

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY
POWAI, MUMBAI – 400 076

INFORMATION SHEET

Faculty positions at the level of Assistant Professor in its various academic Departments, Centres, Schools and Inter-disciplinary programs and also for the post of Associate Professor and Professor in few departments/Centres have been advertised by the Institute vide advertisement No.C-9/07-08 dated 9.5.2007. The various requirements and other related informations are stated below:

QUALIFICATION

(For the posts – Professor, Associate Professor and Assistant Professor)

Ph.D. with a First class or equivalent (in terms of Grades etc.) at the preceding degree in the appropriate branch, where relevant, and with a very good academic record throughout.

EXPERIENCE:

- Professor: A minimum of ten years teaching/research/professional experience of which at least 3 years should be at the level of Associate Professor or an equivalent position in a research organization or industry as on the date of application. The candidate should have demonstrated leadership in research in a specific area of specialization in terms of guidance of Ph.D. students, strong record of publications in reputed journals and conferences, patents, laboratory development and/or other recognized relevant professional activity.
- Associate:
Professor: A minimum of eight years teaching/research/professional experience of which 3 years should be at the level of Assistant Professor or an equivalent position in a research organization or industry as on the date of application. The candidate should have demonstrated adequate experience of independent research in terms of guidance of M.Tech. and Ph.D. students, publications in reputed journals and conferences, patents, laboratory development and/or other recognized relevant professional activity.
- Assistant:
Professor: A minimum of three years teaching/research/professional experience. The candidate should have demonstrated research capabilities in terms of publications in reputed journals and conferences.

SCALE OF PAY:

Professor	:	Rs.18400-500-22400]	Plus Allowances as admissible to Central Government employees.
Associate Professor	:	Rs.16400-450-20000]	
]	
Assistant Professor	:	Rs.12000-420-18300]	

AREAS OF SPECIALIZATION

	<i>Department</i>	<i>Areas of Specialization</i>
1	Aerospace Engineering	<p><u>Assistant Professor</u></p> <ul style="list-style-type: none"> ➤ Structures : Basic strength in structural mechanics with a specialization from the following areas – Composite Materials and Structures, Adaptive/Morphing /Smart Structures Technology, Computational Structural Mechanics, Aeroservoelasticity, Aerothermoelasticity, Structural and Multidisciplinary Design Optimization. ➤ Aircraft/Space Flight Dynamics and Control : Flight dynamics of aerospace vehicles. Development, application and implementation of techniques for estimation, identification, control and guidance in problems of aerospace interest. Interest and experience Hardware implementation of control technologies, autonomous vehicles is desirable. ➤ Propulsion : Turbomachinery, Rocket & space propulsion, airbreathing/non-airbreathing propulsion. ➤ Systems Design & Engineering : Design Optimization, Systems Design, Engineering Design, Multi-disciplinary Design Optimization, Systems Engineering.
2	Chemical Engineering	<p><u>Assistant Professor</u></p> <p>Reaction Engineering and Catalysis, Interfacial Science & Engineering, Transport and Separation Processes, Process Systems Engineering & Control, Food & Biochemical Engineering, Polymer and Materials, Nanotechnology, Thermodynamics, Membrane Science & Technology, Electrochemical Engineering, Environmental Science & Engineering.</p>

	<i>Department</i>	<i>Areas of Specialization</i>
3	Chemistry	<u>Assistant Professor & Associate Professor</u> All areas of Chemistry
4	Civil Engineering	<u>Assistant Professor</u> 1. Transportation Engineering 2. Infrastructure Systems 3. Remote Sensing and Geodesy 4. Water Resources, Hydraulics, Environmental Engineering and Ocean Engineering 5. Structural Engineering 6. Geotechnical Engineering 7. Civil Engineering materials
5	Computer Science & Engg.	<u>Assistant Professor</u> All areas of Computer Science & Engineering.
6	Earth Sciences	<u>Assistant Professor</u> Seismic Exploration (with Ph.D. In Geophysics and specialization in seismic exploration) Rock Physics (with Ph.D in Geophysics/ Geology/ Mining and specialization in Rock Physics) Structural Geology with specialization in physical and numerical modeling.
7	Electrical Engg.	<u>Assistant Professor</u> 1. Communication Systems. 2. Signal and Image processing. 3. Micro/nano-electronics, VLSI Design . 4. Control theory and applications. 5. Power Electronics and Power Systems. 6. Embedded Systems.

	<i>Department</i>	<i>Areas of Specialization</i>
8	Humanities & Social Sciences	<p><u>Economics : Assistant Professor, Associate Professor and Professor</u> Finance, Econometrics, Mathematical economics, Macroeconomics, Public policy, International trade and finance, Agricultural economics, Industrial economics, Development economics.</p> <p><u>English : Assistant Professor and Associate Professor</u> Literary theory, Drama/ Theatre/ Performance, Novel/Narratology, Cultural Studies, Women's Studies, Autobiography Studies, Theoretical Linguistics with specialization in Morphology, Semantics or Cognitive Science</p> <p><u>Philosophy : Assistant Professor and Associate Professor</u> Contemporary Western Philosophy and Indian Philosophy</p> <p><u>Psychology : Assistant Professor and Associate Professor</u> Clinical Psychology, Cognitive Psychology and Organizational Behaviour</p> <p><u>Sociology : Assistant Professor, Associate Professor and Professor</u> Sociology of development, Urban / rural sociology, Science, Technology and Society, Ethnicity and religion, Research Methods</p> <p><u>Cell for Indian Science and Technology in Sanskrit : Associate Professor</u> Astronomy (Jyotisha), Mathematics (Ganita), Metaphysics</p> <p><u>Assistant Professor and Associate Professor</u> in the area of Communication Skills</p>

	<i>Department</i>	<i>Areas of Specialization</i>
9	Industrial Design Centre	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Transportation Design / Auto Design 2. Animation Design / Gaming Design 3. Interaction Design / Interface Design 4. Product Design 5. Communication Design <p><u>Associate Professor</u></p> <ol style="list-style-type: none"> 1. Animation Design
10	Mathematics	<p><u>Professor/Associate Professor/ Assistant Professor</u></p> <p>Algebra, Algebraic Geometry, Algebraic Topology, Combinatorics, Differential Geometry, Functional Analysis, Harmonic Analysis, Number Theory, Numerical Analysis, Partial Differential Equations, Probability and Statistics.</p>
11	Mechanical Engineering	<p><u>Assistant Professor</u></p> <p>Computational mechanics, Nuclear reactor thermal-hydraulics, Computer integrated manufacturing, Refrigeration, Air conditioning and cryogenics, NEMS, MEMS and Mechatronics</p>
	<i>Department</i>	<i>Areas of Specialization</i>
12	Metallurgical Engineering & Materials Science	<p><u>Assistant Proefssor</u></p> <ol style="list-style-type: none"> 1. Electronic materials – processing and characterization 2. Nano-materials and Nano-engineering – Advanced processing techniques 3. Surface Engineering 4. Thin films processes and applications 5. Advance Magnetic materials 6. Advanced ceramics and Powder Metallurgy 7. Process metallurgy with adequate background in process modeling 8. Physical/Mechanical metallurgy 9. Polymer engineering including electronic polymers 10. Composites and nanocomposites

	<i>Department</i>	<i>Areas of Specialization</i>
13	Physics	<p><u>Professor</u></p> <ol style="list-style-type: none"> 1. Electronic Structure Theory of crystalline insulators, polymers and disordered metallic alloys. 2. Magnetism of low-dimensional spin systems and oxide materials. <p><u>Associate Professor</u></p> <ol style="list-style-type: none"> 1. Statistical Physics: Non-equilibrium and Biological systems. <p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 3. Cosmology and Astro Particle Physics – Theory 4. Nonlinear Optics, Ultra Fast Laser Spectroscopy, Photonics, Quantum Optics (All Experimental), Theoretical Quantum Optics. 5. Nano Materials & Nano Structures 6. Theoretical Condensed Matter Physics (Many body theory) 7. Nuclear Physics Theory, Experimental Nuclear & Particle Physics 8. Quantum Computing (Experimental) 9. Bio-Physics (Diffusion dynamics in Bio-systems (Experimental), Random processes in Complex system (theory)
14	School of Biosciences & Bioengineering	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Medical Signal and/or Image processing 2. Biomechanics 3. Physiological Systems Modelling 4. Experimental and Computational Neuroengineering 5. Rehabilitation Engineering 6. Cell and Tissue Engineering 7. Medical Instrumentation 8. Medical Informatics & Telemedicine 9. Bionanotechnology 10. Biologist/Biophysicist interphasing the two areas.
15	Shailesh J. Mehta School of Management	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Operations Management

	<i>Department</i>	<i>Areas of Specialization</i>
		<ol style="list-style-type: none"> 2. Technology and innovations Management 3. Financial Accounting 4. Information Technology 5. Entrepreneurship 6. Intellectual Property Rights 7. Industrial Organization 8. Financial Management 9. Quantitative Methods 10. Strategic Management 11. Marketing Management 12. Organization Behavior & Human Resource 13. Corporate Law & Communication 14. International Business 15. Aviation Management
		<p><u>Associate Professor</u></p> <ol style="list-style-type: none"> 1. International Business 2. Intellectual Property Rights 3. Information Technology <p><u>Professor</u></p> <ol style="list-style-type: none"> 1. Strategic Management 2. Marketing Management 3. Operations Management 4. Financial Management
16	Centre for Environmental Science & Engineering	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Air Quality Monitoring and Assessment 2. Air Pollution Control 3. Global Climate Change 4. Energy and Environment 5. Sustainable Development (Policies and Actions) 6. Environmental Systems Modelling 7. Environmental Management

	<i>Department</i>	<i>Areas of Specialization</i>
		<ul style="list-style-type: none"> 8. Cleaner Technologies and Preventive Environmental Management 9. Urban Drainage and Land Use Management (Planning and Monitoring) 10. Solid, Hazardous and Biomedical Waste Management 11. Ecology, Biodiversity and Forests 12. Water Supply and Sanitary Engineering 13. Bioremediation and Environmental Biotechnology 14. Environmental Impact Assessment 15. Environmental Policies and Laws
17	Centre for Studies in Resources Engineering	<p><u>Assistant Professor & Associate Professor</u></p> <p>Agroinformatics, Geomatics, Marine and atmospheric environment, Terrain evaluation, Image Processing, Computer vision, Characterization of planetary surfaces, Natural hazards, Microwave, Water resources, Glaciology and mineral resources.</p>
18	Centre for Technology Alternatives for Rural Areas	<p><u>Assistant Professor /Associate Professor/Professor</u></p> <p>a) Development Studies with special emphasis on Public-Policy and Governance issues, Environmental issues such as Global Warming and Clean Development Mechanism, Technology Transfer in the Context of Regional Planning.</p> <p>(b) Sociology of Science, History of Science & Technology in the context of Regional Development in India.</p> <p>(c) Natural Resources Planning and Utilization:</p> <p>(i) Soils and Agriculture (including Horticulture, Org. Farming)</p> <p>(ii) Energy (including renewables)</p> <p>(iii) Water Resources (including Micro-Watershead)</p>
19	Energy Systems Engineering	<p><u>Associate Professor/ Assistant Professor</u></p> <p>Electrical, energy systems, Grid connection of renewables, power electronics and controls for application to renewable energy efficiency and integration</p>

	<i>Department</i>	<i>Areas of Specialization</i>
		<p>IC engines, alternate fuels, fuel cell, hydrogen storage, clean coal combustion, bio-energy and chemicals, solar thermal, solar PV, wind, hybrid systems.</p> <p>Dye-sensitized PV, nanomaterials for energy, batteries, energy storage, microbial fuel cells.</p>
20	Industrial Engineering & Operations Research	<p><u>Assistant Professor</u></p> <p>Discrete optimization and related areas like Graph theory, Combinatorics, Algorithms and related discrete structures.</p> <p>Statistical inference with emphasis on inference from processes and their applications to decision making</p> <p>Econometrics, Microeconomics and related areas of Mathematical Economics with emphasis on applications to Industrial Engineering and Operations Research</p> <p>In addition, candidates with an excellent record and published work in other areas of Industrial Engineering and Operations Research would also be considered. Strong work in contemporary techniques in O.R., as well as sustained work in application of quantitative techniques to domains such as Finance, Manufacturing, Services, Logistics and Transportation and Infrastructure can be considered.</p>
21	Reliability Engineering	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Software Reliability 2. Power Systems Reliability 3. Mechanical Systems Reliability 4. Electronic Systems Reliability 5. Structural Systems Reliability
22	Systems & Control Engineering	<p><u>Assistant Professor</u></p> <ol style="list-style-type: none"> 1. Systems Science (Theory and Applications) 2. Systems Engineering (Theory and Applications) 3. Systems Optimization (Theory and Applications) 4. Fault Diagnosis 5. Control Systems (Theory and Applications)

GENERAL INFORMATION

1. Candidates should have an excellent academic record, good communication skills, a commitment to high quality undergraduate and post-graduate education and the potential for creative research.
2. The Institute encourages interaction of the faculty with industry, other research and professional institutions. Consultancy is encouraged at IIT Bombay and liberal consultancy policies are in practice.
3. Facilities for Research and Development activities exist in all the Departments and Centres. These are being continuously modernized with contemporary equipment and services. Good facilities also exist for computing. The Institute has a well stocked library with 4 lakhs volumes of books and journals, 2000 current periodicals and other research materials.
4. The posts carry allowance such as D.P., D.A., C.C.A., H.R.A. as per rules of the Institute which at present correspond to those admissible to Central Government employees stationed at Mumbai. Depending upon the qualifications and experience, higher salary may be offered in deserving cases.
5. Candidates called for interview will be paid 2 AC train fare from the place of their residence and back by the shortest route.
6. About 90% of the faculty and research staff live on the Campus. The Institute endeavours to provide suitable accommodation to all faculty. However, initially new faculty may have to stay in transit accommodation.
7. Most of the day-to-day facilities are available on the Campus including two banks, a post office, a small shopping center, two schools (upto 12th standard) for children, a well equipped 65 bed hospital, sports facilities including a swimming pool and vast play-ground for field games. Cultural facilities include film clubs, Classical music societies, debating and drama and a hobbies club. The Staff Club in particular is a center of social and cultural activities.
8. Candidates other than those belonging to SC/ST communities must send a Demand Draft for Rs.100/- drawn on any nationalized bank payable at Mumbai, in favour of Registrar, IIT Bombay alongwith the application.
9. Persons employed in Government/Semi-Government Organisation or Educational Institutions must apply through proper channel.
10. The Institute reserves the right to screen and call only such candidates as are found prima-facie suitable for being considered by the Selection Committee. Thus, just fulfilling the prescribed conditions would not entitle one to be called for interview.
11. The Institute may consider candidates whose area of specialization lie outside those stated herein, provided these persons have an outstanding record.
12. Seperate application must be sent if a candidate is applying for a faculty position in more than one Department/Centre etc.
13. The Institute reserves the right to fill or not to fill any or all the posts advertised.

14. The Selection Committee at its discretion may relax the minimum requirements in case of outstanding candidates for each of the above 3 posts.
15. No correspondence will be entertained from candidates regarding postal delays, conduct & result of interview and reasons for not being called for interview.
16. Application forms completed in all respects are to be submitted by all candidates alongwith necessary enclosures.
17. The referees may be requested to send their reports directly in confidence to the Dean (Faculty), IIT Bombay.
18. No fee is applicable to candidates applying from abroad.
19. This is a rolling advertisement. There is no last date.

Date:9th May, 2007

Sd/-
REGISTRAR