 mm per mm of dimensions (whichever is better)
Build plate:	Specialized sheet with Glass Fiber
Heating bed:	Silicon heat bed
Volumetric flow rate of the material:	Hot-end should be able to give throughput of 30 mm cube/Sec or more
Build plate temperature:	Up to 120 °C
Build plate leveling:	Auto bed leveling
Supported materials:	PLA, Fibre re-inforced materials, PETG, TPU, and many more
Nozzle change:	Swappable nozzle change without using any tools and heating the nozzle
Nozzle temperature:	300 °C or more

Connectivity: USB port, Wi-fi
Filament runout detection: Mandatory
Nozzle clogging detection: Mandatory
Display: Touch screen (minimum 7 inch)
Power requirements: 100 - 240V AC, 50-60Hz
Operating ambient temperature 15⁰ - 40⁰ C, 10 - 90% RH non condensing

Supplied software: Slicer software and machine should be from same OEM
Supported OS: Windows, MacOS and Linux
File types: STL, OBJ and 3MF
Machine code: GCODE

Vendor criteria

Manufacturing should be 'Make in India' in more than 50% category

Delivery of the Machine is to be completed within 4-6 Weeks

Service Center Local service center should be in the eastern region of India to serve Ranchi, Jharkhand within 24 hours.

Proof of Concept It may be asked for a small POC which needs to be supplied within 7 days.

Upgradation Option: Printer should be upgradable to Metal Printer

The printer is to be installed at Ranchi, Jharkhand and adequate training will have to be imparted to the officials of the center.

Warranty: Onsite comprehensive warranty for one year from the date of installation is to be provided at Ranchi, Jharkhand.

Training: The successful tenderer shall arrange training in operation, programming and maintenance of the machine to 3 Technical staff members for at least 2 consecutive days (Working Days) and the same training shall be arranged at the installation site.

Make & Model offered: _____

To be entered by bidder

Dated

Official Seal

Signature of the Tenderer/Constituted Attorney