केन्द्रीय विनिर्माणकारी प्रौद्योगिकी संस्थान (सीएमटीआई)
CENTRAL MANUFACTURING TECHNOLOGY INSTITUTE (CMTI)

तुमकुर रोड, बेंगलूरु/Tumkur Road, Bengaluru-560022

विज्ञापन संख्या/Advertisement No. 01/2021

संविदा आधार पर भर्ती / *RECRUITMENT ON CONTRACT BASIS*

सीएमटीआई एक प्रमुख राष्ट्रीय संस्थान है, जो एप्लाइड विनिर्माण विज्ञान के विभिन्न पहलुओं के अनुसंधान के लिए समर्पित है। सीएमटीआई विभिन्न प्रायोजित परियोजनाओं को क्रियान्वित कर रही है और इन परियोजनाओं में कार्य करने के लिए निम्नलिखित उम्मीदवारों की आवश्यकता है।
The CMTI is a premier Institute of National repute, devoted to Research in various aspects of Applied Manufacturing Science. CMTI is executing various sponsored projects & is looking for the following candidates to work in the projects.

क्र. सं SI No.	पद कोड Post Code	पद का नाम Name of the Post	वेतन/Stipend (प्रतिमाह/per Month)	अवधि Duration	पदों की सं. No. of Posts	अनिवार्य अर्हता एवं अनुभव Essential Qualifications & Experience	वांछनीय अर्हता एवं अनुभव Desirable Qualification & Experience	कार्य विनिर्देश Job Specification
1	PA(I) - 001	Project Assistant-I	Rs. 18,000/-	2 Years	1	First Class ITI in Electrical Engineering	• Two years experience in Fault identification and minor rectifications at Electrical Room, UPS Room and chiller plant. • Operation related trouble shooting.	Assisting in Electrical related trouble shooting and minor electrical works associated inside NMTC and Chiller Plant Room.
2.	PF(I) – 001	Project Fellow – I	Rs. 25,000/-	1 Year	1	First class B.E. / B.Tech in Mechanical Engineering with minimum one year Experience	• Experience in Design of Mechanical systems, machine tool aggregates, test rigs • Knowledge of 2D design and GD&T parameters. • Knowledge of using	• To design and develop Mechanical systems like machine tool aggregates, test rigs for spindle and feed drives. • Detail Design of Mechanical systems like machine tool aggregates, test rigs for spindle and feed drives. • Calculation, analysis and selection of ball

#	Code	Position	Emoluments	Duration	No.	Qualification	Experience Desirable	Job Description
							Software tools like: SOLIDWORKS, Hyper mesh, MSC NASTRAN, PATRAN, and ANSYS	screw, feed drives and spindle for machine tool applications. • Knowledge of CAE • Knowledge of 2D design and GD&T parameters. • Knowledge of using Software tools like: SOLIDWORKS, Hyper mesh, MSC NASTRAN, PATRAN, and ANSYS.
3.	PF(I) – 002	Project Fellow – I	Rs. 28,000/-	1 Year	1	First Class M.E./ M. Tech in Mechatronics		• To develop the CMTI server system for IIoT technology • To acquire the data over cloud and data management • To develop cloud based data analytics • To develop data visualization, representation and graphical user interface • Edge controller scripting and taking data to the cloud/server • SQL., PhP, Python, JAVAscript development for IIOT solutions • Should have knowledge in automation, hardware interfacing and IIoT Devices.
4.	PF(II) – 001	Project Fellow – II	Rs. 30,000/-	1 Year	1	First Class B.E. / B.Tech in Mechanical Engineering with 2 year experience in Manufacturing & Outsourcing (with Process knowledge on traditional machining processes)	Candidates with experience in Machine Tool Sector are desirable.	• Prepare manufacturing process sheet and route chart for machining and follow-up of project components. • Prepare manufacturing status reports and inspection reports by collecting, analyzing, and summarizing reports from manufacturing and metrology. • Identifying for vendors for manufacturing, outsourcing and follow-up with vendors for machining of components.
5.	PF(II) – 002	Project Fellow – II	Rs. 30,000/-	1 Year	1	First Class B.E. / B.Tech in Mechanical. Engineering with 2 years of experience in working on Design of Mechanical Elements.	• Preference shall be given for candidate with experience in design of bearings • Candidates with experience in Machine Tool Sector are also desirable.	• Candidates must have experience in working with Solid works for 3D modelling, manufacturing drawing preparation and knowledge of GD&T for machine element design work

6.	PF(II) – 003	Project Fellow – II	Rs. 30,000/-	1 Year	1	First class B.E. / B. Tech in Mechanical Engineering with minimum 2 year experience in manufacturing workshop (with facilities CNC turning/milling/ sheet metal cutting, grinding etc.)	• To be able to prepare process chart for manufacturing of components • Knowledge of metrology and to be able to carry out inspection of manufactured components • Knowledge in Smart manufacturing and Industry 4.0 • Knowledge of using CAM & CAD Software tools like: EdgeCAM, RADAN, SOLIDWORKS-CAM, SOLIDWORKS, AutoCAD	• To involve in Product developmental activities like Manufacturing, Metrology • To prepare the process chart for machining operations. • Knowledge of manufacturing process, CNC programming • Knowledge of 2D design and GD&T parameters. • Knowledge of using CAM & CAD Software tools like: EdgeCAM, RADAN, SOLIDWORKS-CAM, CAM-Works-NX,SOLIDWORKS, AutoCAD • Preparation of inspection reports
7.	PF(II) – 004	Project Fellow – II	*Rs. 30,000/- OR Rs. 32,000/-	1 Year	1	First Class B.E./B.Tech/ M.E./M.Tech in Computer Science Engineering with 2 years experience in front end and back end development.	Minimum 2 years in Front-end UI development projects and Back-end integration.	Design, Development and Deployment of Application supporting User experience design team. • Prior experience of working with UX teams/ UI development tool • Required programming skills in implementing UI designs • Exposure in end-to-end UI development, software architecture, design, implementation and testing Responsibilities/Deliverables: • Responsible for getting the UI designs from user experience design team and work on the front end and back end of the application. • Deliverable to define the software architecture, design and implement • Deliverable quality control and provide all assets for implementation of the application
8.	PF(II) – 005	Project Fellow – II	*Rs. 30,000/- OR Rs. 32,000/-	1 Year	1	First class B.E./B.Tech/ M.E./M.Tech in Computer Science Engineering with 2 years of experience in • Good programming	• M.Tech in Data structures with 2 years of Industrial experience • Experience in handling Data layer approach for Machine tools	The candidate is expected to work closely with the team and design, develop and deploy a production ready Data Layer for machine tools. Will be responsible for the LLD/coding and testing of various components in the Data Layer architecture. Should be able to write Unit test cases and

						skills in Node.js/Java/Python • In depth experience working with SQL and NoSQL databases. • Hands on experience in Apollo GraphQL		propose and execute integration test scenarios. Responsibilities/Deliverables: • Work in close sync with the team • Plan weekly activities, daily standup, and bi-weekly demos • High Quality and well tested code • Final deliverable: well-documented quality code and a separate documentation explaining the orchestration and deployment process.
9.	PF(II) – 006	Project Fellow – II	Rs. 32,000/-	1 Year	1	First class B.E. / B.Tech with M.E./M.Tech in Electronics / Electrical Engineering with 2 years of experience. In handling various data management (Simulation +Test data), data acquisition from various sensors, and hands on experience in Programming by using Python/ Rand exposure to edge devices/PLC/Condition monitoring devices.	M.Tech in Embedded Electronics/Machine Learning. Machine tool testing and knowledge about edge devices will be added advantage with experience in modelica, Simulink and MatLab, Good at mathematics, problem solving skills	1) Handle 1D models using Matlab Simulink or Modelica and collect data 2) Develop RUL algorithms for machine tool components and implement them in python programming language. 3) Acquire data from machine tool testing and use them in estimating the remaining useful life of the machine tool. Responsibilities/Deliverables: 1) Arrive at proper ML modeling to calibrate data 2) Implement RUL and reduced order models in edge device and interface with sensors to collect the test results. 3) DT based availability
10.	PF(II) – 007	Project Fellow – II	*Rs. 30,000/- **OR** Rs. 32,000/-	1 Year	1	First Class B.E. / B.Tech./M.E./M.Tech. in Computer Science or Information Technology with 2 years of experience in: • Node.js.	• Understanding of fundamentals of cryptography. • Experience with CI/CD pipeline, cloud deployments, etc. • Knowledge of distributed	The candidate will develop and deploy a blockchain-based digital thread on edge and cloud devices using the Hyperledger Fabric framework. This will involve network orchestration, design of organizational structure, writing smart contracts, development of front end and middleware.

						• Understanding of relational and NoSQL databases.	systems and blockchain. • One year experience with Hyperledger Fabric. • Working knowledge of MongoDB.	Responsibilities/Deliverables: • Work in close sync with the team. • Plan and document weekly activities and realistically meet the deadlines. • Final deliverable: well-documented quality code and a separate documentation explaining the orchestration and deployment process.
11.	PF(II) – 008	Project Fellow – II	Rs. 32,000/-	1 Year	1	First Class M.E./M.Tech in Mechanical with 2 years experience The candidate should have hands on experience on finite element simulation tools such as finite element tools for thermal, mechanical, electromagnetic problems. Multiphysics simulation capabilities are also required.	Machine tool testing and knowledge about edge devices/sensors will be added advantage. The experience in simulation using Matlab Simulink, or Modelica will be beneficial. Candidate should be able to handle 1D / 2D or 3D simulations and should also have knowledge on system modelling.	1) Perform Multiphysics (Thermo-mechanical, electromagnetic) finite element simulations using software tools, for machine tool components. 2) Develop system level model of machine tool using AmeSim or Modelicasoftware. 3) Develop mathematical reduced order models for implemention in a machine tool. Assisting software group in generation of Python code for above model Responsibilities/Deliverables: 1) Interact with machine tool test group and perform appropriate modification in the mathematical models for DT based Diagnosis and Prognosis 2) Prepare report and communicate reports periodically
12.	PF(II) – 009	Project Fellow – II	Rs. 30,000/-	1 Year	1	First Year M.E./M. Tech (Embedded Systems, Instrumentation, Control Systems, Mechatronics) with a minimum of 1 year of experience or First Class	• Experience in LabVIEW programming and real-time control • Signal processing and Analysis & Real-time data acquisition.	Essential: • Experience in factory/ industrial automation • Embedded Firmware development in C, C++, & PLC programming Desirable: • Experience in IIoT Implementation in Industrial Automation Experience in LabVIEW Programming and Real-Time Control

No.	Code	Post	Salary	Duration	No.	Qualification	Skills	Essential / Desirable
						B.E./B.Tech in ECE/EEE/EIE/IE with a minimum of 2 Years' Experience		• Signal Processing and Analysis & Real-Time Data Acquisition.
13.	PF(II) – 010	Project Fellow – II	Rs. 30,000/-	1 Year	1	First class M.E./M.Tech in Drives and Control with a minimum of 1 year of experience or First Class B.E./B.Tech EEE/ECE/EIE/IE with 2 years of Experience	• Knowledge in embedded programming, PLC programming • Experience in LabviewMatlab, Python programming	Essential: • Working experience in SIEMENS CNC systems • Electrical design of CNC systems • Design of Machine tool controls and electrical layouts • Electrical CAD, Layout design, assembly and testing Desirable: • Knowledge in embedded programming, PLC programming • Experience in LabviewMatlab, Python programming

- For Project Fellow – II, Rs. 30000/- for B.E. / B.Tech and Rs. 32,000/- for M.E. / M.Tech.

अनुदेश / ΙNSTRUCTIONS:

1. सभी प्रयोजनों के लिए विच्छेदक तिथि 31.01.2021 है, जिसमें आयु भी शामिल है।
   Cut off date for all purposes including age is 31.01.2021.

2. केवल भारतीय नागरिक ही आवेदन के लिए योग्य है।
   Only Indian Nationals are eligible to apply.

3. उम्मीदवारों से अनुरोध किया जाता है कि वे वैध ई-मेल आईडी आवेदन में अनिवार्य रूप से उपलब्ध कराएं।
   The candidates are requested to possess the valid email id which is to be compulsorily provided in the application.

4. केवल आवश्यक योग्यता के आधार पर उम्मीदवारों को साक्षात्कार में बुलाए जाने की बाध्यता नहीं होगी।
   Mere possession of required qualification will not entitle the candidates to be called for interview.

5. अनुभव का अर्थ उक्त श्रेणी में मांगी गई, न्यूनतम शैक्षणिक अर्हता प्राप्त करने के बाद संबंधित क्षेत्र में अनुभव से है। दावा किया गया अनुभव वैध दस्तावेज द्वारा समर्थित होना चाहिए।
   Experience shall mean the experience in the relevant field after obtaining the minimum educational qualification prescribed for in the said category. Experience claimed should be supported by valid documentation.

6. अत्यधिक योग्य / असाधारण मामलों में स्थिति को शिथिल किया जा सकता है। संस्थान साक्षात्कार / लिखित परीक्षा के लिए शॉर्टलिस्टिंग मापदंड को अपने तरीके से अपनाने का अधिकार सुरक्षित रखता है और वे सभी उम्मीदवार जो न्यूनतम आवश्यकता को पूरा करते है, उनको शॉर्टलिस्ट करने के लिए बाध्य नहीं है।
   The conditions may be relaxed in highly deserving /exceptional cases. The Institute reserve the right to adopt its own method of short-listing criteria for interview/written examination and is not obliged to shortlist all the candidate who fulfil the minimum requirement.

7. आयु छूट भारत सरकार के आदेश / मानदंड के अनुसार स्वीकार्य है।
   Age relaxation is admissible as per Government of India order/Norms.

8. अनुसूचित जाति/अनुसूचित जनजाति/अन्य पिछड़ा वर्ग/ईडब्ल्यूएस से संबंधित उम्मीदवार आवेदन पत्र के साथ वैध जाति प्रमाण पत्र की छायाप्रति प्रस्तुत करें। (ओबीसी प्रमाणपत्र केन्द्र सरकार के प्रारुप में होना चाहिए।)
   Candidate belonging to SC/ST/OBC/EWS should enclose photocopy of valid caste certificate along with the application (OBC Certificate should be in Central Government Format).

9. सीएमटीआई बिना कारण बताए विज्ञापित पद को भरने या न भरने का अधिकार सुरक्षित रखती है। चयनित उम्मीदवारों को सीएमटीआई में पद पर नियमित होने का कोई अधिकार नहीं होगा।

CMTI reserves the right to fill-up or not to fill up the post advertised without assigning any reasons thereof. Selected candidates will not have any right to absorb in the regular post in CMTI.

10. पदों की संख्या सांकेतिक है और यह संस्थान की आवश्यकता के आधार पर कम–ज्यादा हो सकती हैं।
    No. of posts are indicative and it may vary depending upon the Institutes requirement.

11. प्रथम श्रेणी का अर्थ अर्हक परीक्षा के सभी सत्रों में कुल 60% अंक से है।
    1st class means 60% marks aggregates of all semesters in the qualifying examination.

12. साक्षात्कार / लिखित परीक्षा में भाग लेने के लिए टीए / डीए का भुगतान नहीं किया जाएगा, यदि कोई हो।
    No TA/DA will be paid for attending the interview/written examination, if any

13. विचार के लिए सीजीपीए ग्रेडिंग को प्रतिशत में परिवर्तित किया जाएगा।
    CGPA grading will be converted in to the percentage for consideration.

14. छुट्टीः प्रत्येक माह समाप्त होने के बाद एक छुट्टी के पात्र होगें। छुट्टी के नकदीकरण की अनुमति नहीं है।
    Leave: One day for each completed month will be eligible. No leave encashment is permitted.

15. पद के लिए आवेदन करते समय योग्यता और अनुभव पर विचार किया जाएगा।
    Qualification and Experience possessed at the time of applying for the post will be considered.

16. उपरोक्त भर्ती के संबंध में कोई भी संशोधन केवल सीएमटीआई की वेबसाइट पर अधिसूचित किया जाएगा।
    Any amendments with regard to the above recruitment will be notified in CMTI Website only.

17. किसी भी रूप में संयाचना करना निरर्हता मानी जाएगी।
    Canvassing in any form would be a disqualification.

18. सभी पद अस्थायी और कार्यकाल पर आधारित हैं और नियमितीकरण पर कोई बाध्यता नहीं है।
    All posts are temporary and tenure based and no obligation on regularization.

19. प्रत्येक पद के लिए उल्लेखित समेकित वेतन है, कोई अन्य हितलाभ स्वीकार्य नहीं है।
    Stipend mentioned against each post is consolidated, not admissible for any other benefits.

20. एक पद के लिए एक आवेदन का प्रयोग करें।
    One application for one post.

21. शॉर्टलिस्ट किए गए उम्मीदवारों का साक्षात्कार व्यक्तिगत / वीडियो कॉन्फ्रेंस (वीसी) / किसी अन्य मोड के माध्यम से आयोजित किया जा सकता है।
    For shortlisted candidates the interview may be held through personal / video conference (VC) / any other modes.

22. इच्छुक उम्मीदवारों से अनुरोध है कि वे निर्धारित प्रारूप में आवेदन पत्र को विधिवत भरकर (वेबसाइट पर उपलब्ध) **पीडीएफ और साथ ही वर्ड दोनों प्रारूपों के साथ अपने व्यक्तिवृत/बायोडाटा और प्रमाणपत्र को** 29.01.2021 तक या इससे पहले recruitment.cmti@nic.in पर मेल करें। आवेदन पत्र को **एरियल** फ़ॉन्ट के 12 आकार में भरा जाना है।

Interested candidates are requested to mail the Application in the prescribed Format duly filled in (available in the website) both **in PDF as well as Word format along with your CV/ Resume and certificates** to recruitment.cmti@nic.in **on or before 29.01.2021**. The font to be used to fill the application is **Arial** and size **12.**

23. प्रमाणपत्र में पाई गई कोई भी विसंगति अयोग्यता को आकर्षित करेगी। हालांकि, साक्षात्कार / रिपोर्टिंग के समय मूल प्रमाणपत्रों को प्रस्तुत न करना भी उम्मीदवार को अयोग्य बना देगा।

Any discrepancies found in the certificate will attract the disqualification. However, non production of the original certificates at the time of interview/ reporting will also make the candidate disqualified.

24. इस विज्ञापन से संबंधित किसी भी स्पष्टीकरण के लिए कृपया **080 - 22188284/22188313** पर संपर्क करें।

For any clarification on this advertisement please contact **080 – 22188284 / 22188313.**