Government of India
DEPARTMENT OF ATOMIC ENERGY (DAE)
Bhabha Atomic Research Centre (BARC)
Training Schools

Invite

Engineering Graduates and Science Postgraduates

- Who would relish challenges in frontier areas of Science and Technology,
- Who would like to be part of an expanding programme of Nuclear Reactors, Accelerators and Fuel Cycle Technologies,
- Who would enjoy pursuing innovative research in Engineering, Physics, Chemistry, Biosciences, Geology

to apply for recruitment as
Scientific Officers (Group-A post of Government of India)
through its academic programmes

OCES-2023 and DGFS-2023

***OCES-2023*: One-Year Orientation Course for Engineering Graduates & Science Postgraduates starting in August, 2023 will be conducted at BARC Training Schools** situated at: BARC, Mumbai; IGCAR, Kalpakkam; NFC, Hyderabad; RRCAT, Indore & AMD, Hyderabad. **On successful completion of the OCES programme, Trainee Scientific Officers (TSOs) will be appointed as Scientific Officers in one of the DAE units or Atomic Energy Regulatory Board.**

***DGFS-2023:* Two-Year DAE Graduate Fellowship Scheme for Engineering Graduates for joining M.Tech., starting in July 2023, in DGFS Institutes and specializations (Table-3). On successful completion of DGFS programme, placement of DGFS fellows will be at BARC and IGCAR.**

The OCES & DGFS programmes offer an attractive career progression opportunities up to the highest echelons. Performance of OCES TSOs above a certain threshold at the BARC Training School will entitle them to a Post-Graduate Diploma of Homi Bhabha National Institute (HBNI), a Deemed to be University and could also earn them credits towards M.Tech. / Ph.D. programmes of HBNI. DGFS Fellows will get opportunities, some time in their career, for pursuing Ph.D. through HBNI after joining DAE.

DAE strives to have a workforce which reflects gender balance and women candidates are encouraged to apply.

TRAINING SCHEMES AND EMPLOYMENT DESCRIPTION

1. One Year Orientation Course for Engineering Graduates and Science Postgraduates for the year 2023-2024 (**OCES-2023**) conducted at the BARC Training Schools. Table-1 lists Eligible Disciplines. Table-2 lists the Eligible Disciplines and orientation of the Training Programme at each of the Training Schools. A Trainee Scientific Officer (TSO), who scores a minimum of 50% aggregate marks on completion of the Training Programme, is declared to have completed the course successfully. Successful TSOs will be posted as Scientific Officers in one of the following DAE units:

a) **B**habha **A**tomic **R**esearch **C**entre (**BARC**), Mumbai*, b) **I**ndira **G**andhi **C**entre for **A**tomic **R**esearch (**IGCAR**), Kalpakkam, c) **R**aja **R**amanna **C**entre for **A**dvanced **T**echnology (**RRCAT**), Indore, d) **V**ariable **E**nergy **C**yclotron **C**entre (**VECC**), Kolkata, e) **H**eavy **W**ater **B**oard (**HWB**), Mumbai*, f) **N**uclear **F**uel **C**omplex (**NFC**), Hyderabad*, g) **B**oard of **R**adiation and **I**sotope **T**echnology (**BRIT**), Mumbai*, h) **N**uclear **P**ower **C**orporation of **I**ndia **L**td (**NPCIL**), Mumbai*, i) **Bha**ratiya Nabhikiya **Vi**dyut **Ni**gam Ltd (**BHAVINI**), Kalpakkam*, j) **A**tomic **M**inerals **D**irectorate for Exploration & Research (**AMD**), Hyderabad*, k) **U**ranium **C**orporation of **I**ndia **L**td (**UCIL**), Jaduguda*, l) **D**irectorate of **C**onstruction, Services and **E**state **M**anagement **(DCS&EM)**, Mumbai*

*These units have their Head Office at the indicated locations. Placement can be at the Head Office or at other facilities of these units located in different parts of India.

Allocation of a successful OCES TSO to a DAE unit is carried out based on the needs of DAE's programmes and the TSO's performance in the OCES programme. DAE reserves the right to place TSOs in any of its other units also or the Atomic Energy Regulatory Board (AERB).

Performance above a specified threshold in course work at the Training School will entitle TSOs to a Post-Graduate Diploma or could earn them credits towards M.Tech./Ph.D. programmes of **H**omi **B**habha **N**ational **I**nstitute (**HBNI**), a Deemed to be University.

2. Two-Year DAE Graduate Fellowship Scheme for Engineering Graduates for the years 2023-2025 (**DGFS-2023**). Under this scheme, Engineering Graduates who have excelled in the Selection Interviews for the BARC Training Schools' programme and who have independently secured admission for M.Tech. in DGFS Institutes and specializations as listed in Table-3, are paid stipend and tuition fee to pursue M.Tech. degree while retaining their employment in DAE. After successful completion of one-year course work at the DGFS Institute, Fellows undertake project work, which is assigned by DAE and supervised jointly by a DAE guide and the Institute guide. On successful completion of M.Tech. they are posted as Scientific Officers in DAE. On joining, they are required to first undertake a four-month **Orientation Course for DGFS Fellows** (**OCDF**) at the BARC Training School, Mumbai. Their Placement will be at BARC** and IGCAR. Allocation of a DGFS Fellow to a DAE unit is done at the beginning of the M.Tech. programme.
**Placement can be at any of the BARC facilities located in different parts of India.

Selected candidates are required to execute an agreement and a personal Indemnity Bond to serve DAE for at least three years after completion of Training. Indemnity Bond is for ₹ **6,78,000/-** for OCES TSOs and ₹ **14,40,000/-#** for DGFS Fellows pursuing M.Tech. **at IIT Bombay** & ₹ **13,40,000/-#** for DGFS Fellows pursuing M.Tech. **at IIT Madras**. No third party surety is required.
#The Bond Amount mentioned are indicative and actual amount for DGFS Fellows pursuing M.Tech. at certain DGFS Institute may be different, depending on the tuition fee at the concerned Institute.

During Training: (i) Stipend and Allowances: OCES TSOs and DGFS Fellows are paid a stipend of ₹ 55,000/- per month during the period of their Training. Additionally, the OCES TSOs are paid a one-time book allowance of ₹ 18,000/-. (ii) DGFS Fellows are reimbursed the tuition fee for M.Tech. programme and are additionally paid a one-time Contingency Grant of ₹ 40,000/- per annum for two years to meet M.Tech. project related expenses. (iii) Boarding and Lodging in DAE or DGFS Institute Hostel respectively, during Training, is mandatory.

GRADE AND PAY SCALE ON APPOINTMENT

Appointment in all the units shall be as a Scientific Officer in a Group-A Post of the Government of India in the Level 10 –₹ 56,100/- of 7th CPC Pay Matrix. Appointment will be at the beginning of the pay scale with OCES TSOs getting two or three increments depending on their performance during the OCES programme and the DGFS Fellows getting three or four increments*** depending on their performance in M.Tech. and the four-month OCDF. Total Monthly Emoluments (with three increments) at the time of joining including Dearness Allowance, House Rent Allowance and Transport Allowance at the present Mumbai rate will be approximately ₹ 1,10,000/-.In addition, other Allowances such as Leave Travel Concession by air, every year up to first eight years (subject to conditions) and once in two years thereafter, Children's Education Allowance and an **annual Professional Update Allowance** are also payable. A comprehensive Contributory Health Service Scheme for employees and their dependent family members is also available.

***DGFS Candidates whose performance in the M.Tech. and OCDF programmes is below a specified threshold will get zero increments.**

SELECTION PROCESS

Selection to OCES/DGFS-2023 is a two-step process: **Screening** to short-list candidates followed by **Selection Interview** of the short-listed candidates.
There is a separate selection process for each of the disciplines listed in Table-1 **except for FRT-M (code 30), FRT-E (code 31), QA&QC (code 32) and RSES (code 44). FRT-M is an additional Training Scheme option available to applicants belonging to Mechanical Engineering or Chemical Engineering (codes 21 and 22). FRT-E is an additional Training Scheme option available to applicants belonging to Electrical Engineering or Electronics Engineering (codes 24 and 25). QA&QC is an additional Training Scheme option available to applicants belonging to Mechanical Engineering or Metallurgical Engineering (codes 21 and 23). RSES is an additional Training Scheme option to applicants belonging to Nuclear Engineering, Physics and Chemistry disciplines (codes 29, 41 and 42)**. **There is no separate Training Scheme called 'Nuclear Engineering' and selected candidates belonging to Nuclear Engineering (code 29) will be allotted RSES or Mechanical or Chemical as their Training Schemes.**
Screening for Selection Interview is through two alternative channels:

(a) Online Screening Examination: It will be conducted in nine Engineering disciplines (codes 21-29) and in four Science disciplines (codes 41-43 and 45) at more than forty cities spread across India. The Online Screening Test for OCES/DGFS-2023 will be held in March 2023. Travel Allowance is not paid for appearing in it.

(b) Graduate Aptitude Test in Engineering (GATE) Score: Candidates will be screened in for Selection Interview on the basis of a valid GATE-2022 or GATE-2023 score.
Cut-off GATE Scores for screening into Selection Interviews will be decided only after the Online Test has concluded and candidates are therefore advised to maximize their chances of being screened into the Selection Interview stage by *availing both* the screening avenues detailed above. Screening in of applicants in Nuclear Engineering (code 29) will be only through the Online Test.

Students graduated/graduating with a Masters Degree from University of Mumbai – Department of Atomic Energy Centre for Excellence in Basic Sciences (UM-DAE CBS) and National Institute of Science Education and Research (NISER), Bhubaneswar in the academic year 2021-2022 / 2022-2023, and whose Cumulative Grade Point Average (CGPA) is greater than or equal to 7.5 on a scale of 10 will directly be screened into the Selection Interview stage, provided they meet all other eligibility requirements of the OCES/DGFS-2023 programme. It is to be noted that this option of being screened in based on CGPA can be exercised only once. Such candidates should first submit their application for the OCES/DGFS-2023 programme on the Online Application Portal and subsequently forward their details through the Directors of their institutes.

Selection Interviews of short-listed candidates in all disciplines except Geology will be conducted at the BARC Training School, Mumbai. Interviews in Geology will be held in Hyderabad. Outstation applicants travelling for Interview will be paid to-and-fro AC-III tier normal train fare by shortest route or actual fare, whichever is less. Selection Interviews are tentatively scheduled to be held in May-June, 2023. The list of candidates short-listed for Selection Interview will be posted on the Online Application Portal in the third or fourth week of April, 2023. Short-listed candidates will be able to choose an Interview slot, based on availability, on the Online Application Portal, in the last week of April, 2023. **Final Selection is solely on the basis of performance in Selection Interview, subject to medical fitness.**

Other Opportunities: Candidates applying for OCES/DGFS-2023 may be considered for direct recruitment in Electronics Corporation of India Ltd. (ECIL) and Institute for Plasma Research (IPR). Such candidates will be governed by stipendiary norms of ECIL and terms and service conditions of ECIL and IPR respectively on absorption.

ELIGIBILITY CRITERIA

A. Qualifying Degrees and Other Academic Requirements for OCES/DGFS-2023

a) **For Engineering Disciplines (codes 21-29):** B.E./B.Tech./ B.Sc.(Engineering) / 5-year Integrated M.Tech. with a minimum of 60%* aggregate marks. in one of the engineering qualifying degree mentioned in Table-1. Applicants opting to be considered on the basis of a GATE score must have a valid GATE-2022 or GATE-2023 Score in the same engineering discipline as the qualifying degree discipline. **Those having qualifying degree in branches like Aerospace, Automobile, Automotive, Aeronautical Engineering, Industrial Production, Reliability, Ceramics, Architecture, Geology, Mining, Bio-Medical Electronics/ Instruments, Communication, Information Technology, Master of Computer Applications, Dyes & Dye Intermediates, Electrochemical, Energy Systems, Oils & Fats, Paints & Varnishes, Petrochemicals, Plastics, Paper, Sugar Technology, Textiles, Mechatronics, Power Engineering, Power Plant Engineering, Control Engineering, Software Engineering, Electronics & Computer Engineering, Biomedical Electronics, Biomedical Instrumentation etc. are NOT eligible.**

b) **For Fast Reactor Technology-M (FRT-M, code 30):** B.E. / B.Tech. / B.Sc. (Engineering) / 5-year Integrated M.Tech. in Mechanical Engineering or Chemical Engineering with minimum of 60%* aggregate marks in qualifying degree. **FRT-M is an additional Training Scheme option available to applicants belonging to Mechanical Engineering or Chemical Engineering (codes 21 and 22) and hence there will not be separate screening test or Selection Interview for FRT-M (code 30).**

c) **For Fast Reactor Technology-E (FRT-E, code 31):** B.E. / B.Tech. / B.Sc.(Engineering) / 5-year Integrated M. Tech. in Electrical Engineering or Electronics Engineering with minimum of 60%* aggregate marks in qualifying degree. **FRT-E is an additional Training Scheme option available to applicants belonging to Electrical Engineering or Electronics Engineering (codes 24 and 25) and hence there will not be separate screening test or Selection interview for FRT-E (code 31).**

d) **For Quality Assurance & Quality Control (QA&QC, code 32):** B.E. / B.Tech. / B.Sc.(Engineering) / 5-year Integrated M.Tech. in Mechanical Engineering or Metallurgical Engineering with minimum of 60%* aggregate marks in qualifying degree. **QA&QC is an additional Training Scheme option available to applicants belonging to Mechanical Engineering or Metallurgical Engineering (codes 21 and 23) and hence there will not be separate screening test or Selection interview for QA&QC (code 32).**

e) **For Physics Discipline (code 41):** M.Sc. in Physics / Applied Physics with Physics and Mathematics at B.Sc. or at subsidiary and/or ancillary level in case of 5-year integrated M.Sc, or B.E. /B.Tech. in Engineering Physics with a minimum of 60%* aggregate marks in the qualifying degree. M.Sc. candidates (other than those applying with a 5-year integrated M.Sc. degree) must additionally have a minimum of 60%* aggregate marks in B.Sc. Physics postgraduate applicants opting to be considered on the basis of a GATE Score should have a valid GATE-2022 or GATE-2023 Score in 'Physics'. Applicants having B.E./B.Tech. (Engineering Physics) as qualifying degree can apply on the basis of a valid GATE-2022 or GATE-2023 Score either in 'Physics' or in 'Engineering Sciences'.

f) **For Chemistry Discipline (code 42):** M.Sc. in Chemistry with Physics up to B.Sc. or at subsidiary and/or ancillary level in case of 5-year integrated M.Sc. and Mathematics at Std. XII or at B.Sc. or at subsidiary and / or ancillary level in case of 5-year integrated M.Sc. with a minimum of 60%* aggregate marks in M.Sc. All candidates (other than those applying with a 5-year integrated M.Sc. degree) must additionally have a minimum of 60%* aggregate marks in B.Sc. Applicants opting to be considered on the basis of a GATE Score should have a valid GATE-2022 or GATE-2023 Score in 'Chemistry'. **Those having M.Sc. with specialization in subjects like Industrial Chemistry, Textile Chemistry, Applied Chemistry, Environmental Chemistry, Petroleum Chemistry, Nanoscience, Nanotechnology, Pharmaceutical Chemistry etc. are NOT eligible.**

g) **For Biosciences Discipline (code 43):** M.Sc. in Agriculture, Biochemistry, Microbiology, Molecular Biology, Biotechnology, Genetics, Botany, Zoology, Plant Science, Plant Breeding, Plant Pathology, Entomology, Food Technology, Animal Science, Life Sciences, Biomedical Sciences and Biosciences with a minimum of 60%* aggregate marks in M.Sc. as well as in B.Sc.; or B.E. / B.Tech. / B.Sc.(Tech.) only in Food Technology with minimum of 60%* aggregate marks. M.Sc. applicants should have at least one out of Physics or Chemistry or Biochemistry or Agriculture Chemistry as a subject at the B.Sc. stage or at subsidiary and / or ancillary level in case of 5-year integrated M.Sc. Applicants opting to be considered on the basis of a GATE Score should have a valid GATE-2022 or GATE-2023 Score in 'Life Sciences' or in 'Biotechnology'. **Those having M.Sc. with specialization in subjects like Fisheries, Horticulture, Forestry, Agronomy, Animal Husbandry, Marine Biology, Bio-analytical Sciences, Bioinformatics, and Home Science etc. and B.E. / B.Tech. / M.Tech. in Biotechnology / Genetic Engineering / Biomedical Engineering are NOT eligible.**

h) **For Radiological Safety & Environmental Science (RSES, code 44):** B.E. / B.Tech. in Nuclear Engineering / Nuclear Technology / Nuclear Science & Technology with minimum of 60%* aggregate marks or M.Sc. in Physics or Chemistry with Physics and Chemistry up to B.Sc. or at subsidiary and / or ancillary level in case of integrated M.Sc., and Mathematics at Std. XII or at B.Sc. or at subsidiary and / or ancillary level in case of 5-year integrated M.Sc., with minimum of 60%* aggregate marks in M.Sc. All science candidates (other than those applying with a 5-year integrated M.Sc. degree) must additionally have a minimum of 60%* aggregate marks in B.Sc. **RSES is an additional Training Scheme option to applicants belonging to Nuclear Engineering, Physics and Chemistry disciplines (codes 29, 41 and 42) and hence there will not be separate screening test or Selection interview for RSES (code 44).**

i) **For Geology Discipline (Code 45):** M.Sc. or equivalent M.Tech. in Geology/Applied Geology/ Applied Geochemistry with Geology at B.Sc. or 5-year integrated M.Tech. in Geological Technology. Eligible candidates must have two subjects out of Mathematics, Physics and Chemistry up to B.Sc. or at subsidiary and / or ancillary level in case of 5-year integrated M.Sc./ 5-year integrated M.Tech., with minimum of 60%*