



UNIVERSITY OF KERALA

DEPARTMENT OF PHYSICS

KARYAVATTOM, THIRUVANANTHAPURAM, INDIA – 695581.

e-mail: kuphysics76@gmail.com, Phone 0471 – 2308920

(Established as University of Travancore by the Travancore University Act in 1937 and reconstituted as University of Kerala by the Kerala University Act of 1957 and presently governed by the Kerala University Act 1974 passed by Kerala State Legislative Assembly)

(NAAC Reaccredited with 'A++' Grade)

PHY/3D/001/2024

11/01/2024

TENDER NOTICE

Sealed competitive tenders are invited from competent vendors/suppliers within Kerala for the upgradation of existing 3D printer.

Requirements

1. The printer should have two extrusion heads, enabling it to dispense two separate polymer blends simultaneously and at various intervals.
2. The nozzle should be able to extrude polymer blends with particles having size in the 1-5 micrometer range.
3. Proper curing of polymer blends has to be ensured to manufacture integrated structures.
4. The nozzle temperature should be controllable from room temperature to 250°C.
5. The printer should be able to print layered filler reinforced polymer-based structures having minimum layer thickness of 0.1 mm.
6. The printer should have a good precision, which is, ≥ 0.05 mm.

Technical Specifications to meet the requirements

SI No.	Product	Specifications	
1	Hardware Modification	Gantry System	Steel rails with Sliding Block (Resolution < 0.05 mm in XY and < 0.1mm in Z direction)
		Steppers	Nema 17 with Torque > 10KGCM
		Stepper Driver	TMC 2209 or higher
		Bed Levelling	Automated Piezo Based
		Extrusion System	Dual head paste Extrusion with provision to avoid particle agglomeration
		Display	TFT Information Display

2	Software	Firmware	Dual Extrusion capable firmware
		Interface	Web/Desktop Interface
		Slicer	Capable of slicing Objects with complex pattern and multilaterals
3	Curing Unit	In Built print time Fast Curing Unit for resin and polymer	
Additional Requirements		Minimum 1 year warranty	

Note: The existing 3D printer at Department of Physics, University of Kerala is a Core X-Y type printer that utilizes Fused Deposition Modelling (FDM) extrusion technology. It is constructed with aluminium profiles and features POM wheels for smooth movement. The printer is powered by customized Klipper Firmware for efficient and reliable operation. The upgradations should not compromise the features of the existing printer.

For more details, please log on to www.keralauniversity.ac.in. Last date for the receipt of tenders is 03.00 P.M. on 19.01.2024. Tender forms can be downloaded from the University web site www.keralauniversity.ac.in.

The cost of the tender form ₹590- (Rupees five hundred and ninety only) (i.e. Rs.500 + 18% GST) and the Earnest Money Deposit of Rs. 2500/- (Rupees Two thousand five hundred only) should be remitted by way of Demand Draft issued from a nationalized/scheduled bank, drawn in favour of The Finance Officer, University of Kerala, payable at State Bank of India, Kerala University Office Campus Branch (SBIN0070292). The tender documents, along with separate DD towards the cost of the tender form and the EMD should be submitted/sent to Dr. Subodh G, Assistant Professor, Department of Physics, University of Kerala, Kariavattom, Thiruvananthapuram.

The rate quoted should be inclusive of all charges such as packing, forwarding, freight, loading/unloading/handling and Government duties leviable, if any. The University reserves the right to accept or reject any or all the tenders without assigning reasons whatsoever.



Head
Department of Physics
University of Kerala

Head
Department of Physics
University of Kerala
Kariavattom-695 581



Subodh G

Dr. SUBODH G.
Assistant Professor
Department of Physics
University of Kerala
Thiruvananthapuram - 695 581