

Information Brochure

M.Tech.
(Natural Resources Engineering)

2005-2006



Indian Institute of Technology, Bombay

Indian
Institute of
Technology,
Bombay

Information Brochure
M.Tech. (NR)
2005-2006

Important Information:

1. PLEASE READ THE INSTRUCTIONS GIVEN IN THE BROCHURE CAREFULLY BEFORE YOU FILL IN THE APPLICATION FORM.
2. Each candidate can submit only **One Application Form**. If more than one Applications are submitted only one application will be considered.
3. Along with the Application form, candidates are provided with the following.
 - i) Information Brochure
 - ii) Two white envelops
 - iii) One brown envelope
 - iv) Statement of Purpose (SoP)
4. Application form, Information Brochure & Specimen of envelopes are also available on our website.

Please mail the completed application form to the following address.

Deputy Registrar (Academic)
Indian Institute of Technology, Bombay
Powai, Mumbai – 400 076.

Website: www.iitb.ac.in/admissions

E-Mail address: pgadm@iitb.ac.in

Telephone No. for contact: 022-25767066/7046

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2. Statement of Purpose:

IMPORTANT DATES

i) Issue of Application forms starts from	16.05..2005
ii) <u>Last date of issue of Application form</u> by Post	31.05.2005
at Counter (Academic Office, IIT Bombay)	06.06.2005
iii) Last date of receipt of Application forms by post and at the counter	06.06.2005
iv) Tentative Date for Interview	23.06.2005
v) Declaration of Results:	27.06.2005
vi) Payment of fees and deposits	27.06.2005
	To
	11.07.2005

WRITTEN TEST AND/ OR INTERVIEWS FOR SPONSORED CANDIDATES WILL BE CONDUCTED ON THE SAME DATES FIXED FOR REGULAR AND OTHER CATEGORIES.

CANDIDATES UNDER RESERVED CATEGORIES (SCHEDULED CASTE/ SCHEDULED TRIBE) DO NOT HAVE WRITTEN TEST OR INTERVIEW. THEY ARE ADMITTED DIRECTLY SOLEY BASED ON GATE PERCENTILE SCORE AS PER RULES.

SEATS ARE RESERVED FOR PD CATEGORY (CANDIDATES WITH PHYSICAL DISABILITIES) AS PER RULES.

IIT B.TECH. STUDENTS GETTING A (CGPA/CPI) SCORE OF 8 OR ABOVE (ON A SCALE OF 10) ARE EXEMPTED FROM REQUIREMENT OF GATE CLEARANCE. THEY ARE ADMITTED TO M.TECH. PROGRAMME THROUGH NORMAL PROCEDURE FOR SELECTION OF CANDIDATES WITH TEACHING ASSISTANTSHIP AS PER RULES.

(A) GENERAL

1. THE INSTITUTE

The Indian Institute of Technology, Bombay (IIT Bombay) is one of the seven higher Institutes of Technology in the country set up with the objectives of making available facilities for higher education, research and training in various fields of Science and Technology. IIT Bombay was established in 1958.

The Institute is located at Powai in a campus extending over 220 hectares amidst picturesque surroundings with Vihar and Powai lakes on either side.

At present, undergraduate, postgraduate and doctoral programmes are offered by Aerospace, Chemical, Civil, Computer Science and Engineering, Earth Sciences, Electrical, Mechanical and Metallurgical Engineering and Materials Science Departments as well as by certain Interdisciplinary groups. The Industrial Design Centre of the Institute offers a 2-year M.Des. Programme in Industrial Design and Visual Communication, whereas M.Sc. and Ph.D. programmes in Applied Geology, Chemistry, Mathematics, Physics and M.Sc. programme in Applied Statistics and Informatics are offered by the respective Departments. The Department of Physics also offers 4-Year B.Tech. Programme in Engineering Physics. The Institute has a Humanities and Social Sciences Department, which offers doctoral programmes and 2 years M.Phil programme.

Interdisciplinary Programmes in Corrosion Science & Engineering, Energy Systems Engineering, Industrial Engineering & Operations Research, Reliability Engineering and Systems & Control Engineering offer M.Tech. degree.

The Shailesh J. Mehta School of Management offers a 2 years Master of Management programme and also a doctoral programme. The School of Management also conducts a wide range of courses for the Undergraduate and Postgraduate Programmes. The Kanwal Rekhi School of Information Technology offers regular M.Tech., PGDIIT and Ph.D. programmes. The School of Biosciences and Bioengineering offers M.Sc. in Biotechnology, Ph.D. programme and M.Tech. programme in Interdisciplinary group : Biomedical Engineering.

The DIIT Programme (Post Graduate Diploma of IIT) contains courses that are a subset of the M.Tech. Programme with a provision for a mini project. The duration of the DIIT program is of one year. Now, this programme is also offered through Distance Education mode.

The Institute on an average admits 550 candidates for the undergraduate programmes and 800 candidates for different postgraduate programmes every year. Students from Bangladesh, Egypt, Ethiopia, Fiji, Iran, Iraq, Jordan, Mauritius, Malaysia, Nepal, Palestine, Sri Lanka, Vietnam and Yemen are also undergoing training in various programmes. In addition to these academic programmes, the Continuing Education Programme (CEP Cell) organizes short, intensive courses in specialized topics both for practicing engineers as well as for teachers from engineering colleges; and also conduct seminar and conferences on current scientific and technological developments. Further, under Quality Improvement programme (QIP), teachers from various engineering colleges also join Institute for the postgraduate and doctoral programmes.

2. RESEARCH FACILITIES

All the departments of the Institute have well equipped research laboratories and workshop facilities. In addition, there are a number of central facilities, which include Computer Centre, Central Library, Workshop, Xerox and Photography Sections. The Central Library has a very large collection of books, back volumes of periodicals, standard specifications and other literature. The Library has now more than 3 lakhs books and volumes and subscribes to over 1500 current journals in Science, Engineering, Humanities and Social Sciences.

The Department of Science and Technology (DST), Govt. of India, has sponsored the setting of a Regional Sophisticated Instrumentation Centre (RSIC) to provide a wide range of modern analytical instruments for use in advanced research.

The Centre of Studies in Resources Engineering (CSRE), established in 1976 by IIT Bombay under S&T plan and funded by the Department of Education, Ministry of Human Resources Development, Govt. of India, is concerned with the area of natural resources identification, exploitation and management and has expertise and facilities to use modern tools of Remote Sensing, GIS, GPS etc. in its endeavors.

The Advanced Centre for Research in Electronics (ACRE), which has been set up in collaboration with the Defence R & D Organization (DRDO), is engaged in research and development of electronic components.

The Center for Environmental Science and Engineering (CESE) funded by the Department of Education, Govt. of India, is concerned with air and water quality management, computer aided design for waste water engineering systems, low waste techniques, etc.

The Centre for Technology Alternatives for Rural Areas (CTARA) is concerned with the development of technologies according to perceived needs of the Konkan rural region.

The Computer Aided Design Centre (CAD Centre) has been established with an aim to inculcate CAD culture in the Indian Chemical and Metallurgical Industry.

Established in 1969, the Industrial Design Centre has followed an integrated and interdisciplinary approach towards design education. The centre over the past years has experimented with different methods in design education to develop a flexible structure to suit the needs of students.

Schools in Cryogenics, Lasers and Laser Systems, Offshore Engineering and Management have also been established. New facilities under the Thrust Area Programmes in the fields like Microelectronics, Microprocessor Applications, Intelligent Systems, Robotics, CAD/CAM, Remote Sensing, Telematics, etc. have been created.

Centre for Aerospace Systems Design & Engineering (CASDE) and Centre for Formal Design and Verification of Software (CFDVS) have been established recently.

The Institute has many research collaborations with leading universities in USA, Europe, Japan, and other East Asian countries. As part of these collaborations, the post graduate students get opportunities to carry out joint research projects with faculty and students from these universities.

Approximately 7 to 10 M.Tech. projects will be taken up every year in collaboration with German Academic Exchange Service (DAAD) wherein students work on their projects in reputed German Universities like Aachen, Berlin, Darmstadt, Karlsruhe, Stuttgart and Dresden.

The location of IIT Bombay in close proximity to several leading R & D Centers and major industrial establishments offers excellent opportunities to interact with them and plan some of research programmes in collaboration with them. The Industrial Research and Consultancy Centre (IRCC) coordinates collaborative projects with industry and other research organizations such as BARC, TIFR and CSIR. The Institute is actively collaborating with several organizations of other countries on a bilateral basis.

The Computer Centre of I.I.T. provides high end computing facilities to the Institute. It has several high performance computing machines, which include a 4 CPU Digital machine, HP's K-class machine, SGI Octane and several SUN servers. Students are provided email access through a cluster of 10 J class HP computers.

The Computer Centre is a level 3 Centre for the national computing facilities under the ICOSER project of the Department of Science and Technology's TIFAC.

The entire academic area of the Institute as well as its hostels are connected to the Institute's backbone by a 10 Mbps optical fiber link connected to an ATM switch through several fast ethernet switches. The Institute backbone is linked to a 2 Mbps Internet link through a radio modem. In addition, there are two lower capacity Internet links, each of 64 kbps. Each student hostel has a computer room with several PCs, which can directly access any server in the Institute through the Internet link.

3. STUDENTS AMENITIES

Institute is fully residential and has 13 hostels for students. Each hostel is an independent entity with its own mess facilities, recreation areas, etc. However students may be permitted to have their own arrangements for accommodation outside campus.

Extra curricular activities are provided by the Students' Gymkhana. These activities include sports, cultural programmes, social service and the NCC. Various clubs of the Gymkhana encourage individual talents of students in hobbies such as painting, modeling, music, photography, aeromodelling and fabrication of electronic devices. A swimming pool is an additional facility. A well-planned student Activities Centre is functioning.

4. M.TECH. PROGRAMME

The Institute offers a postgraduate Master of Technology programme in various disciplines. The aim of the programme is to train the students in high level theoretical knowledge which enables them to tackle practical complex problems of design and development in the industrial fields as well as pursue further academic achievements through research. Enough flexibility is provided in the structure of the programme in respect of lecture courses, laboratory and project work to help the students to achieve the above mentioned aim. The departments are equipped with sufficient facilities for this purpose. The salient features of the programme are given below:

The Institute offers a full time programme of 2-year and a part time programme of 3-year duration. The part time programme is available to sponsored and self-financed students. However, the working hours for the part time programme will include the normal working hours of 8.30 a.m. to 5.00 p.m. and also evening slots.

5. ADMISSIONS

Admission are solely on the basis of GATE percentile score of the eligible candidates. In case of candidates exempted from GATE qualification, the selection decision will be based on the performance in the interview and the ideas put forth in the statement of purpose.

SC/ST Candidates:

Scheduled Caste and Scheduled Tribe candidates are offered direct admission as per rule solely based on GATE Percentile.

PD Candidates (Persons with Disabilities):

Seats are reserved as per rules. The admission will be through Written Test/Interview alongwith General candidates.

Admission to IIT B.Tech.

IIT B.Tech. students getting a (CGPA/CPI) score of 8 or above (on a scale of 10) are exempted from requirement of GATE clearance. They are admitted to M.Tech. Programme through normal procedure for selection of candidates with Teaching Assistantship as per rule.

5.1. APPLICATION CATEGORIES AND FINANCIAL SUPPORT

Note: Admissions to all categories are subject to availability of seats.

5.2 INSTITUTE TEACHING ASSISTANTSHIP (TA)

Candidates are selected through the following modes.

- (a) Direct Admissions based on valid GATE score.
- (b) Valid GATE score and Performance in Test/Interview.

The students joining the programme under this category will be considered for Teaching Assistantships of Rs. 5,000/- per month based on the following norms:

- (a) Students getting assistantship will be required to assist/ work for courses, laboratory, or any other related academic/ administrative work to the extent of 8 hours per week.
- (b) The continuation of the assistantship will be subject to satisfactory performance of the duties assigned by the Department/ Centre as well as satisfactory academic performance (maintain SPI/CPI of 6.00 at the end of each semester).
- (c) The assistantship will be available for a maximum period of 24 months and students with TA have to complete M.Tech. in two years.

5.3 TEACHING ASSISTANTSHIP THROUGH PROJECT (TAP)

Candidate to this category will be admitted subject to:

- a) Valid GATE score.
- b) Performance in Written Test/Interview.

The students joining the programme under this category will be considered for Assistantships based on the following norms:

- a) These assistants are required to work in a sponsored R&D project being carried out at the institute.
- b) They will also do their M. Tech. dissertation work under same faculty group in same area as the sponsored project.
- c) They have to complete M.Tech. programme in 2 years.

Fellowships are also available from agencies such as Aeronautics Research & Development Board (ARDB), Dept. of Science and Technology (DST), Forbes Marshall, Pune, Textile Machinery Manufacturers' Association (TMMA), Atomic Energy Regulatory Board

(AERB), International Energy Initiative, Department of Atomic Energy (DAE) and Larsen & Toubro, etc.

5.4 RESEARCH ASSISTANTSHIP

5.4.1 Institute Research Assistantship (RA)

Candidate to this category will be admitted subject to:

- a) Valid GATE score.
- b) Performance in Written Test/Interview.

The students joining the programme under this category will be considered for Research Assistantships of Rs. 6,000/- per month based on the following norms:

- a) Research Assistants have to look after the under graduate laboratories and also assist in teaching or research or other work assigned by the Head of the department.
- b) They are required to work for about 20 hours a week. They have to complete the M.Tech. Programme in three years.

5.4.2 Project Research Assistantship (PA)

Candidate to this category will be admitted subject to:

- a) Valid GATE score.
- b) Performance in Written Test/Interview.

The students joining the programme under this category will be considered for Assistantships supported under Sponsored Research Project being carried out at the Institute based on the following norms:

- a) Research Assistants have to work in Sponsored R&D project. They will do their thesis/dissertation in same project area.
- b) They are required to work for about 20 hours a week on the Sponsored Research Project. They have to complete the M.Tech. programme in 3 years.

5.5 PROJECT STAFF (PS)

This category is for Employees working in Sponsored Research Project at the Institute.

Candidate to this category will be admitted subject to:

- a) 6 months service in project.
- b) Valid GATE score OR 2 years total experience of which 6 months in the Project of the Institute.
- c) Performance in Written Test/Interview.

The students joining the programme under this category require to satisfy following norms:

- a) The candidate under this category will be required to assist as assigned by the principal investigator of the concerned project.
- b) They are required to work for up to 20 hours a week.
- c) The duration of this category of M.Tech. programme is 3 years.

5.6 INSTITUTE STAFF (IS)

Candidate to this category will be admitted subject to:

- a) Being permanent employee of the Institute.
- b) Valid GATE score OR more than 2 years relevant experience.
- c) Performance in Written Test/Interview.
- d) Students admitted under this category have to complete M.Tech. Programme in 3 years.

5.7 SELF FINANCED STUDENTS (SF)

The Institute also admits a limited number of students under self-financed category on the basis of:

- a) Valid GATE score.
- b) Performance in Written Test/Interview.

If admitted, these students have to financially support themselves.

5.8 SPONSORED CANDIDATES (SW):

With a view to encourage persons working in Industries the Institute admits a limited number of sponsored candidates to the M.Tech. Programme. It is expected that such candidates, after successfully completing the programme, are better equipped to work in organizations sponsoring them. The admission procedure for sponsored candidates will be as follows:

- a) They must be from recognized Industrial Organization / Academic Institutions.
- b) Valid GATE score OR 2 years of relevant professional experience. This experience must be after obtaining qualifying degree. (However candidates applying to M.Tech. in Computer Science and Engineering Department must have valid GATE score. The requirement of 2 years of relevant professional experience is not applicable to them.)
- c) Performance in Written Test/Interview. The written test will be conducted to examine their knowledge in the discipline of their basic degree, which forms the prerequisite for admission to the corresponding specialization of the M.Tech. Programme.
- d) Such a candidates should have obtained 60% marks or equivalent grade in the qualifying examination (55% for SC/ST candidates).

Sponsored candidates who are admitted to the programme should have full financial support from the concerned sponsoring agency for the entire duration of the programme. They can complete the programme on full-time (duration 2-year) or part-time (duration 3-year) basis,

depending on the nature of sponsorship. Sponsored candidates are not eligible for any Institute Assistantship.

SPONSORSHIP CERTIFICATE
(for full-time candidates)

(This should be typed on the letterhead of the Sponsoring Organization and enclosed with application for admission).

To,
The Director,
Indian Institute of Technology,
Mumbai - 400 076.

Sub: Sponsoring of an employee for M.Tech. Programme.

Dear Sir,

We hereby Sponsor the candidature of Shri/Smt./Kum
_____, an employee in our organization, for joining his/her
M.Tech. Programme in _____ at your Institute as a
full-time candidate.

He/she has been employee of our organization for _____ years. We shall bear the total expenses of his/her studies. We shall fully relieve him/her of his/her duties in the organization during the entire period of the M.Tech. programme to enable him/her to devote full time to the studies.

Signature and seal of
the Sponsoring Authority.

Date:

SPONSORSHIP CERTIFICATE
(for part-time candidates)

(On a letterhead of the sponsoring organization & enclosed with application for admission)

We hereby sponsor the candidature of Shri/Smt./Kum./
_____ for joining M.Tech programme at your
Institute on Part-time basis.

Shri/Smt./Kum. _____ is employed in our organization. We are ready to release him/her during working hours to undergo the programme as per IIT Bombay, time-table. We understand that the duration for part time M.Tech. is expected to be 3 years

It is noted that normal Instructional hours are from 8.30 a.m to 5.00 p.m. and also some courses are in evening slots. We shall bear the total expenses of his/her studies.

Date:

Signature and Seal of the
Sponsoring Authority

Certificate for Project-RA, Project-TA & Project Staff

This is to certify that Shri/Smt/Kum. _____
has been working in Project _____ from dt. _____

I have no objection if he/she registers for M.Tech. Programme in _____
Department under _____ category.

The duration of the project is _____ years. Appointment of Shri/Smt/Kum
_____ is for the period of _____ years. The appointment is likely
to be extended for the further period.

Signature

Prof. _____
Project Investigator:
Project Code:
Project Name:

UNDERTAKING

Shri/Smt/Kum _____ hereby state that in the event of my appointment in the project is terminated, I shall continue as Self-financed student for the remaining period.

Name of Student:

Signature:

Date:

6. FEES AND DEPOSITS

Various fees, deposits and Hostel Rent are listed in Appendix (Table I (a)). Fees, Deposits and Hostel Rent for IT is given in (Table I (b)).

7. GENERAL ELIGIBILITY FOR M.TECH PROGRAMMES

7.1: Candidates with a B.E./B.Tech/B.Sc.(Engg.)/M.Sc./MCA/MBBS/M.Pharm. or equivalent in appropriate branches and a high GATE score are eligible to apply for various M.Tech. programmes as shown in Appendix (Table III).

7.2: Candidates with Associate Membership Examinations (A.M.I.E, etc.)

In addition, candidates who have passed the Associate Membership Examinations conducted by recognized professional bodies (like Institution of Engrs. (India) Institute of Chemical Engrs., Aeronautical Society of India, Institute of Electronics & Telecommunication Engrs., etc.) are also eligible to apply for the appropriate M.Tech programmes, provided they fulfill the following requirements:

- a) the above examinations are recognized as equivalent to B.E./B.Tech Degree.
- b) candidates MUST have obtained a FIRST CLASS in the above examinations. (55% for SC/ST candidates).
- c) the candidates have a minimum of two years professional experience after passing the final examinations.
- d) candidates have a valid GATE score.

8. APPLICATION FORM & INFORMATION BROCHURE:

8.1

- i) Cost of Application form is Rs. 300/- for General category (GN) & Persons with disabilities (PD) and Rs. 150/- for SC/ST candidates. The cost of application form is to be paid only in form of Demand Draft drawn in favour of **REGISTRAR, IIT BOMBAY**. The details of Demand Draft are to be written in the application form. The application without Demand Draft will not be considered.
- ii) You are provided with the following:
 1. Application Form
 2. Information Brochure
 3. Two white envelops
 4. One brown envelop for sending completed Application Form.
 5. Statement of Purpose (SoP) to be submitted only if you are applying for the Department of Aerospace Engineering

- iii) a) Application Form & Information Brochure is available at the Academic Office counter (II Floor, Main Building) and can be collected in person against D.D.
 b) The brochure and application forms may also be obtained by sending a Demand Draft to Deputy Registrar (Academic), IIT Bombay, Powai, Mumbai – 400 076. For this purpose, enclose a self-addressed strong cloth-lined duly stamped (Rs. 30/-) envelope of size 27cms X 12 cms.
 c) Application form & Brochure are available on IIT website. Candidates can download the application form fill in the form and submit (at counter/by post) alongwith Demand Draft. Forms without Demand Draft will not be considered.
 d) Candidates can use on-line form and submit the form on-line. However, he/she has to send printed copies of application form duly signed along with Demand Draft to Deputy Registrar (Academic), IIT Bombay, Powai, Mumbai – 400 076

8.2 Filling the forms

ALL ENTRIES SHOULD BE IN CAPITAL LETTERS

1. Name in full: Write your name in capital letters as it is in qualifying degree certificate.

Paste (do not pin) passport size photograph in the space provided and get it attested by Principal/Head of College/University last attended or a Gazetted Officer.

2. (a) GATE Details: (Attach copy of the GATE Score Card)

Write your GATE registration no., GATE year and GATE percentile.

Reg. No. Year

Percentile score: Performance Index (PI)

AIR

(b) Competitive (All India) Exams Score, if any (Like NCST (D level)/ AIIMS/ MCI/ GIPMER/ PGI- Chandigarh/ AFMC - Pune) -- Write Name of examination, Year of passing & Score

3. Write your address for communication at (a) and permanent address at (b). It is the responsibility of the candidate to inform change of address, if any, to the Deputy Registrar (Academic), IIT Bombay, Powai, Mumbai – 400 076.

4. Write your telephone number with STD code and e-mail address for contact.

5. Write your Date of Birth :
 D D M M Y Y Y Y

6. Sex- M for Male, F for Female.

7. Fill in for General Candidates G N
 for Scheduled Caste S C
 for Scheduled Tribe S T
 Candidates with disabilities P D

Attach caste/tribe/disabilities certificate.

8. Marital Status: (Write 'M' for Married/ 'S' for Single)

9. Indicate your qualifying degree as follows:

B.Tech.	B T
B.E.	B E
B.Sc.(Engg.)	B S
M.Sc.	M S
Professional (AMIE, MBBS, etc.)	P F

10. Indicate the qualifying discipline in which you have pursued your degree programme by writing the appropriate code form the following table.

Engineering/ Technology	
Agriculture Engg.	A G
Architecture	A R
Civil Engg./Civil & Environmental/ Structural Engg.	C E
Computer Sc. & Engg.	C S
Electrical Engg.	E E
Electronics & Comm. Engg.	E C
Environmental Engg.	E V
Mineral Engg.	M R
Mineral Dressing	M D
Mining Engg./Tech./ Mining & Machinery	M N
Naval Architecture/Marine Engg.	N A
Planning	P N
All other disciplines in Engg./Tech.	Z E
Sciences	
Applied Physics	A P
Agriculture Science	A S
Computer Applications	C A
Chemistry	C Y
Industrial Chemistry	C I

Engineering Physics	E P
Earth Sciences	E S
Geology/ Geophysics	G G
Life Sciences (Botany)	L B
Physics	P H
All other disciplines in Science	Z S

11. Indicate the status of your qualifying degree examination by writing
- | | |
|-------------------------|---|
| For examination pending | 1 |
| For result pending | 2 |
| For result out | 3 |
12. No. of years of experience – Indicate years in the boxes provided against (attach separate sheet with details).
- a) Teaching _____ b) Industry _____
13. Details of Qualifying Examination: please fill various columns of the table given here.
14. * **Departments/Interdisciplinary Groups/Centre and Schools** applied for: This form is for admissions to M.Tech programme in Natural Resources Engineering only and hence as such there no other choices possible. Hence choosing NR is mandatory.
15. For Category write – TA-Institute Teaching Assistantship, TAP–Teaching Assistantship through Project, RA–Institute Research Assistantship, PA–Project Research Assistantship, PS–Project Staff, IS–Institute Staff, SF-Self-finance, SW–Sponsored, in order of preference.
16. Paper published (if any) give title and details of where the paper has appeared (conference or journal):
17. Declaration: Must be given duly signed.

Additional Information: (Please attach separate sheet)

Candidates applying for Chemical (CH), Biomedical (BM), Electrical (EE1, EE2,EE3, EE4, EE5), please provide following information on the backside of the application form.

- Title of the final year project.
- List of four courses, which you think, are relevant to the M.Tech. programme.
- Short-term courses attended.

8.3 Submission of Application Form

Please fill in the application form completely, sign it and then take as many Xerox copies of the application form as per the number of choices as indicated in the I column of Table at Serial No. 14. On each of the two white envelops write your mailing address and affix Rs. 30/- postal stamp on each envelop.

The completed application form alongwith –

1. Copy of the GATE score card
2. Copy of the Mark Sheet of qualifying examination
3. Copy of Degree Certificate
4. Copy of Birth Certificate/School Leaving Certificate
5. Copy of Caste/Tribe/Disabilities certificate (if applicable)
6. Two Self-addressed envelopes duly stamped

The application alongwith all documents is to be submitted to the :-

**Deputy Registrar (Academic),
Indian Institute of Technology, Bombay
Powai, Mumbai – 400 076**

The form can be submitted in person at Academic Office counter on all working days between 9.15 a.m. to 5.45 p.m. or may be sent by post (Ordinary/Registered/Speed/ Courier).

Candidates who are submitting the form on-line, are required to submit printed copies of the form duly signed it and send along with Demand Draft for required amount and above mentioned documents in person or by post on or before 31st May 2005, failing which on-line application form will not be considered.

Last date of receipt of completed application form
(By Post and at counter): 31-05-2005

B) Information about M.TECH. PROGRAMME in Natural Resources Engineering

Progress of a society to a large extent depends on the resources available for its various needs. In Indian context, owing to its large population, demands on natural resources are ever increasing and hence it is essential that the resources are scientifically managed using contemporary techniques for their exploration and eco-friendly exploitation. Indian Institute of Technology Bombay is introducing a post graduate course in Natural Resources Engineering, in its Centre of Studies in Resources Engineering(CSRE). The emphasis of the program is on the use of modern techniques and tools such as Remote Sensing, Geographic information system, GPS etc. as applied to various aspects of natural resources studies.

Eligibility for Admission

Candidates with Bachelor degree in Engineering or Masters degree in Science who are eligible to qualify through GATE with following qualifying papers are eligible for admission to this programme.

Engineering and Science Discipline:

Agricultural Engg. AG
 Architecture and Planning AR
 Civil Engg. CE
 Computer Science & Engg. CS
 Chemistry CY
 Electronics & Communication Engg. EC
 Electrical Engg. EE
 Geology & Geophysics GG
 Information Technology IT
 Mathematics MA
 Mining Engg. MN
 Physics PH

Engineering Sciences (XE) with Qualifying Papers

Computational Science (B)
 Electrical Sciences (C)

Life Sciences (XL) Qualifying Paper

Botany (K)

Courses Available

Due to multidisciplinary nature of the subject of Natural Resources Engineering, emphasis of this programme is to train the students with an intergrated approach to various issues pertaining to natural resources exploration, sustainable exploitation and scientific management. Importance is laid on the use of the most modern tools and techniques such as Remote Sensing, Geopgraphic Information System, Global Positioning Systems etc. The courses offered covers the resources of land, water and atmosphere and the fundamentals to advanced topics in the use of tools and techniques of Remote Sensing and GIS.

Areas of Research

Remote Sensing and GIS applications, Surface and ground water resources, Terrain evaluation, land use planning, Sustainable rural development, Mineral and hydrocarbon exploration, Snow and avalanche studies, Hazards of landslide, Drought and desertification, Marine environmental studies, Atmospheric remote sensing, Development of tools and techniques of spatial data processing, Digital Image processing, Stereo image analysis and digital cartography, Microwave remote sensing etc.

(C) APPENDIX**1. Table I (a) Fees, Deposits & Hostel Rent:****GENERAL:**

Particulars	Students staying in Hostels	Students not staying in Hostels
At the time of admission*	Rs.	Rs.
Admission Fee	150	150
Provisional Certificate	100	100
Medical Examination	100	100
Student Welfare Fund	200	200
Modernization	500	500
Grade Card Fees	150	150
Identity Card	25	25
Courses of Study Bulletin	100	100
Institute Day Fee	50	50
Valedictory Function Fee	50	50
Total (I)	1425	1425

DEPOSITS:

Institute Security Deposits	1000	1000
Library Security Deposits	1000	1000
Mess Security Deposits	1000	--
Total (II)	3000	2000

ANNUAL CHARGES:*

Annual Insurance Premium	126	126
Total (III)	126	126

PER SEMESTER**

Gymkhana	100	100
Examination Fee	300	300
Registration Fee	300	300
Tuition Fee	2500	2500
Medical Fee	50	50
Hostel Rent	550	--
Hostel Est. Charges	300	--
Contribution to**	1750	--

Hostel Subsidy		
Fan, Elect., Water Charges	300	--
Student Benevolent Fund	100	100
Medical Fund	50	50
Internet Charges	250	250
Hostel Maintenance Fee	500	--
Total (IV)	7050	3650
Grand Total (I+II+III+ IV)	11601	7201

* FEES ARE NOT REFUNDABLE UNDER ANY CIRCUMSTANCES

** LIKELY TO BE REVISED

Mess advance to be paid before occupying the Hostel is Rs. 2000/- for those who opt for staying in hostel.

Candidates from reserved categories (SC/ST) are fully exempted from paying the Tuition Fees.

The students who are staying in Quarters such as Tansa, Tulsi and OIP Quarters, are required to pay license fees, water & Elect. Charges, F.R. etc. as applicable for occupation of the quarters as per the Estate Office Rules.

To utilize and maintain any motorized vehicle on the campus is prohibited.

1. Table I (b)

PAYMENT OF FEES FOR STUDENTS OF INFORMATION TECHNOLOGY

GENERAL:

Particulars	Students staying in Hostels	Students not staying in Hostels
AT THE TIME OF ADMISSION*	Rs.	Rs.
Admission Fee	150	150
Provisional Certificate	100	100
Medical Examination	100	100
Student Welfare Fund	200	200
Modernization	500	500
Grade Card Fees	150	150
Identity Card	25	25
Courses of Study Bulletin	100	100
Institute Day Fee	50	50
Valedictory Function Fee	50	50
Total (I)	1425	1425

DEPOSITS:

Institute Sec. Deposits	1000	1000
Library Security Deposits	1000	1000
Mess Security Deposits	1000	--
Total (II)	3000	2000

ANNUAL CHARGES:*

Annual Insurance Premium	126	126
Total (III)	126	126

PER SEMESTER**

Gymkhana	100	100
Examination Fee	300	300
Registration Fee	300	300
Tuition Fee	21050	21050
Medical Fee	50	50
Hostel Rent	550	--
Hostel Est. Charges	300	--

Contribution to ** Hostel Subsidy	1750	--
Fan, Elect., Water Charges	300	--
Student Benevolent Fund	100	100
Medical Fund	50	50
Internet Charges	250	250
Hostel Maintenance Fee	500	--
Total (IV)	25600	22,200
Grand Total (I+II+III+ IV)	30151	25,751

* FEES ARE NOT REFUNDABLE UNDER ANY CIRCUMSTANCES

** LIKELY TO BE REVISED

Mess advance to be paid before occupying the Hostel is Rs. 2000/- for those who opt for staying in hostel.

Candidates from reserved Categories (SC/ST) are fully exempted from paying the Tuition Fees.



INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

STATEMENT OF PURPOSE

Statement of Purpose (SOP) is your opportunity to share with the admission committee your thoughts and feeling about Postgraduate studies at IIT Bombay including your preparation for the same. Briefly describe past project/ research work done by you. Restrict yourself to 500-600 words. The personal SOP will aid the admission committee in evaluating your application.

1. **Name:** _____

2. **Programme of study:** M.Tech.
(Natural Resources Engineering)

Department: Centre of studies in Resources Engineering

Signature: _____

Date: _____