

(Table 1b)

CODE	Discipline to be Selected in Online Application Form under which candidate wishes to apply	Eligible Degree Subject/Discipline as awarded by University / Institute	GATE Subject
PH	Physics†	M. Sc. In Physics / Applied Physics	Physics
		B.E./B.Tech. In Engineering Physics	Physics / Engineering Sciences
CY	Chemistry‡	M. Sc. In Chemistry	Chemistry
BS	Biosciences	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	Life Sciences / Biotechnology
		B.E./B.Tech./B.Sc.(Tech.) in Food Technology	
RSE	Radiological Safety Engineering#	B.E./B.Tech./B.Sc. (Engg.)/5-year integrated M. Tech. in Nuclear Engg./ Nuclear Technology/ Nuclear Science & Technology	NOT ELIGIBLE through GATE
		M.Sc. In Physics / Applied Physics	Physics
		M.Sc. In Chemistry	Chemistry
GE	Geology	M.Sc. or equivalent M.Tech. in Geology / Applied Geology / Applied Geochemistry or 5-year integrated M.Tech. in Geological Technology.	Geology & Geophysics
GP	Geophysics	M.Sc. in Geophysics/Applied Geophysics or 5-year integrated M.Tech. in Geophysical Technology.	Geology & Geophysics

† The candidates belonging to Physics discipline selected for the BARC Training School at Mumbai will be allotted either Physics or Radiological Safety Engineering as their Training Schemes and those selected for the BARC Training school at IGCAR will be allotted Reactor Physics as their Training Scheme.

‡ The candidates belonging to Chemistry discipline selected for the BARC Training School at Mumbai will be allotted either Chemistry or Radiological Safety Engineering as their Training Schemes and those selected for the Training school at IGCAR will pursue Nuclear Fuel Cycle Chemistry in the Training School.

Radiological Safety Engineering (RSE) is not a separate discipline but an additional Training Scheme option for candidates in Nuclear Engineering, Physics and Chemistry.

7. Training School and Training Scheme Options-

(Table 2)

Training School	Degree Disciplines Eligible to Apply	Training Schemes	Orientation of Training
BARC, Mumbai (Since 1957)	ME, CH, MT, EE, EC, CS, IN, CE, NE, PH, CY, BS	ME, CH, MT, EE, EC, CS, IN, CE, PH, CY, BS, RSE	<ul style="list-style-type: none"> • Engineering Design, Development, Operation and Maintenance of Nuclear Reactors • Research in frontier areas of Basic and Engineering Sciences
IGCAR, Kalpakkam (Since 2006)	ME, CH, EC, NE, PH, CY	ME, CH, EC, PH, CY	<ul style="list-style-type: none"> • R&D and Engineering related to Fast Breeder Reactors • Research in frontier areas of Basic and Engineering Sciences
RRCAT, Indore (Since 2000)	EE, EC, PH	EE, EC, PH	<ul style="list-style-type: none"> • R&D and Engineering related to lasers, accelerators, plasma physics, cryogenics and superconductivity
NFC-HWB, Hyderabad (Since 2001)	ME, CH, EE, EC, NE	ME, CH, EE, EC	<ul style="list-style-type: none"> • Operation & Maintenance and Engineering related to Nuclear Fuel Facilities and production plants for production of Heavy Water to support the Nuclear Power Program
AMD, Hyderabad (Since 2010)	GE, GP	GE, GP	<ul style="list-style-type: none"> • Exploration Techniques for Uranium and other Atomic Minerals and related R&D activities

8. DGFS: Admissible Disciplines, M. Tech. / M. Chem.

Engg. Specializations and DGFS Institutes (Table-3)

Relevant M.Tech./M.Chem.Engg. Program or Name of Dept/ Centre at the M.Tech./ M.Chem.Engg. Institute	Pre-M.Tech./M.Chem.Engg. Degree (Disciplines)	Institutes**
Mechanical Engineering	BE / BTech / BSc Engg (Mechanical)	All except ICT
Cryogenic	BE / BTech / BSc Engg (Mechanical)	Kh
Chemical Engineering	BE / BTech / BSc Engg (Chemical)	All except Rkl
Applied Mechanics	BE / BTech / BSc Engg (Civil/ Mechanical)	M
Civil Engineering	BE / BTech / BSc Engg (Civil)	All except Rkl, ICT
Earthquake Engineering	BE / BTech / BSc Engg (Civil)	K, R
Nuclear Hydrology	BE / BTech / BSc Engg (Civil/ Chemical)	R
Metallurgical Engineering, Materials Science/ Engg	BE / BTech / BSc Engg (Metallurgy/ Chemical)	All except G, ICT
Electrical Engineering	BE / BTech / BSc Engg (Electrical/ Electronics)	All except G, ICT
Reliability Engineering, Systems & Control Engineering, Energy Systems	BE / BTech / BSc Engg (Mechanical/ Electrical/ Chemical)	B, D, Kh, R
Power/ Communication/ Control Engg, Integrated Electronics & Circuits	BE / BTech / BSc Engg (Electrical/ Electronics)	D, G, R
Instrumentation	BE / BTech / BSc Engg (Electrical/ Electronics/ Instrumentation)	Kh, M,R
Computer Science, Engineering & Technology	BE / BTech / BSc Engg (Computer/ Electrical/ Electronics)	All except Rkl, Var, ICT
Applied Optics, Lasers & Optoelectronics	BE / BTech / BSc Engg (Electronics) M.Sc. (Physics / Applied Physics)	D
Nuclear Engineering & Technology	BE / BTech / BSc Engg (Mechanical/ Chemical/ Electrical/ Electronics)	K
Solid State Materials/ Electronic Materials	BE / BTech / BSc Engg (Electrical/ Electronics) M.Sc. (Phy/ App Phy)	D, R
Electronics Engg, Electronics and Communication Engg	BE / BTech / BSc Engg (Electrical/Electronics)	Rkl & Var

*** Institutes where specified M.Tech./ M.Chem.Engg. courses are offered under this scheme: B = IIT Bombay; D = IIT Delhi; G=IIT Guwahati; K = IIT Kanpur; Kh = IIT Kharagpur; M = IIT Madras; R = IIT Roorkee; Rkl = NIT Rourkela; Var = IIT-(BHU)-Varanasi; ICT = Institute of Chemical Technology, ICT, Mumbai. Number of DGFS Fellows selected in each approved M.Tech. / M.Chem.Engg. Specialization at the Institutes under the DGFS scheme will depend upon the requirements of DAE.*

9. Important Dates- (Table-4)

Commencement of Online Application Process for OCES/DGFS-2018	1 st January, 2018
Last date for Registration for Online Application	11 th February, 2018
Last date for Submission of Online Application	12 th February, 2018
Download of Admit Card for Online Examination	09 th March, 2018 onwards
Online Examination	28 th March- 1 st April, 2018
Last date for candidates to upload their GATE score	2 nd April, 2018
Display of List of candidates short-listed for Interview on Online Application Portal	20 th April, 2018
Availability based option on Online Application Portal to select Interview Slot for qualified candidates	20 th - 25 th April, 2018
Selection Interviews	16 th May - 15 th June, 2018
Display of List of Candidates finally selected for OCES-2018 on Online Application Portal	Last week of June, 2018
Last Date for Selected OCES-2018 Candidates desirous of DGFS to give details of M.Tech / M.Chem.Engg. admission in a DGFS institute	4 th July, 2018
Declaration of List of Applicants Selected for DGFS-2018 on Online Application Portal	2 nd week of July, 2018

10. Calculation of BARC Online Examination Score
Annexure-I

BARC Training School (BARC TS) Online Examination Score

After the evaluation of the answers, the raw marks obtained by a candidate will be converted to a BARC TS Online Examination Score. It will be calculated using the formula given below.

Calculation of Normalized Marks for multi-session papers

In BARC TS Online Examination-2018, examination for some papers (refer Table-4) will be conducted in multiple sessions. Hence, for these papers, a suitable normalization is applied to take into account any variation in the difficulty levels of the question papers across different sessions. The normalization is done based on the fundamental assumption that "in all multi-session online examination papers, the distribution of abilities of candidates is the same across all the sessions". This assumption is justified since the number of candidates appearing in multiple session papers in BARC online examination-2018 is large and the procedure for allocation of session to candidates is random.

The following formula for calculating the BARC TS Online Examination Score for the multi-session papers will be used.

BARC TS Online Examination Score of j^{th} candidate in the i^{th} session is S_{ij} given by

$$S_{ij} = \frac{\bar{M}_t^g - M_q^g}{\bar{M}_{ti} - M_{iq}} (M_{ij} - M_{iq}) + M_q^{gm}$$

where

M_{ij} = is the actual marks obtained by the j^{th} candidate in i^{th} session

\bar{M}_t^g = is the average marks of the selected percentage of top performing candidates considering all sessions.

\bar{M}_{ii} = is the average marks of the selected percentage of top performing candidates in the i^{th} session (ME-0.5%, EC-1%, EE-1%, CE-1%, CS-1%, CH-2%, IN-2%)

M_q^g = is the sum of mean and standard deviation marks of the candidates in the paper considering all sessions.

M_{iq} = is the sum of the mean marks and standard deviation of the i^{th} session

M_q^{gm} = mean marks of candidates in the session having max. mean + standard deviation of marks of the candidates in the paper considering all session.

In determining the mean and standard deviations mentioned above, marks of the candidates obtaining negative marks are ignored.

After evaluation of the answers, online examination score based on the above formula will be calculated for each candidate corresponding to the raw marks obtained by a candidate.

For all papers for which there is only one session (refer Table-1 again) the BARC TS Online Examination Score will be same as the actual marks obtained by candidates.

Table-4

S. No.	Discipline	Code	No. of Session*
1	Mechanical Engg	ME	03
2	Chemical Engg.	CH	03
3	Civil Engg	CE	03
4	Metallurgical Engg.	MT	01
5	Nuclear Engg.	NE	01
6	Electrical Engg.	EE	03
7	Electronics Engg.	EC	03
8	Computer Science	CS	03

9	Instrumentation Engg.	IN	03
10	Physics	PH	01
11	Chemistry	CY	01
12	Bio Science	BS	01
13	Geology	GE	01
14	Geophysics	GP	01

*Number of Examination Sessions mentioned are tentative and could be revised depending on number of applications in that discipline.