

**Government of India**  
**DEPARTMENT OF ATOMIC ENERGY(DAE)**  
**Bhabha Atomic Research Centre Training Schools (OCES/DGFS-2011)**

**Information Brochure**

**For More Details Visit (<http://oces.hbni.ac.in>)**

**Training Schemes and Employment Description**

**1. One-year Orientation Course for Engineering Graduates and Science Post-Graduates for the year 2011-2012 (OCES-2011)** conducted at 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 along with the placement information after training. A Trainee who scores a minimum of 50% aggregate marks on completion of the training programme is declared to have passed the course successfully. Successful Trainees will be posted as scientific officers in one of the following DAE units:

- a. [Atomic Minerals Directorate of Exploration & Research](#) (AMD), Hyderabad\*
- b. [Bhabha Atomic Research Centre](#) (BARC), Mumbai\*
- c. [Bharatiya Nabhikiya Vidyut Nigam Ltd](#) (BHAVINI), Kalpakkam\*
- d. [Board of Radiation and Isotope Technology](#) (BRIT), Mumbai\*
- e. [Raja Ramanna Centre for Advanced Technology](#) (RRCAT), Indore
- f. [Heavy Water Board](#) (HWB), Mumbai\*
- g. [Indira Gandhi Centre for Atomic Research](#) (IGCAR), Kalpakkam
- h. [Nuclear Fuel Complex](#) (NFC), Hyderabad\*
- i. [Uranium Corporation of India Ltd](#)(UCIL), Jaduguda\*
- j. [Nuclear Power Corporation of India Ltd](#)(NPCIL), Mumbai\*
- k. [Variable Energy Cyclotron Centre](#) (VECC), Kolkata.

\*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 trainee to a DAE unit is done based on performance in the OCES programme. DAE reserves the right to place a small number of selected candidates/ trainees to any other unit under the Atomic Energy Commission or the Atomic Energy Regulatory Board (AERB) apart from those listed above.

Performance above a specified threshold in course work at the Training School will entitle trainees to Post-Graduate Diploma or could earn them credits towards MTech/ MPhil/ PhD of Homi Bhabha National Institute (HBNI), a Deemed to be University.

**2. Two-year DAE Graduate Fellowship Scheme for Engineering Graduates and Physics Post-Graduates for the term beginning in 2011 (DGFS-2011).** Under this scheme, Engineering Graduates and Physics Post-Graduates who are selected for the Training School programme and who also have secured admission for MTech/ MChemEngg in select institutes and specializations as listed in [Table-3](#), are paid stipend and tuition fee to pursue a MTech/ MChemEngg degree while retaining their employment in DAE. After successful completion of one-year course work at the institute, fellows undertake project work, which is assigned and supervised jointly by a DAE and an institute guide. On successful completion of MTech/ MChemEngg, they are posted as Scientific Officers in DAE. On joining, they are required to

first undertake a four-month Orientation Course (OCDF) at the BARC Training School. The DGFS fellows are enrolled and posted in one of the following units of DAE:

a) BARC, Mumbai b) RRCAT, Indore c) IGCAR, Kalpakkam.

Allocation of a DGFS fellow to a DAE unit is done at the beginning of the MTech/ MChemEngg 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 for Rs 2,45,000 for OCES trainees and Rs 5,05,000 for DGFS fellows. **No third party surety is required.**

**During Training: (i) Stipend and Allowances:** OCES trainees as well as DGFS fellows are paid stipend of Rs 20,000 per month during the period of their training and a one-time book allowance of Rs 5,000, **(ii) Boarding and Lodging** in DAE/Institute Hostel/Guest House is mandatory.

**On Appointment: 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.**

## Grade And Pay Scale

Appointment in all the units shall be as a Scientific Officer (C) in the pay band Rs 15,600-39,100 with grade pay of Rs 5,400. Appointment will be at the beginning of the pay scale with OCES trainees 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 MTech and four-month Orientation Course. Emoluments (with three increments) at the time of joining including Dearness Allowance, House Rent Allowance, Transport Allowance at Mumbai rate / present rate will be approximately Rs 47,000. In addition, other Allowances are also payable such as Professional Update Allowances & Leave Travel Concession by air. A comprehensive Contributory Health Service Scheme for employees and their dependent family members is also available at all DAE Units.

**Incentive scheme :** With a view to promote excellence in all activities undertaken by the department officers are also eligible for additional incentives upto 40% of their basic pay subject to fulfillment of the set targets and their performance in the periodic appraisals carried out as per the set norms.

## Selection process

Selection to OCES/DGFS is a two-step process: **screening** to short-list candidates followed by **interview** of the short-listed candidates. Except for RSE discipline (code 44), there is a separate selection process for each of the other disciplines listed in [Table-1](#). **RSE is available only as an additional option to applicants for Physics and Chemistry disciplines (codes 41 and 42).**

**Screening for the Engineering disciplines (codes 21-29)** is based on two alternative methods: (a) Cut-off **GATE Score** for short-listing candidates for interview will be declared on the web. (b) **Written Test:** It will be conducted in each of the seven Engineering disciplines (codes 21-27) except Civil Engineering (Code 29) at the centres listed in [Table-4](#) along with their codes. Candidates who do not opt for GATE or who do not qualify on the basis of GATE Score may take the Written Test. Travel Allowance is not paid for appearing in it. **Written Test will be held on Sunday, April 24, 2011.**

**Screening for Science disciplines (codes 41-43 & 45-46)** is based on two alternative methods: (a) **Written Test:** It is conducted in each of the above mentioned disciplines (codes 41-43 & 45-46) at the centres listed in [Table-4](#) along with their codes. Travel Allowance is not paid for appearing in the Written

Test. **Written test is scheduled on Sunday, February 27, 2011.**

(b) **GATE Score:** In this case, merit list in each of the Science disciplines (codes 41-43 & 45-46) is prepared on the basis of valid **GATE Score** of the applicants. Cut-off GATE score and Written Test marks for short-listing candidates for interview in each discipline are decided after the last date of receipt of applications.

A candidate applying for these disciplines (codes 41-43 & 45-46) may opt to appear for Written Test and also apply for selection on the basis of valid GATE Score.

**Selection Interviews** of shortlisted candidates are conducted in BARC Training School, Mumbai. Outstation applicants are paid to and fro second-class sleeper train fare by shortest route or actual fare whichever is less. Probable period of selection interviews is during May-June, 2011. Names of short-listed candidates except those qualified through Engineering Written Test will be declared on our website from April 25, 2011 onwards. Call letters will also be posted to those selected for interview.

**Final Selection** is solely on the basis of performance in interview subject to medical fitness. This selection process would also be used for selecting candidates for research based academic programmes and for Diploma in Radiological Physics programme of HBNI. Eligibility criteria and associated details will be advertised separately.

## Eligibility criteria

**Valid GATE score means score of GATE-2010/ GATE-2011**

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

(a) **For Engineering Disciplines (codes 21-29):** BE/ BTech/ BSc(Engineering) with a **minimum of 60%\* aggregate marks** in any of the engineering disciplines mentioned in [Table-1](#) and valid GATE Score in the same engineering discipline as the qualifying degree discipline. Those having qualifying degree in branches like Aerospace, Automobile, 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, etc, are **not eligible**.

(b) **For Physics Discipline (code 41):** MSc in Physics/ Applied Physics or BE/ BTech in Engineering Physics with **minimum of 60%\* aggregate marks**. MSc applicants should have Physics and Mathematics up to BSc or at subsidiary and/or ancillary level in case of five year integrated MSc, with **minimum of 60%\* aggregate marks in MSc as well as in BSc**. Applicants opting to be considered on the basis of GATE Score should have valid GATE Score in Physics. For applicants having BE (Engineering Physics) as qualifying degree, valid GATE Score in Engineering Science is also acceptable.

(c) **For Chemistry Discipline (code 42):** MSc in Chemistry with **Physics** up to BSc or at subsidiary and/or ancillary level in case of five year integrated MSc and **Mathematics** up to Std. XII, with minimum of 60%\* aggregate marks in MSc as well as in BSc. Applicants opting to be considered on the basis of GATE Score should have valid GATE Score in Chemistry.

(d) **For Biosciences Discipline (code 43):** MSc in Agriculture, Biochemistry, Microbiology, Molecular Biology, Biotechnology, Genetics, Botany, Zoology, Plant Science, Plant Breeding, Plant Pathology, Entomology, Food Technology, Animal Science, Life Sciences and Biosciences; or BE/BTech/BSc (Tech) only in Food Technology with minimum of 60%\* marks. MSc applicants should have Physics or Chemistry or Biochemistry or Agriculture Chemistry upto BSc or at subsidiary and/or ancillary level in case of five year integrated MSc with minimum of 60%\* aggregate marks in MSc as well as in BSc . Applicants opting to be considered on the basis of GATE Score should have valid GATE Score in Life Sciences or in

Biotechnology. Those having MSc with specialisation in subjects like Fisheries, Horticulture, Forestry, Agronomy, Animal Husbandry, Marine Biology and Home Science etc and BE/ BTech/ MTech in Biotechnology/ Genetic Engineering are not eligible.

**(e) For Radiological Safety Engineering (RSE, code 44):** MSc in Physics or Chemistry with Physics and Chemistry up to BSc or at subsidiary and/or ancillary level in case of integrated MSc, and Mathematics up to Std. XII, with minimum of 60%\* aggregate marks in MSc as well as in BSc. **Those having MSc in Environmental Science are not eligible.**

**(f) For Geology Discipline (Code 45):** MSc in Geology/ Applied Geology/ Applied Geochemistry with both Geology and Mathematics upto BSc. or at subsidiary and/ or ancillary level in case of five year integrated MSc, with minimum of 60%\* aggregate marks in MSc as well as in BSc. Applicants opting to be considered on the basis of GATE Score should have valid GATE Score in Geology / Geophysics.

**(g) For Geophysics Discipline (Code 46):** MSc in Geophysics/ Applied Geophysics with Mathematics up to BSc. or at subsidiary and/ or ancillary level in case of five year integrated MSc, with minimum of 60%\* aggregate marks in MSc as well as in BSc. Applicants opting to be considered on the basis of GATE Score should have valid GATE Score in Geology / Geophysics.

**(h) Those having MSc (by research) or PhD are not eligible.**

**\*A minimum of 60% marks means the marks as per the ordinance of the respective university.**

## **B. Admission to DGFS**

Candidates having qualifying degree in disciplines 21-29 or 41 and who meet the corresponding eligibility criteria listed above are eligible to apply for DGFS provided they secure admission for MTech/ MChemEngg starting in the academic year 2011 in Institutes in specializations listed in [Table-3](#). Confirmation of MTech/ MChemEngg admission should be communicated by July 20, 2011, failing which offer of DGFS will be withdrawn retaining their options for OCES schemes if any.

## **C. Age Limit (Age as on August 1, 2011)**

- a) General Category - 26 years,
- b) OBC-29 years,
- c) SC/ST-31 years,
- d) Dependents of those who died in the riots of 1984 (Dep1984) -31 years,
- e) Persons domiciled in Kashmir Division of Jammu & Kashmir State from 01/01/1980 to 31/12/1989 (Dom Kashmir) -31 years.

**Physically Challenged** persons of all categories are eligible for age relaxation of 10 years.

**D. Nationality: Applicant must be a citizen of India.**

**E. Applicant working in Central/ State Government Units/ PSUs/ Aided Institutions should apply through proper channel.**

## **F. Application Fee:**

A non-refundable application-processing fee of **Rs 250** ( Rupees Two Hundred and Fifty) is chargeable from the applicants in General and OBC categories. **Women candidates and the candidates belonging to SC/ST and Dependents of Defence Personnel Killed in Action (DODPKIA) and physically challenged candidates are exempted from payment of application fee.**

## How to apply

With regard to payment of Application Fee, the candidate may download the three fold challan from the website <http://oces.hbni.ac.in> and make the payment in any branch of the State Bank of India. There are two modes of application:

- (1) Online, and
- (2) By Post.

**(1) Online Application:** After making the payment and getting the UNIQUE TRANSACTION NUMBER, the candidate who is applying online has to enter the said number as response to the relevant query in the online application form.

**(2) Application by Post** can be made by taking two photocopies on an A4 size (~8.3"x11.7") paper of the accompanying format as Application Form. No separate application form is issued. Fill in all the relevant information, paste photographs on both the copies and mail both copies to the address given in the application form. One copy shall be returned to the applicant indicating the application number. That copy should be brought along at the time of appearing for Written Test and/ or Interview. The portion of the challan marked "Institution Copy" should be mailed along with the application. Candidate shortlisted for interview will have to produce original challan at the time of interview.

### Some Guidelines for filling Application Form

(i) Under choice of different schemes in the application form, an OCES scheme is indicated by OCES followed by name of the training school from [Table-2](#). Choices for DGFS are indicated by DGFS followed by name of the unit where MTech/ MChemEngg project is to be carried out and where the Fellow will be placed on appointment.

(ii) Allocation of scheme will solely be on the basis of selection interview merit and choices given by the applicant subject to available seats

(iii) Choices given for those schemes, which are not applicable as per [Table-2](#), will be ignored.

(iv) Choices for DGFS will be cancelled (retaining the options mentioned for OCES) if information about MTech admission, with specialization mentioned, is not submitted by July 20, 2011.

**Table-1: Eligible Disciplines and their Codes**

Engineering Discipline	Code	Engineering Discipline	Code	Science Discipline	Code
Mechanical	21	Electronics*	25	Physics	41
Chemical	22	Computers	26	Chemistry	42
Metallurgy	23	Instrumentation	27	Biosciences	43
Electrical	24	Civil	29	Radiological Safety Engineering (RSE)	44
				Geology	45
				Geophysics	46

\*Related degree disciplines such as Electronics & Communication, Electronics and Controls are also admissible.

**Table-2: Training Schools, Eligible Disciplines, Orientation of Training and Probable placements**

<b>Training School</b>	<b>Disciplines (refer <a href="#">Table-1</a>)</b>	<b>Orientation of Training</b>	<b>Probable Placement after Training*#</b>
BARC, Mumbai (Since 1957)	21 to 27, 29 & 41 to 44	Research & Development , Engineering and Operation & Maintenance related to Broad based Nuclear Science & Technology	Mainly in <b>BARC</b>
IGCAR, Kalpakkam(Since 2006)	21, 22, 25, 27, 41 & 42	R&D and Engineering related to Fast Breeder Reactors	Mainly in <b>IGCAR</b>
RRCAT, Indore (Since 2000)	24, 25 & 41	R&D and Engineering related to lasers, accelerators, plasma physics, cryogenics and superconductivity	Mainly in <b>RRCAT</b>
NFC-HWB, Hyderabad (Since 2001)	21, 22, 24, 25 & 27	Operation & Maintenance and Engineering related to Nuclear Facilities & production plants	Mainly in <b>NFC &amp; HWB</b>
AMD, Hyderabad (Since 2010)	45, 46	Exploration Techniques for Uranium and other Atomic Minerals and related R&D activities	Mainly in <b>AMD</b>

\* Some candidates may be placed in Nuclear Power Corporation of India.

# The DAE reserves the right to place a small number of selected candidates/ trainees to any other unit under the Atomic Energy Commission apart from those listed above.

**Table-3: MTech Specializations and Admissible Pre-MTech Degree-Disciplines for DGFS**

<b>Relevant MTech Programme or Name of Dept/ Centre at the MTech Institute</b>	<b>Pre-MTech Degree (Disciplines)</b>	<b>Institutes**</b>
Mechanical Engineering	BE (Mechanical)	All but ICT
Cryogenic	BE (Mechanical)	Kh
Chemical Engineering	BE (Chemical)	All but Rkl
Applied Mechanics	BE (Civil/ Mechanical)	M
Civil Engineering	BE (Civil)	All but Rkl, ICT
Earthquake Engineering	BE (Civil)	K, R
Nuclear Hydrology	BE (Civil/ Chemical)	R

Nuclear Hydrology	BE (Civil/ Chemical)	R
Metallurgical Engineering, Materials Science/ Engineering	BE (Metallurgy/ Chemical)	All but ICT
Electrical Engineering	BE (Electrical/ Electronics)	All but ICT
Reliability Engineering, Systems & Control Engineering, Energy Systems	BE (Mechanical/ Electrical/ Chemical)	B, D, Kh, R
Power/ Communication/ Control Engg, Integrated Electronics & Circuits	BE (Electrical/ Electronics)	D, R
Instrumentation	BE (Electrical/ Electronics/ Instrumentation)	Kh,M,R
Computer Science, Engineering & Technology	BE (Computer/ Electrical/ Electronics)	All but Rkl, Var, ICT
Applied Optics, Lasers & Optoelectronics	BE (Electronics/ Optoelectronics) MSc (Physics/ Applied Physics)	D
Nuclear Engineering & Technology	BE (Mechanical/ Chemical/ Electrical/ Electronics)	K
Solid State Materials/ Electronic Materials	BE (Electrical/ Electronics) MSc (Physics/ Applied Physics)	D, R
Electronics Engineering, Electronics and Communication Engineering	BE (Electrical/Electronics)	Rkl & Var

\*\* Institutes where specified MTech/ MChemEngg courses are offered under this scheme: B = IIT Bombay; D = IIT Delhi; K = IIT Kanpur; Kh = IIT Kharagpur; M = IIT Madras; R = IIT Roorkee; Rkl = NIT Rorkela; Var = IT-BHU; Varanasi; Institute of Chemical Technology, ICT, Mumbai. Number of DGFS Fellows selected in each approved MTech/ MChemEngg Specialization at the Institute under the DGFS will depend upon the requirements of DAE and the provision decided by the Institute.

**Table-4: Written Test Centre Code (for OCES/DGFS Science and Engineering disciplines)**

Centre	Code	Centre	Code
Ahmedabad	01	Kolkata	12
Bengaluru	02	Lucknow	13
Bhubaneshwar	03	Mumbai	14
Chandigarh	04	Nagpur	15
Chennai	05	Patna	16
Coimbatore	06	Roorkee	17
Delhi	07	Thiruvananthapuram	18
Guwahati	08	Varanasi	19
Hyderabad	09	Jamshedpur#	20

Indore	10	Raipur#	21
Jaipur	11	Shillong#	22

# These centres are only available for Written Test in Engineering Disciplines

Important Dates	Written Test in Science Disciplines on Sunday February 27, 2011 Written Test in Engineering Disciplines on Sunday April 24, 2011	
	Postal	Online
<b>Engineering Disciplines (codes 21-29):</b>		
<b>Last date of receipt of application on the basis of GATE Score</b>	25.3.2011	31.3.2011
<b>Last date of receipt of application for those opting for written test in 7 Engineering Disciplines</b>	18.3.2011	25.3.2011
<b>Science Disciplines (codes 41-43 &amp; 45-46):</b>		
<b>Last date of receipt of application for those opting for written test in Science Disciplines</b>	21.1.2011	21.1.2011
<b>Last date of receipt of application for those not opting for written test and receipt of GATE Score</b>	25.3.2011	31.3.2011
<b>All disciplines: Interview schedule to be displayed on website</b>	25.4.2011 onwards	