Advertisement for the Post of Junior Research Fellow

Advt. No.: IIITDMK/PR/JRF/A24/2025 **Date: 31 July 2025**

Applications are invited for the following post. The post is purely on a contractual basis.

Name of Position	Junior Research Fellow (JRF)
Number of Positions	One
Nature of Work	Research
Duration of the Project	3 Years
Duration of the Position	The post is purely on a contractual basis and initially the post is for 12 Months, extendable to 2 more years.
Other Benefits	The selected candidates can register for the PhD degree in Jan 2026 at IIITDM Kancheepuram as per the Institute rules.
Stipend	Rs. 37,000/- pm Note: Additional 30% HRA will be paid if no accommodation is provided by the Institute and subject to the approval of BRNS-DAE.
Title of the Sponsored Project	Design of RF Sub-assemblies of a Multi-frequency Gyrotron for Generating Vortex Beam
Funding Agency	BRNS-DAE
P.I / Co-P.I	Dr. Yuvaraj S
Department	Electronics and Communication Engineering
Educational Qualification	PG degree (ME/M.Tech.) in any specialization of Electronics and Communication Engineering / Electrical Engineering / Electrical and Electronics Engineering / Electronics and Instrumentation Engineering / Instrumentation Control / Physics (including Laser Optics, Photonics, Optical Fibers) / any allied branches (OR) UG degree (B.E/B.Tech) in Electronics and Communication Engineering / Electrical Engineering / Electronics and Instrumentation Engineering / Instrumentation Control / any allied branches from Centrally Funded Technical Institutes (CFTIs) with a minimum CGPA of 8.0 on a 10.0-point scale (or equivalent).

	(OR) UG degree (B.E/B.Tech) in Electronics and Communication Engineering / Electrical Engineering / Electronics and Instrumentation Engineering / Instrumentation Control/any allied branches from Non CFTIs with a valid GATE score or other equivalent national exam qualification (Validity required at the time of joining and CGPA of atleast 8.0 of 10.0 (or equivalent)
Last date of receiving the application	31.8.2025

How to Apply and Selection Procedure:

1. Interested candidates are requested to submit their applications in the enclosed prescribed format.
2. Take print of the application form, fill, sign, and scan the application form. Upload the scanned copy in google form
   link: https://forms.gle/nJWiWS2muNNYo2217
3. No need to send the hard copy.
4. Candidates will be shortlisted based on their eligibility criteria, academic record, and relevant experience.
5. Only shortlisted candidates will be intimated through email for the written test and interview.
6. Candidates should be present physically at IIITDM Kancheepuram located at Chennai - 600127 for the written test and interview.
7. Candidates should produce all educational and experience certificates at the time of interview for verification.
8. No TA/DA will be paid if called for an interview.
9. The selection process consists of written test followed by Interview.

For any clarification regarding the application process, the candidate may contact the PI. email: yuvaraj@iiitdm.ac.in

Sd/x

Dean (SR)

Written Test Pattern

The written test will be for 50 marks, 1 Hour duration, with multiple-choice questions. A scientific calculator is allowed for the written test.

Syllabus for Written Test

Transmission Line Theory: Transmission Lines – Concept of Distributed elements – Transmission line, parameters and equations – Line terminated by an arbitrary load – Impedance transformation – Transmission line matching – Transmission line discontinuities-

Electromagnetics: Maxwell's Equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector. Plane Waves and Properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth. Rectangular and circular waveguides

Network Theory: Circuit Analysis: Node and mesh analysis, superposition, Thevenin's theorem, Norton's theorem, reciprocity. Sinusoidal steady state analysis: phasors, complex power, maximum power transfer. Time and frequency domain analysis of linear circuits: RL, RC and RLC circuits, solution of network equations using Laplace transform.

Signal and Systems: Linear Time-Invariant (LTI) Systems: definitions and properties; causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay. Signal transmission through LTI systems.