

# Recruitment of Scientific Officers in the Department of Atomic Energy

(Group-A Post of Government of India)

through the Bhabha Atomic Research Centre
Training Schools



Information Brochure for Candidates from Engineering & Science Disciplines: OCES/DGFS-2023

# **Contents**

- 1. Training Schemes and Employment Description
- 2. Grade and Pay Scale
- 3. Selection Process
- 4. Eligibility Criteria
- 5. How to Apply
- 6. About Online Examinations
- 7. Eligible Disciplines (Tables-1a & Table-1b)
- 8. Training School and Training Scheme Options (Table-2)
- DGFS: Admissible Disciplines, M. Tech. Engineering Specializations and DGFS Institutes (<u>Table-3</u>)
- 10. Important Dates (Table-4)
- 11. Category and Date of Birth for Eligibility of Age (Table-5)
- 12. List of Exam Cities (Table-6)

## 1. Training Schemes and Employment Description

BARC Training Schools provide two Training Schemes to deserving candidates ambitious of pursuing a rewarding career in **Nuclear Science**, **Engineering and Technology** and

- a. who would relish challenges in frontier areas of Science & Technology,
- b. who would like to be part of an expanding program of Nuclear Power / Research Reactors,

  Accelerators and Nuclear Fuel Cycle Technologies, and
- c. who would enjoy pursuing innovative research in frontier areas of **Engineering, Physics,**Chemistry, Biosciences and Geology.

They are called **Orientation Course for Engineering Graduates and Science Postgraduates** (**OCES**) and **DAE Graduate Fellowship Scheme for Engineering Graduates (DGFS)** respectively.

Successful completion of the Training Schemes guarantees employment as Scientific Officer "C" in one of the DAE units or Atomic Energy Regulatory Board with attractive career progression opportunities up to the highest echelons.

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

- A. One-year Orientation Course for Engineering Graduates and Science Postgraduates for the academic year 2023-2024 (OCES-2023) will be conducted at the five BARC Training Schools situated at Mumbai, Kalpakkam, Indore and Hyderabad. Tables-1a & 1b list Eligible Disciplines for the OCES 2023 programme. 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 passed the course successfully. Successful TSOs will be posted as Scientific Officers in one of the following DAE units:
  - a. Bhabha Atomic Research Centre (BARC), Mumbai\*
  - b. Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam
  - c. Raja Ramanna Centre for Advanced Technology (RRCAT), Indore
  - d. Variable Energy Cyclotron Centre (VECC), Kolkata
  - e. Heavy Water Board (HWB), Mumbai\*
  - f. Nuclear Fuel Complex (NFC), Hyderabad\*

- g. Board of Radiation and Isotope Technology (BRIT), Mumbai\*
- h. Nuclear Power Corporation of India Ltd (NPCIL), Mumbai\*
- i. Bharatiya Nabhikiya Vidyut Nigam Ltd (BHAVINI), Kalpakkam\*
- j. Uranium Corporation of India Ltd (UCIL), Jaduguda\*
- k. Atomic Minerals Directorate for Exploration & Research (AMD), Hyderabad\*
- I. Directorate of Construction, Services & Estate Management (DCSEM), 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 and the Atomic Energy Regulatory Board (AERB) also.

Appointment in DAE units shall be as a "Group A" Gazetted Officer of the Government of India except in BHAVINI, NPCIL and UCIL which are governed by the service rules of Corporations.

Trainee Scientific Officers in Engineering disciplines who successfully complete the Training Programme and whose performance meets a minimum eligibility criterion are allowed to enroll for M.Tech. in Homi Bhabha National Institute (HBNI), a Deemed to be University. Those not desirous of pursuing M.Tech. are entitled to a Post-Graduate Diploma of HBNI provided their academic performance is above a specified threshold.

B. Two-year DAE Graduate Fellowship Scheme for Engineering Graduates for the academic session beginning in 2023 (DGFS-2023). Under this scheme, Engineering Graduates who have excelled in the Selection Interviews for the BARC Training Schools' programmes and who have also independently secured admission for M. Tech. in select Institutes and specializations as listed in <u>Table-3</u>, in the same academic year in which they are selected for OCES are paid stipend and tuition fee to pursue a M. Tech. degree while retaining their employment in DAE.

After successful completion of one-year course work at the Institute, DGFS Fellows undertake project work, which is assigned by DAE and supervised jointly by a DAE and the DGFS Institute guide.

On successful completion of M. Tech. DGFS Fellows are posted as Scientific Officers in DAE. Appointment in DAE units shall be as a **Group "A" Gazetted Officer of the Government of India**.

On joining, they are required to first undertake a four-month Orientation Course for DGFS Fellows (OCDF) at the BARC Training School, Mumbai.

The placement\*\* of the DGFS Fellows on successful completion of DGFS programme will only be at BARC (in case of Fellows who complete their M.Tech. at IIT Bombay) and IGCAR (in case of Fellows who complete their M. Tech. at IIT Madras).

\*\*Placement can be at any of the BARC facilities located in different parts of India.

Allocation of a DGFS Fellow to a DAE unit is done at the beginning of the M. Tech. programme based on the needs of DAE's programmes and their Selection Interview merit.

C. Stipend and Allowances during Training: OCES TSOs are paid a stipend of ₹ 55,000 per month during the period of their Training and a one- time book allowance of ₹ 18,000. DGFS Fellows are paid a stipend of ₹ 55,000 per month for two years and reimbursed the tuition fee for M.Tech. and are additionally paid a one-time Contingency Grant of ₹ 40,000 per annum for 2 years to meet M.Tech. project related expenses.

Boarding and Lodging in DAE Hostel is mandatory for OCES TSOs during the Training period.

Boarding and lodging in DGFS Institute hostel is mandatory for DGFS Fellows during M.

Tech. programme.

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 ₹ 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.

## 2. Grade and Pay Scale

Appointment in all the units shall be as a Scientific Officer "C" (SO/C) in the

Level 10 - ₹ 56,100 of the 7<sup>th</sup> Central Pay Commission 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 four-month Orientation Course for DGFS Fellows (OCDF).

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

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 **Professional Update Allowance** are also payable.

A comprehensive **Contributory Health Service Scheme** or equivalent for employees and their dependent family members is also available at all DAE Units.

## 3. Selection Process

Selection to OCES/DGFS-2023 is a two-step process: Screening to short-list candidates followed by Selection Interviews of the short-listed candidates.

There is a separate two stage selection process (1. screening- on the basis of online exam/ GATE Score/ CBS or NISER CGPA score & 2. Selection Interview) for each of the Exam disciplines. The <u>Table-1a</u> and <u>Table-1b</u> contains exam disciplines and details of allowable qualifying degree & allowable GATE paper/subject along with training scheme/schemes which may be allotted to selected candidates.

## A. Screening for Selection Interviews is based on three alternative methods:

#### 1) On the basis of Online Examination:

- i. Online Examination will be conducted in April, 2023 in each of the nine Engineering disciplines (Exam Codes 21 29) and four Science disciplines (Exam Codes 41, 42, 43 and 45) in more than forty cities spread across India.
- ii. Travel Allowance is not paid for appearing in Online Examination.
- iii. Candidates who register for the Online Examination will be allotted to to one of the preferred examination centre chosen by them. A link will be provided to all the valid registered candidates to confirm their participation in online exam. Once they confirm their participation the allotment will be done on first come, first served basis.
- iv. All candidates appearing for the BARC Online Examination will be awarded a BARC Online Examination Score. Candidates will be screened in for Selection Interview on the basis of Online Examination Score.

#### 2. On the basis of GATE score:

Candidates will be screened in for Selection Interview on the basis of a valid GATE-2022 or GATE-2023 score in the applicable GATE subject. Applicants with a degree in "Nuclear Engineering" will be screened in only on the basis of Online Examination to be conducted in April, 2023.

3. On the basis of CGPA score of CBS/ NISER: Students graduated/graduating with a Master's Degree in Physics, Chemistry & Biosciences from University of Mumbai – Department of Atomic Energy Centre for Excellence in Basic Sciences (CBS) and National Institute of Science Education and Research (NISER), Bhubaneswar in the academic year 2021-2022 / 2022-2023, and whose Cumulative Grade Performance 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. If applicant had already been screened in for selection interview on the basis CBS/ NISER-2022 score in the previous year then such candidates will not be considered for screening through CBS/NISER screening mode. However, such candidates can apply OCES/DGFS-2023 through others modes of screening channel i.e., GATE and/or ONLINE Exam screening channel. Candidates opting for screening through CBS/NISER screening mode should first submit their online application for the OCES/DGFS-2023 programme on the Online Application Portal and subsequently forward their details through the Directors/ competent authority of their institutes to Head, HRDD, BARC Training School Complex, BARC, HBNI Building, Mumbai. 400094 before 5<sup>th</sup> Aril 2023.

#### Candidates may note the following:

- 1. At the time of application, eligible candidates can choose any <u>one or more than one of</u> the above-mentioned screening options. As the cutoff GATE scores for screening in to Selection Interviews will be finalized only after the conclusion of the Online Examination, candidates are advised to maximize their chance of being screened in to the Selection Interview by availing or more than one of the Screening Channels viz., (GATE score, Online Examination & CGPA score of CBS/ NISER (if applicable) as detailed above.
- 2. Candidates who opt for screening through Online Examination will be allotted to one of the exam city of their choice given during online registration[M1], subject to availability. On completion of online application process, a link will be provided on the Application Portal for candidates to confirm their participation in online exam. Once they confirm their participation, the allotment will be done to one of their three choice of test centres/cities chosen during online application and subsequently admit card/ hall ticket will be generated for download of the same. Confirmation by candidates for participation in online exam is compulsory step for participating in online examination without which they will not be allotted at any centres to appear in the online examination. Alerts by email as well as SMS will be sent to all candidates who have opted for the Online Examination on their registered email address and mobile number as well as announced on the website (https://www.barcocesexam.in) after allotment of examination city/venue. Candidates are advised to visit this website regularly for updates in this regard.

3. The candidates who have opted for screening on the basis of a GATE Score only or CGPA score of CBS/ NISER (if applicable) only will not be allotted an examination slot for the Online Examination. In case of candidates who opt for screening on the basis online exam along with GATE Score and/or CGPA score of CBS/ NISER (if applicable), they will also be allotted exam slot as per their city preferences. In addition, their GATE Sore and/or CGPA score of CBS/ NISER (if applicable) will also be considered for screening to selection interview.

### **Other Opportunities:**

Candidates applying for OCES/DGFS-2023 may be considered for direct recruitment in Institute for Institute of Plasma Research (IPR). Such candidates will be governed by stipendiary norms of Institute of Plasma Research (IPR), and terms and service conditions of Institute of Plasma Research (IPR), **Gandhinagar** on absorption.

#### **B.** Selection Interviews:

Selection Interviews of short-listed candidates will be conducted in Mumbai (in all disciplines except Geology) and Hyderabad (in Geology). Outstation applicants will be paid two-way normal AC-III tier train fare to attend Selection Interview, from their registered residential (either permanent or communication) address, by shortest route or actual fare, whichever is less.

Probable period of Selection Interviews is during May-June, 2023. Short-listed candidates will be able to choose an Interview slot, based on availability, in April-May, 2023. Alerts by email as well as SMS will be sent to all candidates who have been short-listed for Selection Interview on their registered email address and mobile number as well as announced on this website, prior to commencement of the Interview slot booking process. Candidates are advised to visit this website

(https://www.barcocesexam.in) regularly for latest updates.

Final Selection for the OCES/DGFS-2023 programmes will be based solely on performance in Selection Interview, subject to medical fitness. A list of provisionally (subject to medical fitness) selected candidates will be displayed on this website in July, 2023. The selected candidates will also be informed about their Selection by email and SMS.

Candidates selected for OCES-2023, who have obtained admission for applicable M. Tech. programmes in the selected DGFS Institutes and who wish to be considered for DGFS, must provide details of their M. Tech. admission by 14th of July 2023.

## 4. Eligibility Criteria

- A. Qualifying Degrees and Other Academic Requirements for OCES/DGFS-2023
  - a) For Engineering Disciplines (Exam Discipline Codes ME (21), CH (22), MT(23), EE(24), EC(25), CS(26), IN(27), CE(28), NE(29) as per <a href="Table-1a">Table-1a</a>):
    - i. B.E. / B.Tech / B.Sc (Engineering) / 5-year Integrated M.Tech. with a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in one of the above mentioned nine engineering disciplines mentioned in <u>Table-1a.</u>
    - ii. It is to be noted that there is no Training discipline called "Nuclear Engineering" and applicants with a degree in "Nuclear Engineering" will be allotted RSES at BARC Training School, Mumbai or Mechanical or Chemical at the BARC Training Schools at Mumbai, Kalpakkam or NFC-Hyderabad, as their Training Scheme.
    - iii. 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 GATE paper/subject as the qualifying degree discipline. The applicable GATE paper/subjects are listed in Table-1a.
    - Those having qualifying degree in branches like Aerospace, Automobile, iv. Automotive, Aeronautical Engineering, M.E. in CAD/ CAM, Mechanical and Engineering, Industrial Production, Automation Reliability, Architecture, Geology, Mining, Marine Engineering, Manufacturing Engineering, Bio-Medical Electronics/Instruments, Communication, Information Technology, Master of Computer Applications, Dyes & Dye Intermediates, Electrochemical, Energy Systems, Chemical Engineering with specialization in Refining & Petrochemicals, Chemical Technology with specialization in Petrochemicals, Chemical & Electrochemical Engineering, Biochemical Engineering, Oils & Fats Engineering, Paints & Varnishes Engineering, Refining & Petrochemicals Engineering, Petrochemicals Engineering, Plastics Engineering, Engineering, Sugar Technology, Textiles Engineering, Mechatronics Engineering, Power Engineering, Power Plant Engineering, Control Engineering, Software Engineering, Electronics & Computer Engineering, Information Science/ Technology, M.Sc in Computer Science, M.Sc in Computer Applications (MCA), Computer Science & System Engineering, B.Sc Computer Science, Electronics & Computer Engineering, B.Sc. Electronics, M.Sc Electronics, BSMS programme in

Electrical Engineering & Computer Sciences, etc., are NOT eligible.

## b) For Physics Discipline (Exam Discipline Code PH (41)) (Table-1b):

- i. M.Sc in Physics / Applied Physics with specialization in Nuclear Physics, Solid State physics, Condensed matter physics, atomic and molecular physics, Particle/ high Energy physics with Physics and Mathematics at B.Sc. / BE / B. Tech./ B.Sc. (Engg.) or at subsidiary and/or ancillary level in case of 5-year integrated M.Sc. or B.E./ B.Tech. / B. Sc. (Engg.) / Integrated M.Tech in "Engineering Physics" with a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in the qualifying degree.
- ii. M. Sc. candidates (other than those applying with a 5-year integrated M. Sc. degree) must additionally have a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in B. Sc / B.E. / B. Tech. / B. Sc. (Engg.).
- iii. 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" GATE paper.
- iv. Applicants having B.E./ B. Tech / B. Sc (Engg.) in "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" GATE paper.
- v. Postgraduation in Nanoscience & Technology, M. Tech. in Physics (Nanomaterials
   & Nanotechnology), M.Sc in Astronomy, M.Sc in Geophysics are NOT eligible.

## c) For Chemistry Discipline (Exam Discipline Code CY (42)) (Table-1b):

- i. M.Sc in Chemistry, Physical chemistry, Organic chemistry, Inorganic chemistry, and Analytical chemistry with Physics up to B.Sc. or up to 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%\* (or minimum of 6.0 CGPA on a scale of 10 or equivalent) aggregate marks in M.Sc.
- ii. All candidates (other than those applying with a 5-year integrated M.Sc degree) must additionally have a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in B.Sc.
- iii. Applicants opting to be considered on the basis of a GATE Score should have a valid GATE-2022 or GATE-2023 Score in "Chemistry" GATE paper.

v. M.Sc in Nanoscience / Nanotechnology Chemistry, Industrial Chemistry, Applied Chemistry, Textile chemistry, M. Sc in Environmental Chemistry, M. Pharm. in Pharmaceutical Analysis, M. Sc in Pharmaceutical Chemistry, M.Sc in Petroleum Chemistry are **NOT** eligible.

## d) For Bioscience Discipline (Exam Discipline code 43) (Table-1b):

- i. 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 (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in M.Sc. as well as in B.Sc. (except for 5-year integrated M.Sc.); or B.E. / B.Tech. / B.Sc. (Tech) only in Food Technology with minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent).
- ii. M.Sc. applicants should have studied 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.
- **iii.** 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".
- iv. Those having M.Sc. with specialization in subjects like Fisheries, Horticulture, Forestry, Agronomy, Animal Husbandry, Marine Biology, Bioanalytical Sciences, Bioinformatics and Home Science etc and B.E. / B.Tech. / M.Tech. in Biotechnology / Genetic Engineering / Biomedical Engineering are NOT eligible.

## e) For Geology Discipline (Exam Code 45) (<u>Table-1b</u>):

- i. M.Sc or equivalent M.Tech in Geology / Applied Geology / Applied Geochemistry with Geology at B.Sc or upto subsidiary and / or ancillary level in case of 5-year integrated M.Sc or 5-year integrated M.Tech. in Geological Technology.
- ii. 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 a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in M.Sc/M.Tech.
- iii. All eligible candidates (other than those applying with a 5-year integrated M.Sc

- / M.Tech. degree) must have a minimum of 60%\* aggregate marks (or minimum of 6.0 CGPA on a scale of 10 or equivalent) in B. Sc. also.
- iv. Additionally, eligible candidates must have passed Mathematics in Std. XII.
- V, All applicants opting to be considered on the basis of a GATE Score should have a valid GATE-2022 or GATE-2023 Score in GATE Paper/subject "Geology & Geophysics".
- vii. MSc in Geo-informatics is not eligible.
- j) Those having M.Sc (by research) or Ph.D. are not eligible.

\*A minimum of 60% aggregate marks (or minimum of 6.0 CGPA on the scale of 10.0 or equivalent) means the marks as per the ordinances of the respective university. Applicants, who have been awarded with LETTER grades, should convert into percentage as per the ordinances of the respective university.

### B. Admission to DGFS:

- i. Candidates having a qualifying degree in Mechanical Engineering., Chemical Engineering, Metallurgy, Electrical Engineering Electronics Engineering, Computer Science, Instrumentation Engineering & Civil Engineering. and who meet the corresponding eligibility criteria listed above are eligible to apply for DGFS provided they are selected for OCES-2023 and additionally secure admission for M.Tech. starting in the academic year 2023-24 in-one of the selected DGFS Institutes and in specializations listed in Table-3.
- ii. Confirmation of M.Tech. admission should be communicated by 14<sup>th</sup> July 2023.
- iii. Securing admission in one of the valid M. Tech. specializations at one of the selected DGFS Institutes along with Selection for OCES, does not guarantee the award of a DGFS Fellowship as DGFS is offered as per the needs of DAE's programmes and only to the most meritorious candidates as per Selection Interview performance.
- C. 1) Maximum Age Limit (Maximum Age as on August 1, 2023) Refer Table 6:
  - i. General Category 26 years,
  - ii. OBC (Non-Creamy Layer) 29 years,
  - iii. SC/ST 31 years,
  - iv. Dependents of those who died in the riots of 1984 (Dep 1984) 31 years,
  - v. Persons domiciled in Kashmir Division of Jammu & Kashmir State from 01/01/1980 to 31/12/1989 (Dom Kashmir) 31 years
  - vi. Physically Challenged persons of all categories are eligible for age relaxation of 10 years. Person with physical disability with extent of disability 40% or more will be considered for age relaxation and may be permitted a scribe.
  - vii. The minimum age limit for all the applicants is 18 years as on August 1, 2023.
  - **D. Nationality**: Applicant must be a citizen of India.
  - E. Applicants working in Central or State Governments or their Units / PSUs / Aided Institutes should produce a No Objection Certificate (NOC) from their organization at the time of Selection Interview, failing which they may not be interviewed.

## F. Application Fee:

i. A non-refundable Application Fee of ₹ 500/- is chargeable from the male applicants belonging to General and OBC categories, Dependents of those who died in the riots of 1984 (Dep 1984), Persons domiciled in Kashmir Division of Jammu & Kashmir State

- from 01/01/1980 to 31/12/1989 (Dom Kashmir).
- ii. Woman candidates, candidates belonging to SC/ST, candidates belonging to transgender, Dependents of Defence Personnel Killed in Action (DODPKIA) and Physically Challenged candidates with extent of disability of 40% or more are exempted from payment of Application Fee.

Candidates awaiting final results and / or appearing in qualifying exam in academic year 2022-2023 or for GATE-2023 may also apply.

If selected, candidates who are eligible in all other respects but are graduating in the academic year 2022-23 and awaiting final results will be allowed to commence training course work. However, retention of these candidates in the OCES or DGFS programmes is subject to the mark-sheet of their final result, which meets the eligibility requirements of the OCES/ DGFS-2023 programme, being submitted by December 29, 2023 in case of OCES TSOs and as per the requirement of the concerned DGFS Institutes in the case of DGFS Fellows.

EXERCISING AUTHORITY: in all matters concerning the OCES/DGFS-2023 recruitment, the decision taken by the Competent Authority in BARC, Mumbai shall be final and binding on the Applicants and they shall abide by the decision in totality. The Applicants while representing the matter shall not directly approach the Courts and will wait till the outcome of the decision by the Competent Authority in BARC.

In case of any claims or disputes arising with respect to the OCES/DGFS-2023 recruitment, the venue of such proceedings, suit, action, or proceedings arising out of or related thereto will be governed / maintained in accordance with the laws of Republic of India subject to exclusive jurisdiction of the courts of Mumbai, India.

## 5. How to Apply

#### ONLY ONLINE APPLICATIONS WILL BE ACCEPTED.

- Candidates have to fill up the Online Application form provided on this website.
- Candidates need to register through "Click here for New Registration" link by providing essential information like name, salutation(Gender), mobile number., e-mail ID (Registered email ID of candidate is the default User ID for online exam registration portal), Exam discipline, qualifying degree etc. It may be noted that the details provided at this stage cannot be modified later on, and hence the candidates are advised to be careful in entering the details.
- Upon successful preliminary registration, the Candidates have to verify the registered mobile & Registered mobile email ID. The registered mobile no. will be verified using OTP sent to registered mobile no. after clicking the "Verify button" provided against Mobile no. on verification page. Similarly registered email ID will be verified using activation link sent to registered email ID after clicking the "Verify button" provided against Email ID on verification page.
- Once the candidate's account is activated, he/she can subsequently log in multiple times through "Candidate's Login" link to fill in the Online Application form.
- While filling the form, the candidates are required to upload their recent passport sized photograph (4.5 x 3.5cm) in JPG/JPEG format (of size between 20- 50 kb) and a scanned copy of their signature (2 x 4.5 cm, in JPG/JPEG format with size not exceeding 20 kb but greater than 10 kb).
- Candidates availing the application fees exemption should provide the detail of valid
   ID card/category/ PWD certificates as per their eligibility
- After filling in all the required details, the candidates who are required to pay the Application Fee (₹ 500 plus applicable bank charges) may make Online payment using net banking / debit card / credit card. On clicking on the "Make Payment" button in the payment page, the candidate is directed to the SBI Payment Gateway through which they can pay the application fee using any of the payment modes listed above. If the payment is successful, the candidates can proceed to final submission stage and complete their application. The candidates must make the payment of Application Fee only once and no requests for refund of Application Fee will be entertained from any candidate.
- Finally, the candidates need to submit the filled form. Please note that no

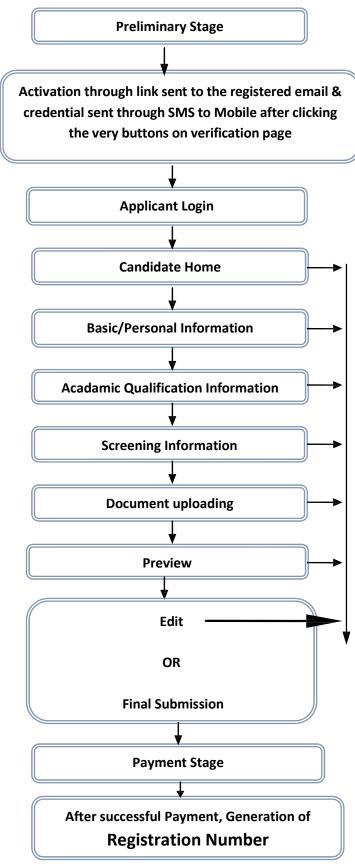
modifications / alterations would be permitted in the application form after final submission. Hence the candidates are advised to verify the correctness and adequacy of the information filled by them before the final submission. It is to be noted that only applications where 'Final Submission' process has been completed before the last date will be considered valid applications.

Candidates have the following options available:

- i. "Final Submission"- On clicking this button, the details of the candidate are submitted and a Registration Number is generated for the candidate.
- ii. If the candidate wishes to do some modification before final submission, he *I* she is advised to click the "Home" link provided on the top of the page. However, it must be noted that the candidate must click the "Final Submission" button after the modification.
- A unique Registration Number will be generated for every candidate who has completed the Final Submission process, which must be used for all future correspondence.
- The candidates who wish to apply for screening on the basis of GATE-2023 Score are required to fill in their GATE details after declaration of the GATE results, whereas those who wish to apply on the basis of a GATE-2022 Score must upload their GATE Score during the Application Process. Applicants with a GATE-2023 Score must register and fill in all details relevant to the admission process, prior to the declaration of GATE-2023 results, and on or before the last date of online application/ registration (please visit the <a href="https://www.barcocesexam.in">www.barcocesexam.in</a> for latest updates) for the same. No new applications, on the basis of a GATE score or otherwise, will be accepted after the last date of online application/ registration. Once the GATE 2023 results are declared, the link will be provided to registered email ID of these candidates to upload their GATE Score Card and GATE marks on this portal for a limited period of time. Candidates are requested to see the "Important Events" part online application portal ( https://www.barcocesexam.in) for latest update of Important dates.

Note: Candidates need not send any documents such as proof of age, proof of category, proof of application fee payment etc., or hard copy of application.

BARC - OCES/DGFS -2023 Flow chart & Instructions for Registration



**Note:** From Candidate Home, candidate can proceed to each successive stage of registration. After completion of each stage, he can also switch over and edit the previous stages, till the final submission is made.

Once Final Submission stage is completed, no further modification is possible.

## **Process & Instructions:**

Application Procedure: 7 Simple Steps (Primary Stage, Activation, Basic/Personal Information, Academic qualification Information, Screening information, Payment Stage, Final Submission) to be followed to apply online

| 1       | a to apply online   |
|---------|---|
| Step 1: | <b>Preliminary stage:</b> In this first stage of registration, the candidates need to choose the Applied Exam Discipline (i.e., Examination Discipline) and Qualifying Degree. The candidate also must enter other primary details like: Name, Salutation (Gender), Email ID, Mobile number, <b>etc.,</b> The candidate will be provided a Login/user Id (Registered email ID is your default user/login ID) & Password to Mobile as well as email ID   |
| Step 2: | Activation:   |
| Step 2. | Upon successful preliminary registration, the login credential details would be sent to the registered mobile whereas the link to activate the account would be sent to their registered email after clicking the Verify buttons provided on the verification page.   |
|         | • The registered mobile no. will be verified using OTP sent to registered mobile no. after clicking the "Verify button" provided against Mobile no. on verification page. Similarly registered email ID will be verified using activation link sent to registered email ID after clicking the "Verify button" provided against Email ID on verification page.   |
| Step 3: | Basic/ Personal Information:  |
|         | After activation of application, the candidate can login through 'Application Login' with   |
|         | the registered User ID and password. After logging in, the candidate should fill his  |
|         | Personal details like: Date of Birth, Parent's details, details of valid ID   |
|         | card/category/PWD certificates to avail the fee exemption, Addresses, etc.  |
| Step 4: | Academic Qualification Information:   |
|         | In this section, the candidate has to enter his/her Academic details like: 10 <sup>th</sup> ,   |
|         | 12 <sup>th</sup> /Diploma, UG degree details, relevant qualifying degree & its details.   |
| Step 5: | Screening Information:  |
|         |   |
|         | After completion of Academic Information, the candidate can proceed to the next stage   |
|         | After completion of Academic Information, the candidate can proceed to the next stage where he/she can choose one or more than one of the screening channels through  |
|         |   |
|         | where he/she can choose one or more than one of the screening channels through  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two   |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has   |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload   |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.   |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.  Note:  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.   |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.  Note:  1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to  |
|         | where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.  At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.  Note:  1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to enter his/her GATE Score out of 1000.  |
|         | <ul> <li>where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.</li> <li>At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.</li> <li>Note:</li> <li>1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to enter his/her GATE Score out of 1000.</li> <li>2. In case of eligible candidates applying on the basis of CGPA score of CBS/ NISER,</li> </ul>  |
|         | <ul> <li>where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.</li> <li>At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.</li> <li>Note:</li> <li>1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to enter his/her GATE Score out of 1000.</li> <li>2. In case of eligible candidates applying on the basis of CGPA score of CBS/ NISER, this option of being screened in based on CGPA can be exercised only once.</li> </ul>   |
|         | <ul> <li>where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.</li> <li>At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.</li> <li>Note:</li> <li>1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to enter his/her GATE Score out of 1000.</li> <li>2. In case of eligible candidates applying on the basis of CGPA score of CBS/ NISER, 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</li> </ul>  |
|         | <ul> <li>where he/she can choose one or more than one of the screening channels through which he/she would prefer to be considered, i.e., Online examination and/or or GATE or/ and CGPA score of CBS/ NISER (if applicable). A candidate can opt for one, any two or all three screening channels.</li> <li>At this stage, the candidate may also furnish his Examination City choices for the candidates opting for Online examination as the screening mode. If the candidate has chosen GATE as the screening channel, he/she has to enter the GATE score and upload his/her Score card while applying in the case of candidates applying with a GATE-2022 score. Candidates applying on the basis of a GATE-2023 score are required to upload their GATE score by March 24, 2023.</li> <li>Note:</li> <li>1. If the candidate enters his/her GATE score wrongly, he/she may not be shortlisted based on GATE screening channel. In GATE score column, the candidate has to enter his/her GATE Score out of 1000.</li> <li>2. In case of eligible candidates applying on the basis of CGPA score of CBS/ NISER, this option of being screened in based on CGPA can be exercised only once.</li> <li>Such candidates should first submit their application for the OCES/DGFS-2023 programme on the Online Application Portal and subsequently forward their</li> </ul> |

| Step 6: | Documents to be uploaded: Latest Photo (Size- 4.5 x 3.5cm, format- JPG/JPEG, file size- 20- 50 kb) & Signature (Size- 2.0 x 4.5cm, format- JPG/JPEG, file size- 10- 20 kb) are to be uploaded in JPEG or JPG format. GATE Score card, if applicable, is also to be uploaded in the pdf or JPG/JPEG format.   |
|---------|--|
| Step 7: | Preview and Submission: The preview will be displayed to cross check the correctness of entered data in previous stages. If required, details can be changed / edited. The candidate should make sure that all the information entered in the previous stages / preview are correct, as no modification in application can be made after making Final Submission.  |
| Step 8: | Payment: Candidates who are required to make an Application Fee Payment can pay the fees through the URL given in the Payment Stage. Payment can be done only through SBI Payment Gateway. There is no refund for candidates who make multiple payments. Candidates, who are exempted from paying fees and have opted to avail the same must submit the details of Valid ID proof / relevant certificate in Step no-3: Basic/Personal Information and then only they can directly proceed to the Final Submission. |
| Step 9  | Generation of Registration No.  Once all the above stages including the successful payment of application fee, if applicable are completed, the registration no. will be generated and informed through SMS on the registered mobile. Details of Registration no will also be sent to candidate to registered email. Candidates will be able to view and print their application also.   |

## 6. About Online Exam

'Online Exam' means that the candidate sits in front of a computer at the examination center and the questions are presented on the computer monitor and the candidate answers the questions on the computer through the use of mouse.

#### **Online Exam Pattern:**

All questions of the Online Exam are of objective type (multiple choice questions with only one correct choice of answer). Each correct answer fetches 3 marks, while each incorrect answer has a penalty of mark (-1mark). No marks are awarded for questions not attempted. While the candidate can skip a question, the computer will not allow the candidate to choose more than one option as correct answer.

There will be 100 questions in all. The questions are so designed that a good candidate will be able to answer 100 questions in 120 minutes.

## **Syllabus:**

The syllabus for the Online Exam is specific to the Science/Engineering examination discipline which a candidate has selected. The questions are intended to assess the basic understanding of subjects in the area of the Science/Engineering exam discipline selected by the candidate. Emphasis would be on the knowledge and problem-solving ability rather than on the memory of the candidate. General English, General Knowledge, Aptitude etc are not assessed.

## **General Instructions:**

All the questions and instructions of the test will be in English only. Candidates should bring a pen for the purpose of rough work, signing etc. Blank sheets for rough work will be provided, if required. Calculators and logarithmic tables are not allowed in the test centers. Candidates are not allowed to bring any other personal belongings such as mobiles/cameras/laptops/notebooks/text books etc. However, an on-screen calculator will be available/enabled during the online examination.

Each candidate who registers for the Online Exam will be instructed to download the 'Admit Card'. A candidate's entry into the test center is subject to the verification of the admit card. In addition to the admit card, each candidate is required to bring the following for verification:

- 1. A printed copy of the Admit Card is to be submitted for verification at the time of the examination. At least one original and valid photo
- identification card (i.e. not photocopied or scanned or expired) such as Voter Card, Aadhaar Card, printout of e- Aadhaar, Driving License / PAN card, Passport, Identity Card issued by School / College/University, SSLC/HSC mark sheet with photo must be presented failing
- which candidate will not be permitted in the examination. Photocopy of the ID proof will not be allowed.
- 2. Candidates who have availed fee exemption under the category SC/ST/Dependents of Defence Personnel Killed in Action (DODPKIA)/Physically Challenged are required to bring valid proof of category for verification at the test center.

All test centers are closely monitored for security and candidates' identity and activities.

# 7. Eligible Disciplines (Engineering) (Tables 1a)

| Exam<br>Disciplin<br>e CODE | EXAM DISCPLINE (to<br>be Selected during<br>Online Application<br>Form under which<br>candidate wishes to<br>apply | Details of Eligible Qualifying degree (Degree Name of qualifying degree as mentioned in the final certificate awarded by University / Institute)  | GATE SUBJECT/<br>PAPER (Subject<br>of GATE Score<br>which will be<br>considered for<br>Screening) | TRANING SCHEME of<br>BARC TS in which<br>training will/ may be<br>Allotted to Selected<br>Candidates |
|-----------------------------|--|---|---|--|
| (21)                        | Mechanical<br>Engineering (ME)   | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Mechanical Engineering   | Mechanical<br>Engineering (ME)  | Mechanical or FRT-M Or QA&QC   |
| (22)                        | Chemical Engineering (CH)  | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Chemical Engineering   | Chemical<br>Engineering (CH)  | Chemical or FRT-M  |
| (23)                        | Metallurgical<br>Engineering (MT)  | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering     | Metallurgical<br>Engineering (MT)   | Metallurgy or<br>QA&QC   |
| (24)                        | Electrical Engineering (EE)  | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Electrical Engineering / Electrical & Electronics Engineering  | Electrical<br>Engineering (EE)  | Electrical or FRT-E  |
| (25)                        | Electronics<br>Engineering (EC)  | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering / Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering | Electronics &<br>Communication<br>Engineering.<br>(EC)  | Electronics or FRT-E   |
| (26)                        | Computer Science<br>Engineering (CS)   | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Computer Science / Computer Engineering/Computer Science & Engineering   | Computer Sc. &<br>Information<br>Technology (CS)  | Computer Science   |
| 27)                         | Instrumentation<br>Engineering (IN)  | B.E./B.Tech /B.Sc. (Engineering)/5-year integrated M. Tech. in Instrumentation Engineering / Instrumentation & Controls Engineering / Electronics & Instrumentation Engineering   | Instrumentation<br>Engineering (IN)   | Instrumentation  |
| (28)                        | Civil Engineering (CE)   | B.E./B.Tech /B.Sc (Engineering)/5-year integrated M. Tech. in Civil Engineering   | Civil Engineering (CE)  | Civil  |
| (29)                        | Nuclear Engineering<br>(NE)  | B.E./B.Tech /B.Sc (Engineering)/5-year integrated M.<br>Tech. in Nuclear Engineering / Nuclear Technology /<br>Nuclear Science & Technology   | NOT ELIGIBLE<br>through GATE  | Mechanical or<br>Chemical or RSES  |
|                             | <u> </u>   | <u> </u>  | 1   | <u> </u>   |

# 7. Eligible Disciplines (Science) (Table 1b)

| Exam<br>discipline<br>s CODE | Exam Discipline to be<br>Selected in Online<br>Application Form<br>under which<br>candidate wishes to<br>apply | Detail of Eligible Qualifying Degree<br>(Degree Name of qualifying degree as mentioned in<br>the final certificate awarded by University / Institute)   |   | TRANING SCHEME of<br>BARC TS in which<br>training will/ may be<br>Allotted to Selected<br>Candidates |
|------------------------------|--|---|---|--|
| PH (41)                      | Physics Discipline   | M. Sc. in Physics / Applied Physics/ Nuclear<br>Physics/ Solid State Physics/ Condensed<br>Matter Physics/ Atomic and Molecular<br>physics/ Particle & High Energy Physics  | Physics (PH)                                    | Physics or RSES or RP  |
|                              |  | B.E./B.Tech / Integrated M.Tech. in<br>Engineering Physics  | Physics (PH)<br>or<br>Engineering Sciences (XE) |  |
| CY (42))                     | Chemistry Discipline   | M. Sc. In Chemistry//Physical chemistry, Organic Chemistry, Inorganic Chemistry, and Analytical Chemistry   | Chemistry (CY)                                  | Chemistry, NFCC or<br>RSES   |
| BS (43)                      | Biosciences Discipline   | 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 Bioscience | Life Sciences (XL)                              | Biosciences  |
|                              |  | B.E./B.Tech./B.Sc.(Tech.) in Food<br>Technology   |   |  |
| GE (45)                      | Geology Discipline   | M.Sc. or equivalent M.Tech. in Geology /<br>Applied Geology / Applied Geochemistry or<br>5-year integrated M.Tech. in Geological<br>Technology.   | Geology & Geophysics                            | Geology  |

Note- RSES-Radiological Safety & Environmental Science; RP- Reactor Physics, NFCC- Nuclear Fuel Cycle Chemistry

# 8. Training School and Training Scheme Options (Table-2)

| Training School                     | Exam Disciplines  | Training Schemes  | Orientation of<br>Training   |
|-------------------------------------|---|---|--|
| BARC, Mumbai<br>(Since 1957)        | Mechanical Engineering (ME-21), Chemical Engineering (CH-22), Metallurgical Engineering (MT-23), Electrical Engineering (EE-24), Electronics Engineering (EC-25), Computer Science (CS-26), Instrumentation Engineering(IN-27), Civil Engineering (CE-28), Nuclear Engineering (NE-29), Physics Discipline (PH-41), Chemistry Discipline (CY-42), Bioscience Discipline (BS-43) | Mechanical, Chemical, Metallurgy, Electrical, Electronics, Computer Science, Instrumentation, Civil, RSES, Physics, Chemistry, Bioscience | <ul> <li>Engineering         Design,         Developme         nt,         Operation         and         Maintenanc         e of Nuclear         Reactors</li> <li>Research in         frontier areas         of Basic and         Engineering         Sciences</li> </ul> |
| IGCAR,<br>Kalpakkam<br>(Since 2006) | Mechanical Engineering (ME-21),<br>Chemical Engineering(CH-22), Electrical<br>Engineering(EE-24), Electronics<br>Engineering(EC-25), Nuclear<br>Engineering(NE-29), Physics<br>Discipline(PH-41), Chemistry<br>Discipline(CY-42),   | Mechanical, Chemical, FRT-E, Electronics, FRT-M, Physics, Chemistry   | <ul> <li>R&amp;D and         Engineering         related to         Fast Breeder         Reactors</li> <li>Research in         frontier areas         of Basic and         Engineering         Sciences</li> </ul>   |
| RRCAT, Indore<br>(Since 2000)       | Electrical Engineering (EE-24),<br>Electronics Engineering(EC-25), Physics<br>Discipline(PH-41),  | Electrical,<br>Electronics,<br>Physics  | R&D and Engineering related to lasers, accelerators,   |

| NFC-HWB,<br>Hyderabad<br>(Since 2001) | Mechanical Engineering(ME-21), Chemical Engineering(CH-22), Metallurgical Engineering(MT-23), Electrical Engineering(EE-24), Electronics Engineering(EC-24), Nuclear Engineering(NE-29) | Mechanical,<br>Chemical,<br>QA&QC<br>Electrical,<br>Electronics, | Operation &<br>Maintenance<br>and<br>Engineering<br>related to<br>Nuclear Fuel<br>Facilities and<br>production<br>plants for<br>production of<br>Heavy Water<br>to support the<br>Nuclear |
|---------------------------------------|---|--|---|
| AMD, Hyderabad<br>(Since 2010)        | Geology discipline (GE-45)  | Geology  | Exploration<br>Techniques for<br>Uranium and<br>other Atomic<br>Minerals and<br>related R&D<br>activities   |

RSES - Radiological Safety & Environmental Science; FRT-M : Fast Reactor Technology- M; FRT-E Fast Reactor Technology-E; QA&QC : Quality Assurance & Quality Control.

# 9. DGFS: Admissible Disciplines, M. Tech. Specializations and DGFS Institutes (Table-3)

| S. No. | Name of Dept./<br>Centre at the<br>DGFS Institute   | Relevant M.Tech. Programme/ Specialisation     | Admissible GATE<br>Subjects & GATE<br>Subject Code   | Details of Qualifying Degree* (Disciplines)   | **Institute |
|--------|---|--|--|---|-------------|
| 1      | Mechanical<br>Engineering                           | Thermal & Fluids<br>Engineering                | Mechanical Engg. (ME)  | B.E./B.Tech/B.Sc. (Engg.) in Mechanical Engineering   | IITB        |
| 2      | Mechanical<br>Engineering                           | Thermal Engineering                            | Mechanical Engg. (ME)  | B.E./B.Tech/B.Sc. (Engg.) in Mechanical Engineering   | IITM        |
| 3      | Mechanical<br>Engineering                           | Design Engineering                             | Mechanical Engg. (ME)  | B.E./B.Tech/B.Sc. (Engg.) in Mechanical Engineering   | IITB        |
| 4      | Mechanical<br>Engineering                           | Mechanical Design                              | Mechanical (ME)  | B.E./B.Tech./B.Sc. (Engg.) in Mechanical Engineering  | IITM        |
| 5      | Applied Mechanics                                   | Computational and<br>Experimental<br>Mechanics | Mechanical Engineering<br>(ME)   | B.E./B.Tech./B.Sc. (Engg.) in Mechanical Engineering  |             |
| 6      | Chemical<br>Engineering                             | Chemical<br>Engineering                        | Chemical Engg. (CH)  | B.E./B.Tech./B.Sc (Engg.) in Chemical Engineering   | IITB, IITM  |
| 7      | Metallurgical<br>Engineering &<br>Materials Science | Materials Science                              | Metallurgical Engg. (MT)   | B.E./B.Tech /B.Sc (Engineering) in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering | ІІТВ        |
| 8      | Metallurgical<br>Engineering &<br>Materials Science | Process Engineering                            | Metallurgical Engg. (MT)   | B.E./B.Tech /B.Sc (Engineering) in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering | ІІТВ        |
| 9      | Metallurgical<br>Engineering &<br>Materials Science | Corrosion Science &<br>Engineering             | Metallurgical Engg. (MT)   | B.E./B.Tech /B.Sc (Engineering) in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering | IITB        |
| 10     | Metallurgical &<br>Materials<br>Engineering         | Metallurgical and<br>Materials<br>Engineering  | Metallurgical Engg. (MT)   | B.E./B.Tech /B.Sc (Engineering) in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering | IITM        |
| 11     | Physics   | Functional Materials<br>and Nanotechnology     | Metallurgical Engg. (MT)   | B.E./B.Tech /B.Sc (Engineering) in Metallurgy / Metallurgical Engineering / Materials Engineering / Metallurgy & Materials Engineering / Metallurgy & Materials Science / Metallurgical & Materials Engineering / Metallurgical Engineering & Materials Science / Materials Science & Engineering | IITM        |
| 12     | Civil Engineering                                   | Structural<br>Engineering                      | Civil Engg. (CE)   | B.E./B.Tech./B.Sc. (Engg.) in Civil Engineering   | IITB        |
| 13     | Civil Engineering                                   | Geotechnical<br>Engineering                    | Civil Engg. (CE)   | B.E./B.Tech./B.Sc. (Engg.) in Civil Engineering   | IITB        |
| 14     | Civil Engineering                                   | Construction<br>Technology &<br>Management     | Civil Engg. (CE)   | B.E./B.Tech./B.Sc. (Engg.) in Civil Engineering   | IITB        |
| 15     | Environmental<br>Science &<br>Engineering           | Environmental<br>Science &<br>Engineering      | Civil Engg. (CE)   | B.E./B.Tech./B.Sc. (Engg.) in Civil Engineering   | IITB        |
| 16     | Electrical<br>Engineering                           | Communication<br>Engineering                   | Electrical Engg. (EE)/<br>Electronics &<br>communication Engg.<br>(EC)                     | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electronics & Electronics & Instrumentation Engineering                       | ІІТВ        |
| 17     | Electrical<br>Engineering                           | Control &<br>Computing                         | Electrical Engg. (EE)/ Electronics & communication Engg. (EC) / Instrumentation Engg. (IN) | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering /   | ІІТВ        |

| S. No. | Name of Dept./<br>Centre at the<br>DGFS Institute                  | Relevant M.Tech. Programme/ Specialisation         | Admissible GATE<br>Subjects & GATE<br>Subject Code  | Details of Qualifying Degree* (Disciplines)   | **Institute |
|--------|--|--|---|---|-------------|
|        |  |  |   | Electronics & Instrumentation Engineering, Instrumentation Engineering / Instrumentation & Controls Engineering   |             |
| 18     | Electrical<br>Engineering  | Electronic Systems                                 | Electrical Engg. (EE)/<br>Electronics &<br>communication Engg.<br>(EC)                                | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering  | ІІТВ        |
| 19     | Electrical<br>Engineering  | Integrated Circuit &<br>Systems                    | Electrical Engg. (EE)/<br>Electronics &<br>communication Engg.<br>(EC)                                | B.E./B.Tech /B.Sc (Engineering in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering   | ІІТВ        |
| 20     | Electrical<br>Engineering  | Integrated Circuit & Systems                       | Electronics & communication Engg. (EC)  | B.E./B.Tech /B.Sc (Engineering in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering   | IITM        |
| 21     | Electrical<br>Engineering  | Communication & Signal Processing                  | Electronics & communication Engg. (EC)/ Instrumentation Engg. (IN)                                    | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering / Instrumentation Engineering / Instrumentation & Controls Engineering | ШТМ         |
| 22     | Electrical<br>Engineering  | Microelectronics<br>and VLSI Design                | Electronics & communication Engg. (EC)  | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering  | IITM        |
| 23     | Electrical<br>Engineering  | Electronic System<br>Design and<br>Instrumentation | Electronics & communication Engg. (EC)/ Instrumentation Engg. (IN)                                    | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering / Instrumentation & Controls Engineering                               | ІІТМ        |
| 24     | Electrical<br>Engineering  | Control and<br>Optimization                        | Electronics & communication Engg. (EC)/ Instrumentation Engg. (IN)                                    | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering / Instrumentation & Controls Engineering                               | ІІТМ        |
| 25     | Interdisciplinary<br>Group for System<br>& Controls<br>Engineering | System & Controls<br>Engineering                   | Electrical Engg.(EE) /<br>Electronics &<br>communication Engg.<br>(EC)/ Instrumentation<br>Engg. (IN) | B.E./B.Tech /B.Sc (Engineering) in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering /Electronics & Controls Engineering / Electrical & Electronics Engineering / Electronics & Instrumentation Engineering./ Instrumentation Engineering / Instrumentation & Controls Engineering | ІІТВ        |
| 26     | Computer Science<br>& Engineering                                  | Computer Science & Engineering                     | Computer Sc. &<br>Information<br>Technology (CS)  | B.E./B.Tech /B.Sc (Engineering) in Computer Science / Computer Engineering/ Computer Science & Engineering  | IITB        |
| 27     | Computer Science<br>& Engineering                                  | Computer Science & Engineering                     | Computer Sc. & Information Technology (CS)/ Electronics & communication Engg. (EC)                    | B.E./B.Tech /B.Sc (Engineering) . in Computer Science / Computer Engineering/ Computer Science & Engineering / Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics and Telecommunication Engineering / Electronics & Controls Engineering / Electronics & Electronics & Instrumentation Engineering                    | IITM        |

<sup>\*\*</sup> Institutes (under consideration) where specified M.Tech. courses are offered under this scheme: IITB = IIT Bombay; IITM = IIT Madras. Number of DGFS Fellows selected in each approved M.Tech. specialization at the Institutes under the DGFS scheme will depend upon the requirements of DAE

# 10. Important Dates (Table- 4)

| Important Dates ( All Dates are Tentative and Applicants must visit (  | Online Application Portal  |
|--|--|
| regularly for updates )  Publishing Print media Advertisement in Employment Newspaper /  Daily News paper  | January 28, 2023/ 31st Jan 2023  |
| Commencement of Online Application Process for OCES/DGFS-2023  | February 1, 2023<br>February 5, 2023                                   |
| Last date for Registration for Online Application  | March 5, 2023 March 11, 2023 March 13, 2023                            |
| Last date for Submission of Online Application   | March 6, 2023<br>March 12, 2023<br>March 14, 2023                      |
| Allocation of examination centre (venue) to candidates & time window for the candidates, who opted for online exam, to confirm their participation in Online Examination | March 14, 2023 March 15, 2023 to<br>March 19, 2023                     |
| Download of Admit card/Hall ticket for the candidates, who confirm their participation in Online Examination   | April 1, 2023 onwards  |
| Online Examination   | <del>1st April – 2nd April 2023</del><br>April 8, 2023 & April 9, 2023 |
| Last date for candidates to upload the GATE Score  | March 24, 2023   |
| Display of List of candidates short-listed for Interview on Online Application Portal  | April 24, 2023   |
| Availability based option on Online Application Portal to select Interview Slot for qualified candidates   | April 26, 2023- May 6, 2023  |
| Selection Interviews   | May 16 –June 16, 2023  |
| Display of List of Candidates finally selected for OCES-2023 on Online Application Portal  | July 7, 2023   |
| Last Date for Selected OCES-2023 Candidates desirous of DGFS to give details of M. Tech admission in the selected DGFS institute   | July 10, 2023  |
| Declaration of List of Applicants Selected for DGFS-2023 on Online Application Portal  | 14 July, 2023  |
| Commencement of OCES-2023  | August 7, 2023   |

<sup>\*</sup>All dates are tentative and applicants must regularly visit Online Application Portal (https://www.barcocesexam.in) for updates.

# 11. Application fee and Date of Birth for Eligibility of Age (Table – 5)

|               | No Disability   |                | Physically challen  | ged          |
|---------------|---|----------------|---|--------------|
| Category      | Maximum age limit as on 01-08-2023 (Born on or after) | Fee            | Maximum age limit as<br>on 01/08/2023<br>(Born on or after) | Fee          |
| General       | 26 years (1st August- 1997)                           | Rs. 500 + Bank | 36 years (1 <sup>st</sup> August-                           | Fee exempted |
|               |   | charges        | 1987  |              |
| OBC (Non      | 29 years (1 <sup>st</sup> August-1994)                | Rs. 500 + Bank | 39 years (1 <sup>st</sup> August-                           | Fee exempted |
| Creamy Layer) |   | charges        | 1984  |              |
| SC/ST         | 31 years (1 <sup>st</sup> August- 1992)               | Fee            | 41 years (1 <sup>st</sup> August-                           | Fee exempted |
|               |   | exempted       | 1982  |              |
| DODPIKA       | 26 years (1st August- 1997)                           | Fee            | 36 years (1st August-                                       | Fee exempted |
|               |   | exempted       | 1987  |              |
| Dep 1984      | 31 years (1 <sup>st</sup> August- 1992)               | Rs. 500 + Bank | 41 years (1 <sup>st</sup> August-                           | Fee exempted |
|               |   | charges        | 1982  |              |
| Domicile of   | 31 years (1 <sup>st</sup> August- 1992)               | Rs. 500 + Bank | 41 years (1 <sup>st</sup> August-                           | Fee exempted |
| Kashmir       |   | charges        | 1982  |              |

**Note** - Female and Transgender of all categories are exempted from payment of application fees.

Candidates eligible for fee exemption and desirous to avail the same, are need to give the details relevant valid & genuine certificates during online application submission. In case of female and transgender candidates, any certificate (birth certificate, Aadhar Card, PAN Card, Indian passport, pre- qualifying/ qualifying passing certificates / Marksheet etc.) in which gender or relevant salutation has been clearly mentioned is acceptable.

## 12 List of Cities where Online Examination will be held

## (Table-6)

| S. No. | City                           |
|--------|--------------------------------|
| 1      | Ahmedabad                      |
| 2      | Agartala                       |
| 3      | Prayagraj (Allahabad)          |
| 4      | Vadodara (Baroda)              |
| 5      | Bengaluru                      |
| 6      | Bhopal                         |
| 7      | Bhubaneswar                    |
| 8      | Chandigarh                     |
| 9      | Chennai                        |
| 10     | Coimbatore                     |
| 11     | Dehradun                       |
| 12     | Delhi (Proper)                 |
| 13     | Delhi NCR – Gurugram (Gurgaon) |
| 14     | Delhi NCR - Noida              |
| 15     | Hubli-Dharwad                  |
| 16     | Durgapur                       |
| 17     | Ernakulam                      |
| 18     | Faridabad                      |
| 19     | Guwahati                       |
| 20     | Hyderabad                      |
| 21     | Indore                         |
| 22     | Jabalpur                       |
| 23     | Jaipur                         |
| 24     | Jammu                          |
| 25     | Jhansi                         |
| 26     | Kanpur                         |
| 27     | Kolhapur                       |
| 28     | Kolkata                        |
| 29     | Kozhikode                      |

| 30 | Lucknow   |
|----|---|
| 31 | Madurai   |
| 32 | Mangaluru (Mangalore)   |
| 33 | Mumbai & Mumbai Suburban upto Andheri(Western) and              |
|    | Ghatkopar (Main)  |
| 34 | Mumbai Suburban beyond Andheri (Western) and Ghatkopar (Main) & |
|    | Navi Mumbai   |
| 35 | Mysuru (Mysore)   |
| 36 | Nagpur  |
| 37 | Patna   |
| 38 | Pune  |
| 39 | Raipur  |
| 40 | Ranchi  |
| 41 | Rourkela  |
| 42 | Siliguri  |
| 43 | Tezpur  |
| 44 | Thiruvananthapuram  |
| 45 | Tirupati  |
| 46 | Udaipur   |
| 47 | Varanasi  |
| 48 | Vijayawada  |
| 49 | Vishakhapatnam (Vizag)  |