



**CSIR-Central Glass & Ceramic Research Institute**  
**Council of Scientific and Industrial Research**  
**196, Raja S.C. Mullick Road**  
**Kolkata– 700032 (West Bengal)**

Advertisement no. 02/2021

Last Date for Receipt of the online application 15.10.2021

**A unique opportunity for research careers in Science & Technology**

The CSIR-CGCRI is one of the oldest Research and Development (R&D) Laboratory of CSIR, which is an autonomous body under DSIR, Ministry of Science & Technology, Government of India. CSIR-CGCRI is dedicated to achieve scientific leadership in the area of advanced ceramics and specialty glasses (including fibre/fibre-based devices). Major research activities of the Institute concerns: specialty glasses, specialized optical fibre, Sol-gel processing of glass and ceramics, nano-structured glass and ceramics, engineering ceramics (both oxides and non-oxides), ceramics for bio-medical applications, ceramic membranes, advanced refractories, ceramic sensor, oxide fuel cells & batteries, traditional ceramics (white ware and red clay pottery) etc. Majority of the research projects are funded by government agencies, strategic sectors and private industries.

Applications are invited from enthusiastic, young Indian researchers having excellent academic record and proven scientific achievements along with requisite experience and a high degree of motivation and desire to take up research as a career in the field of *Glass & Ceramic* to fill up the vacant posts of Scientists as per the details given below.

The emoluments and age limit for the post as per norms is summarized as below:-

No. of Posts with reservation	Designation	Pay Level	Minimum Emoluments	*Upper Age Limit not exceeding (as on last date)
14 posts (UR:7; EWS: 2; ST:1,OBC:3; PwBD: HH:1)	Scientist	Pay Level -11 (7 <sup>th</sup> CPC) [Rs.67700 – 208700]	Rs.67700/- plus usual allowances like DA, HRA, TA etc. as applicable to CSIR employees.	32 years

\*Please see age relaxation under Relaxation column.

Post Code	Essential Educational Qualifications & Experience	Desirable Qualifications (After fulfilling Essential Qualifications)	Job profile
A-01 1 post reserved for EWS	M. Tech/ ME or equivalent in any of the following Engineering streams: (Mechanical, Bioengineering and equivalent, Metallurgical, Materials, Ceramics, Applied Mechanics)  Or  PhD submitted in any of the above subjects	Candidates having experience and expertise in Implant design, Finite element analysis of implants, Biomechanics, Computational modelling and analysis of bone-implant integration, osseointegration, stress analysis, implant testing etc. would be preferred.	R&D activities focusing on the design aspects of implants, FE analysis of the implants and assessment of osseointegration through computational studies, which are essential to ensure long-term stability and performance of implants. Some examples include design, manufacturing and evaluations of triply periodic minimal surfaces, composite spinal cages and their mechanical/osseointegration, patient specific implants for accelerated healing and active life style, stress and tribological analysis of load bearing implants. The selected candidate may be assigned any other duty as decided by the competent authority.
A-02 1 post reserved for OBC	M.E./M.Tech in Materials Science and Engineering/Materials Science and Technology/Metallurgical and Materials Engineering/Materials Science/Glass and Ceramic Engineering/Functional Materials and Nanotechnology/Ceramic Engineering/Ceramic	It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/B.E degree in the areas of Ceramic Engineering/Ceramic Technology/Materials Engineering/Metallurgical Engineering/Chemical Engineering/	The candidate is required to carry out basic and applied R & D in the field of porous materials leading to newer and advanced products for industrial and environmental applications. The candidate is also required to undertake scaling up of the

	Technology/Nano Science and Technology/Material Engineering  Or  PhD submitted in any of the above subjects	Metallurgical And Materials Engineering/ M.Sc. in Physics. Experience in R & D/Industrial Experience in Porous materials/Inorganic membranes would be an added advantage.	products/process, operation and maintenance of ceramic processing equipment and characterization of raw material and finished product. The selected candidate may be assigned any other duty as decided by the competent authority.
A-03  1 post reserved for ST	M.E./M.Tech in Ceramic / Metallurgical / Chemical Engineering  Or  PhD submitted in any of the above subjects	It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/B.E degree in the areas of Ceramic / Metallurgical / Chemical Engineering.  Candidates having R & D /Industrial experience in Refractory processing and characterization would be preferred.	To carry out research and technology development in the field ofrefractory. The selected candidate may be assigned any other duty as decided by the competent authority.
A-04  1 post UR	M.E./M. Tech in Ceramic / Metallurgical / Chemical Engineering  Or  PhD submitted in any of the above subjects	It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/ B.E degree in the areas of Ceramic / Metallurgical / Chemical Engineering.  Candidates having R & D /Industrial experience in ceramic processing and characterization would be preferred.	To carry out R&D on Traditional ceramics and waste utilization. The selected candidate may be assigned any other duty as decided by the competent authority.
A-05  1 post reserved for EWS	M.E./M. Tech in Ceramic / Chemical Engineering  Or  PhD submitted in any of the above subjects	Candidates having R & D /Industrial experience in ceramic processing and characterization of ceramic raw materials and products would be preferred.	The selected candidate would be stationed at CGCRI Extension Centre at Khurja in Uttar Pradesh and would be required to carry out R&D on traditional ceramics, societal project work, characterization of ceramic raw materials and products. The selected candidate may be assigned any other duty as decided by the competent authority.
A-06  1 post UR	M.E./M. Tech in Ceramic Technology/ Chemical / Materials Science /Materials and Metallurgical Engineering  Or  PhD submitted in any of the above subjects or in Physics.	It would be desirable for the candidate to have proven knowledge in Thermodynamics and Physical Behaviour of Glass. or Experience in Industrial Scale Glass Melting with Homogenization and Modern Techniques for Glass Characterization. or Experience in Fluid Dynamics and Thermo dynamic Modelling along with Molecular Dynamic Simulation.	Scientific role in Research and Development of Specialty Glass Science and Technology with Pilot Scale Glass Melting Operation. The selected candidate may be assigned any other duty as decided by the competent authority.
A-07  1 post UR	M. E. / M. Tech or equivalent in Metallurgy / Metallurgy & Materials Science / Materials Science & Engineering / Ceramics Engineering / Ceramics Technology / Chemical Engineering  Or  PhD submitted in any of the above subjects or in Physics	It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/ B.E /M. Sc. degree in Metallurgy / Metallurgy & Materials Science / Materials Science & Engineering / Ceramics Engineering / Ceramics Technology / Chemical Engineering.  Candidates having R & D/ Industrial experience / exposure in one or more of the following areas would be preferred : a) Synthesis of advanced / non-oxide bulk ceramics components and ceramic / metal matrix composites under controlled atmosphere b) Synthesis of glass /ceramic coatings and/or nanostructured ceramic materials	Taking part in R&D activities in the areas related to synthesis of advanced ceramics, glass/ceramic coatings, nanostructured materials and characterization of ceramics, glass and composites. (e.g., nondestructive, mechanical, thermo physical & micro structural characterization). The selected candidate may be assigned any other duty as decided by the competent authority.

		<p>c) Characterisation of ceramics and composites, glass &amp; nanostructured materials, coatings (NDT/UTM/ Nanoindenter/DTA/TG/DSC/Rheometer/UV-VIS Spectrometer/XRD/FESEM/TEM etc.)</p> <p>Record of Publications in SCI journals on any of the above areas as first / corresponding author, would be an added advantage.</p>	
<p>A-08</p> <p>1 post reserved for OBC</p>	<p>M. E. / M. Tech or equivalent in Mechanical Engineering/ Metallurgy / Metallurgy &amp; Materials Science / Materials Science &amp; Engineering / Ceramics Engineering / Ceramics Technology / Chemical Engineering</p> <p>Or</p> <p>PhD submitted in any of the above subjects</p>	<p>It is desirable that prior to attaining the essential qualification, the candidate should possess a B.Tech/ B.E /M. Sc. degree in Mechanical Engineering/ Metallurgy / Metallurgy &amp; Materials Science / Materials Science &amp; Engineering / Ceramics Engineering / Ceramics Technology / Chemical Engineering</p> <p>Candidates having R &amp; D/ Industrial experience / exposure in one or more of the following areas would be preferred :</p> <p>a) Modeling &amp; simulation of ceramics processing &amp; characterization (with exposure to FEA, CFD and other tools)</p> <p>b) Machining and manufacturing of hard &amp; brittle materials by subtractive machining (CNC Milling, Turning, Abrasive Water Jet Machining, Electro Discharge Machining, Laser Assisted Machining etc.) and/or additive manufacturing (3D Printing)</p> <p>Record of Publications in SCI journals on any of the above areas as first / corresponding author, would be an added advantage.</p>	<p>Taking part in R&amp;D activities in the areas related to materials and process modeling &amp; simulation related to ceramic processing and characterization, manufacturing of ceramic and composite components by various subtractive and additive manufacturing techniques. The selected candidate may be assigned any other duty as decided by the competent authority.</p>
<p>A-09</p> <p>1 post UR</p>	<p>M.E / M. Tech in Ceramic Engineering/ Ceramic Technology/Glass &amp; Ceramic Engineering/Materials Science &amp; Engineering/ Materials Science &amp; Technology/ Materials &amp; Metallurgical Engineering</p> <p>Or</p> <p>PhD submitted on any of the above subjects</p>	<p>Expertise/experience in synthesis and characterization of multicomponent ceramic oxides and/or processing and fabrication of ceramic components for solid oxide fuel cell/solid oxide electrolyser cell applications.</p>	<p>To carry out R&amp;D related to technology development for Solid oxide fuel cell/ Solid oxide electrolyser cell in tandem with the existing group. The selected candidate may be assigned any other duty as decided by the competent authority.</p>
<p>A-10</p> <p>1 post reserved for OBC</p>	<p>M.E / M. Tech in Ceramic Engineering/ Ceramic Technology/Glass &amp; Ceramic Engineering/Materials Science &amp; Engineering/ Chemical Engineering</p> <p>Or</p> <p>PhD submitted in any of the above subjects or in Physics.</p>	<p>Expertise/experience in synthesis and characterization of thermoelectric materials and/or hands-on experience in industry on ceramic processing.</p>	<p>To carry out R&amp;D on ceramic fabrication processes for high temperature electrochemical device application in tandem with the existing group. The selected candidate may be assigned any other duty as decided by the competent authority.</p>
<p>A-11</p> <p>1 post UR</p>	<p>M. E. / M. Tech or equivalent in Electronics &amp; Communication Engineering / Instrumentation Engineering / Electronics</p>	<p>It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/ B.E degree in Electronics &amp; Communication</p>	<p>1. Maintenance &amp; management of computer systems &amp; networking</p>

	<p>&amp;Instrumentation Engineering / Applied Electronics Engineering / Microelectronics / Computer Science &amp; Engineering</p> <p>Or</p> <p>PhD submitted in any of the above subjects</p>	<p>Engineering / Instrumentation Engineering / Electronics &amp; Instrumentation Engineering / Applied Electronics Engineering / Microelectronics / Computer Science &amp; Engineering</p> <p>Candidates having R &amp; D/ Industrial experience / exposure in one or more of the following areas would be preferred :</p> <ol style="list-style-type: none"> <li>Computer hardware &amp; networking maintenance &amp; management</li> <li>Design, development and deployment of sensors and sensor devices and Internet of Things (IoT)</li> <li>Soft computing (AI tools, such as, ANN, Fuzzy Computing, Expert Systems, Machine Learning etc.)</li> <li>Programming with two or more of the following open source &amp; commercial softwares and frameworks, such as, react native for Androids, document oriented database platforms (mongoDB), PHP web framework (laravel), cascading style sheets (CSS/SCSS), interpreted high level general purpose programming language (python), cross platform open source developer (.NET), virtual instrument and system engineering workbench (LABVIEW), high level languages (C/C++/JAVA etc.)</li> </ol> <p>Record of Publications in SCI journals on any of the above areas as first / corresponding author, would be an added advantage.</p>	<ol style="list-style-type: none"> <li>Development of web based applications with database platforms</li> <li>Development and deployment of android based applications for R&amp;D data acquisition and analysis and administrative database management</li> <li>Development of virtual instrument and system engineering for internet of things</li> <li>AI interface development for various R&amp;D applications.</li> <li>The selected candidate may be assigned any other duty as decided by the competent authority.</li> </ol>
<p>A-12</p> <p>1 post UR</p>	<p>M.E./M. Tech. in Applied Optics, Optics and Optoelectronics, Photonics, Laser Technology, Laser Science</p> <p>Or</p> <p>PhD submitted in any of the above subjects or in Physics/Applied Physics.</p>	<p>It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/ B.E or M. Sc. degree in Optics, Applied Optics, Applied Physics, Physics, Photonics, Optoelectronics, Laser Science, Laser Technology, Electronics/Electrical/ Instrumentation engineering</p>	<p>Design and development of high power (kW level) continuous wave fiber laser at 1 micron and 2-micron regime, Research and development of Q-switched and mode-locked pulsed fiber laser. The selected candidate may be assigned any other duty as decided by the competent authority.</p>
<p>A-13</p> <p>1 post UR</p>	<p>M.E./M.Tech. in Applied Optics, Optics and Optoelectronics, Photonics, Electronics, Instrumentation</p> <p>Or</p> <p>PhD submitted in any of the above subjects or in Physics/Applied Physics.</p>	<p>It is desirable that prior to attaining the essential qualification, the candidate should possess a B. Tech/ B.E or M. Sc. degree in Optics, Applied Optics, Applied Physics, Photonics, Optoelectronics, Laser Science, Laser Technology, Electronics/Electrical/ Instrumentation engineering .</p> <p>Candidates having R &amp; D/ Industrial experience in optical fiber sensor development for structural health monitoring (SHM) and optical bio-sensing would be preferred.</p>	<p>Design and development of FBG and LPFG sensors, fabrication of FBG and LPFG sensors using pulsed UV laser and femto-second pulsed visible laser for application in SHM and bio-sensing. The selected candidate may be assigned any other duty as decided by the competent authority.</p>
<p>A-14</p> <p>1 post reserved</p>	<p>M.E./M.Tech. in Instrumentation, Electronics, Signal processing, Artificial Intelligence (AI)</p> <p>Or</p>	<p>It is desirable that prior to attaining the essential qualification, the candidate should possess a B.Tech/ B.E degree in Instrumentation/Electronics and</p>	<p>System integration, sensor data handling, signal processing, circuit design and analysis, real time data analysis, embedded system, IOT sensors. The selected</p>

for PwBD: HH	PhD submitted in any of the above subjects or in Electrical/ embedded system related to sensor data interpretation, data mining in IOT	Instrumentation.	candidate may be assigned any other duty as decided by the competent authority.
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**UR: Unreserved; SC: Scheduled Caste; ST: Scheduled Tribe; OBC: Other Backward Class; PwBD: Person with Benchmark Disability, HH: Hearing Impaired; EWS: Economically Weaker Section.**

**General information and conditions:-**

**1. Benefits under Council service:**

- a. These posts carry usual allowances i.e. Dearness Allowance (DA), House Rent Allowance (HRA), Transport Allowance (TA) etc. as admissible to the central government employees and as made applicable to CSIR employees stationed in **Kolkata/Khurja/Naroda (as per 7<sup>th</sup> Pay Commission)**. Council employees are also eligible for accommodation of their entitled type as per CSIR allotment rules depending on availability in which case HRA will not be admissible.
- b. In addition to the emoluments indicated against each category of posts, benefits such as applicability of New Pension Scheme 2004, reimbursements of Medical Expenses, Leave Travel Concession, Conveyance advance and House Building Advance are available as per CSIR rules.
- c. Scientists in CSIR/CGCRI are also permitted to undertake consultancy and sponsored R&D project activity. These activities give them scope to earn consultancy fee and honorarium as per CSIR guidelines governing these activities. Opportunities also arise for foreign deputations for training/presentation of papers/specific assignments etc.
- d. CSIR/CGCRI provides excellent opportunities to deserving candidates for career advancement under Assessment Promotion scheme for Scientists.

**2. Other conditions**

- a. The applicant must be a citizen of India.
- b. The applicants with **experience in Product Development/Technology Innovation/Applied Technology** etc would be preferred and the Screening Committee will give weightage to candidates having the necessary **experience** etc. within the mandate of the laboratory.
- c. All applicants must fulfill the essential requirements of the post and other conditions stipulated in the advertisement as on the last date of receipt of the online applications. They are advised to satisfy themselves before applying that they possess at least the essential qualifications laid down for various posts as on the last date of receipt of the applications. **No enquiry asking for advice as to eligibility will be entertained.**

The prescribed essential qualifications are the minimum and the mere possession of the same does not entitle candidates to be called for interview. The duly constituted Screening Committee will adopt its own criteria for short-listing the candidates. The candidate should therefore, mention in the application all the qualifications and experiences in the relevant area over and above the minimum prescribed qualification. **Such claims will only be considered if supported by valid documents.** Completion of Ph.D. degree will be reckoned from the date of issue of provisional certificate/notification.

- d. The application should be accompanied by self-attested copies of the relevant educational qualification, experience. The prescribed qualifications should have been obtained through recognized Universities / Institutionsetc. **Incomplete application/applications received or not accompanied with the required certificates / documents are liable to be rejected.**
- e. In respect of equivalent clause in Essential Qualifications, if a candidate is claiming a particular qualification as equivalent qualification as per the requirement of advertisement, then the candidate is required to produce order/letter in this regard, indicating the Authority (with number and date) under which it has been so treated otherwise the Application is liable to be rejected.
- f. Number of posts may vary at the time of selection.**
- g. The period of experience rendered by a candidate on part time basis, daily wages, visiting/ guest faculty **will not be counted** while calculating the valid experience for short listing the candidates for interview.
- h. If any document/ certificate furnished in a language other than Hindi or English, a transcript of the same duly attested by a Gazetted officer or notary is to be submitted.
- i. The date for determining the upper age limit, qualifications and /or experience etc. shall be the closing date of receipt of online application.**
- j. The period of experience in a discipline / area of work, wherever prescribed, **shall be counted after the date of acquiring the minimum educational qualifications** prescribed for that post.

- k. Persons with disabilities (PWD) fulfilling the eligibility conditions prescribed under GOI instructions are encouraged to apply.
- l. Only outstation candidates, if called for physical interview will be paid to and fro single second class rail fare from the actual place of undertaking the journey or from the normal place of their residence whichever is nearer to **Howrah/Sealdah** Railway Station on production of Rail Tickets/Rail Ticket Numbers.
- m. Any discrepancy found between the information given in application and as evident in original documents will make the candidate ineligible for appearing in interview. Such candidate will not be paid any fare.
- n. The decision of the CSIR-CGCRI in all matters relating to eligibility, acceptance or rejection of applications, mode of selection, and conduct of examination/interview will be final and binding on the candidates.
- o. Candidates having marks expressed in CGPA/DGPA/OGPA etc. must convert them into their equivalent percentage of marks as per norms of the University/Institute concerned.
- p. **Canvassing in any form and / or bringing any influence political or otherwise will be treated as a disqualification for the post.**

### 3. **Relaxations :**

- a. The upper age limit is relaxable up to 05 years for SC/ST and 03 years for OBC as per Government orders in force only in those cases where the post are reserved for respective categories, on production of relevant certificate in the prescribed format signed by the specified authority at the time of interview.
- b. Upper age limit is also relaxable up to five years for the regular employees working in CSIR laboratories / Institutes, Government Departments, autonomous bodies and public sector undertakings in accordance with the instructions and orders issued by the Government of India from time to time in this regard.
- c. As per GOI provisions, age relaxation will be applicable up to the age of 35 years (up to 40 years for members of Scheduled Castes and Scheduled Tribes) for Widows, Divorced Women and Women Judicially separated from Husbands who are not remarried. The persons claiming age relaxation under this sub-para would be required to produce following documentary evidence:
  - i) In case of Widow, Death Certificate of her husband together with the Affidavit that she has not remarried since.
  - ii) In case of divorced Women and Women judicially separated from their husbands, a certified copy of the judgment/decree of the appropriate Court to prove the fact of divorce or the judicial separation, as the case may be, with an Affidavit in respect of divorced Women and that they have not remarried since.
- d. Age relaxation to Persons with Benchmark Disabilities: Age relaxation of 10 years is allowed (total 15 years for SC/STs and 13 years for OBCs in respect of the posts reserved for them) to blind, deaf-mute and orthopedically handicapped persons for appointment to Group A posts/services. The persons claiming age relaxation under this sub-para would be required to produce a certificate in prescribed proforma in support of their claims clearly indicating that the degree of physical disability is 40% or more. In any case, the appointment of these candidates will be subject to their being found medically fit in accordance with the standards of medical fitness as prescribed by the Government for each individual Group A posts to be filled by Direct Recruitment by Selection.

### 4. **How to apply:**

- a. Eligible candidates are required to **apply online** using the **link provided in the Institute's website** ([www.cgcri.res.in](http://www.cgcri.res.in))
- b. If the candidates do not have a valid email id, he/she should create a new valid email id before applying.
- c. Candidates are required to submit their **Application Fees of Rs. 100/- (Rupees One Hundred Only)** through NEFT/RTGS/Bank Transfer only in favor of "Central Glass & Ceramic Research Institute" A/c No. **30267963259** of State Bank of India, Jadavpur University Branch (IFSC Code No.SBIN0000093) payable at Kolkata. **No other means of payment of fees will be accepted.**The Unique Transaction Receipt (UTR) No. should be mentioned in the online application form. The candidates belonging to SC/ST/PwBD/Women/CSIR Employees are exempted from submission of application fee.
- d. Application once made will not be allowed to be withdrawn and fees once paid will not be refunded on any count nor can it be held in reserve for any other recruitment or selection process.
- e. The summary sheet generated on online submission of application should be printed and duly signed. The duly signed Summary Sheet should be accompanied by attested copies of the certificates, mark sheets, testimonials in support of age, education qualifications, experience, re-prints of publications and caste certificate, if applicable, and should be sent in an envelope superscribed "APPLICATION FOR THE POST OF SCIENTIST (Post Code \_\_\_\_\_)" by post to the address:-**Administrative Officer, CSIR-Central Glass & Ceramic Research Institute, 196, Raja S. C. Mullick Road, Kolkata – 700032.** Candidates applying for more than one post must submit **separate application form for each post** indicating the Code No. of the post. Separate fee will have to be paid for each post. The last date of receiving hard copies of the print out of online application will be **31.10.2021.**

- f. Applications from **employees of Government Departments** will be considered only if forwarded **through proper channel**, certified by the employer that the applicant, if selected will be relieved within one month of the receipt of the appointment orders. A Vigilance Clearance declaration should also be recorded. However, advance copy of the application may be submitted before the closing date. Applications routed through proper channel should reach **Administrative Officer, CSIR-Central Glass & Ceramic Research Institute, 196, Raja S. C. Mullick Road, Kolkata – 700032** within the last date for receipt of hard copy. (31.10.2021)
- g. Candidates should specifically note that the applications received after the closing date for any reason whatsoever (such as envelopes wrongly addressed, delivered elsewhere, postal delay etc.) will not be entertained by **CSIR-Central Glass & Ceramic Research Institute, Kolkata**.
- h. General information / instructions for online application are given at our website [www.cgcri.res.in](http://www.cgcri.res.in). Applicants/candidates are requested to keep on visiting our website, for any further information/updates.
- i. **Incomplete applications (i.e. without photograph, signature and reference of application fee, applicable testimonials etc.) will not be entertained and will be summarily rejected.**
- j. CSIR-CGCRI strives to have a workforce that reflects gender balance and women candidates are encouraged to apply.
- k. Sending hardcopy of the application in any form without having applied online will be treated as no application.

**Following documents must be attached along with application form sent by post:**

- a. Self-attested photocopy of Date of Birth Certificate.
- b. Self-attested photocopies of education qualifications certificates.
- c. Self-attested photocopy of caste certificate, if applicable.
- d. Self-attested photocopies of experience certificates, if any
- e. Self-attested photocopy of EWS certificate, if applicable

**INTERIM ENQUIRIES WILL NOT BE ATTENDED TO.**

**Administrative Officer**