

Advertisement for the Post of Junior Research Fellow

Advt. No.:IIITDMK/PR/JRF/A13/2025

Date: 19.05.2025

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

Name of Position	Junior Research Fellow
Number of Positions	One
Nature of Work	Research activities and project admin, supporting supervisor in different activities
Duration of the Position	The post is purely on a contractual basis and initially, the post is for 12 Months. It may be extendable to 1 more year.
Stipend	Rs. 37,000/- pm + 30% HRA (Fixed) <i>Note: 30% HRA will be paid if no accommodation is provided by the Institute.</i>
Title of the Sponsored Project	Scaling up and assessment of self purifying water container e-light pure technology for fluoride affected and rural area applications
Funding Agency	DST - CEST, India
P.I / Co-P.I	Dr. Jayachandra Bingi
Department	School of Interdisciplinary Design and Innovation (SIDI)
Educational Qualification	M.Tech or MSc in relevant area (Mechanical / Electronics / Instrumentation / Physics / Any other related area) OR B.Tech with GATE / CSIR / Any other national level exam
Age Limit	32 years as on Last date of receiving the application (Age relaxation is applicable as per GoI norms)
Last date to apply	09.06.2025

How to Apply and Selection Procedure:

1. Interested candidates are requested to submit their applications online (<https://forms.gle/J7ffBnLL677bje9YA>). Last date: June 09, 2025. While uploading, attach as per the format given in the Annexure.
2. Also, take print of the application form, fill, sign, and submit the hard copy at the time of Interview.
3. Candidates should be present physically at IIITDM Kancheepuram located at Chennai - 600127 for the written test and/or interview.
4. Candidates should produce all educational and experience certificates at the time of interview for verification.
5. No TA/DA will be paid for attending the interview.
6. The selection process consists of written test followed by Interview. The topic for written test along with syllabus is enclosed.

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

sd/x

Dean (SR)

Topics for Written Test

1. Photoelectric Effect, Historical background and Einstein's explanation, Quantum nature of light and photons, Work function and threshold frequency, Applications: Solar cells, Photodiodes, Photoelectric sensors.
2. LASERS (Light Amplification by Stimulated Emission of Radiation), Principles of laser action: Stimulated emission, population inversion, optical pumping, Types of lasers: Solid-state, gas, semiconductor, dye lasers, Properties of laser light: Coherence, monochromaticity, collimation.
3. Adsorption, Difference between adsorption and absorption, Types of adsorption: Physical vs. Chemical, Adsorption isotherms (Freundlich, Langmuir), Factors affecting adsorption: Surface area, temperature, pressure, Applications in pollution control, catalysis, sensors, and water purification.
4. Photocatalysis, Principle of photocatalysis: Role of semiconductors (TiO₂, ZnO), Photocatalytic degradation of pollutants, Mechanism of photocatalysis: Generation of electron-hole pairs, Applications: water and air purification.
5. Thomson Effect (Thermoelectric Phenomena), Introduction to thermoelectric effects: Seebeck, Peltier, and Thomson effects. Thomson coefficient and its significance. Thermoelectric materials and energy conversion. Applications: Thermoelectric coolers, power generators, waste heat recovery.
6. Water Purification Measurement Parameters, Physical parameters: Turbidity, Color, Temperature, and Conductivity, Chemical parameters: pH, Dissolved Oxygen (DO), Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Dissolved Solids (TDS), Heavy metal concentrations, Biological parameters: Coli form count, Pathogen detection, Advanced measurement techniques: Spectroscopy, Chromatography.



Appl. No.:
(will be filled by Office)

APPLICATION FOR THE POSITION OF PROJECT STAFF

Candidates Photo
to be pasted here

1. Advertisement Number:
2. Name of the Post:
3. Candidate's Full Name (As per SSLC Mark sheet):
4. Father's Name of the Candidate:
5. Date of Birth of the Candidate:
6. Nationality:
7. Gender:
8. Category (Gen / OBC / SC / ST):
(For age relaxation only)
9. Address for Communication:
10. Permanent Address:
11. Contact Phone / Mobile Number(s):

12. Email Address:

13. Educational Qualifications Starting from Xth / SSLC:

Sl. No.	Degree & Branch	Institute / University	Year of Entry & leaving	Percentage / CGPA & Class	Mode (Regular / Part-time / etc.)

14. Academic Record: GATE/ CSIR - NET qualification details with percent marks / Rank, year of qualifying, etc.:

15. Names and addresses of two referees along with phone numbers and e-mail addresses:

a)

b)

16. Are you currently working in Central / State / Semi-Govt / PSU / Autonomous Bodies of the Govt.? (If yes, please submit NOC issued by your present employer):

17. Present Position / Designation:

18. Work Experience (in reverse chronological order including post held at present):

Sl. No.	Organization	Designation	Start Date & End Date	Pay Scale / Total Pay

19. If selected, time required to join:

20. Any other information you wish to mention:

UNDERTAKING

I hereby declare that I have carefully read and understood the instructions given in the Advertisement. All information furnished in this form as well as the attached documents are true and correct to the best of my knowledge and belief. I fully understand that if it is found at a later date that any information given in the application is incorrect / false or if I do not satisfy the eligibility criteria, my candidature / appointment is liable to be canceled / terminated.

Signature of the Applicant

Date: