

DEPARTMENT OF INTERDISCIPLINARY SCIENCE AND TECHNOLOGY

Advanced Certificate Programme in Industrial Bioprocess Technology (ACP-IBT)
9-Months, Full-time

The recent trends in industry expect professionals and graduates to have knowledge about food processing technologies, fermentation technology, pharmaceutical practices and pertinent operational know-how of handling the instrumentation. This Advanced Certificate Programme aims to enable graduates with the appropriate understanding of the current industry needs which provide the necessary impetus for the graduates' employability.

The programme is designed to develop the student's ability to apply the techniques used in the food, pharma and biotech industries. This course covers discovery, production (including fermentation and scale-up), bioprocessing and cell banking, microbiological quality assurance, standard guidelines, specification index/indicator organisms, food preservation methods and food infection and intoxication, the metabolism of microorganisms of industrial importance (yeasts, moulds, bacteria and actinomycetes), the microbiological and chemical aspects of fermentation with special emphasis on processes in the pharmaceutical industries associated with industrially important microorganisms. It includes the principles and practices in the main applications of micro-organisms to the industrial production of foods, pure chemicals, proteins and other useful products, including the use of genetically modified microorganisms for the production of antibiotics, vaccines, microbial enzymes etc.

Course Structure

Level - I

Course Code	Course Name	Credits
IBT-001	Fundamentals of Microbiology	[2T+2L]
IBT-002	Applied Biochemistry	[2T+2L]
IBT-003	Molecular Biology	[2T+2L]
IBT-004	Microbial Genetics	[2T+1L]
SSD-001	Soft Skills Development - I	2T
IBT-005	Project - I	3
Total Credits		20

Level - II

Course Code	Course Name	Credits
IBT-006	Fermentation Technology	[2T+2L]
IBT-007	Biocatalysis and Bioprocess Engineering	[2T+2L]
IBT-008	Genetic Engineering	[2T+2L]
IBT-009	Techniques in Products Analysis	[2T+1L]
SSD-002	Soft Skills Development - II	2T
IBT-010	Project - II	3
Total Credits		20

Note: One credit of theory (T) equals 16 hrs. of teaching contact hours & one credit of Lab (L) equals 32 hours of laboratory work.

Lab Infrastructure

- Testing Laboratory: pH meter, Light Microscope, Stereo Microscope, Centrifuge, Ultrasonicator, Furnace, Vacuum Desiccators, Infusion pump, Laminar air flow hood, SDS - PAGE Assembly, Electrophoresis Assembly, PCR, Ligation bath etc.
- Media Preparation Room: Electronic balance, Hot plate, pH meter, Distillation unit etc.
- Sterilization Room: Autoclave, Hot air Oven, UV - Cabinet, Filtration unit etc.
- Incubation Room: BOD incubator, Shaker Incubator, Water bath, Refrigerator etc.
- Decontamination Room



Knowledge Partners



Eligibility

- B.Sc. / M.Sc. in Biotechnology / Biochemistry / Genetics / Chemistry / Microbiology / Botany / Zoology, with 55% marks from a recognized university.
- B.Tech / M.Tech in Biotechnology, B. Pharm / M. Pharm. with 55% marks from a recognized university.

Faculty

- Prof. Jayant Pawar
- Prof. Jay N. Yadav
- Prof. Prasen Vinchurkar
- Visiting Faculty (Industry Experts)

Contact - HoD

Prof. Amit Patwardhan
Tel: +91 20 22934590 / 91
Email: ibt@isquareit.com



*For application & selection process, please visit www.isquareit.com
You can also contact Admissions Department*

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY CENTRE FOR ADVANCED STUDIES

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DEPARTMENT OF INTERDISCIPLINARY SCIENCE AND TECHNOLOGY

Advanced Certificate Programme in Industrial Bioprocess Technology (ACP-IBT) 6-Months, Full-time

Foreword

The recent trends in industry expect professionals and graduates to have knowledge about food processing technologies, fermentation technology, pharmaceutical practices and pertinent operational know-how of handling instruments. The course contents of this programme are designed so as to provide comprehensive know-how about bio-processing and fermentation technologies which includes proficiency in Instrumentation, food technologies, microbial biotechnology, biochemical assays, purification protocols and others. The scope of the course contents also contain hands-on lab practicals covering the topics such as micro-biology, enzymology, recombinant DNA technology, basic molecular biology techniques.

This Advanced Certificate Programme in Industrial Bioprocess Technology aims to enable professionals and graduates with the appropriate understanding of the current industry needs which provide the necessary impetus for enhancing the competency and skill sets of the aspirant. It also equips the aspirant with various QA, QC and documentation practices followed for any pharma / biotech / food industries.

Course Structure

Level - I

Course Code	Course Name	Credits
IBT-001	Fundamentals of Microbiology	[2T+1L]
IBT-002	Applied Biochemistry	[3T+1L]
IBT-003	Molecular Biology & Genetic engineering	[2T+1L]
IBT-004	Microbial Genetics	[2T+1L]
IBT-005	Project - I	2T
SSD-001	Soft Skills Development - I	2L
Total Credits		17

Level - II

Course Code	Course Name	Credits
IBT-006	Fermentation Technology	[2T+1L]
IBT-007	Biocatalysis and Bioprocess Engineering	[3T+1L]
IBT-008	Techniques in Products Analysis	[2T+1L]
IBT-009	Quality Control & Best Practises	[2T+1L]
IBT-010	Project - II	2T
SSD-002	Soft Skills Development - II	2L
Total Credits		17

Note: One credit of Theory (T) equals 1 Hr. of teaching contact hour per week | One credit of Lab (L) equals 2 Hrs. of laboratory work per week

Lab Infrastructure

- Testing Laboratory: pH meter, Light Microscope, Stereo Microscope, Centrifuge, Ultrasonicator, Furnace, Vacuum Desiccators, Infusion pump, Laminar air flow hood, SDS - PAGE Assembly, Electrophoresis Assembly, PCR, Ligation bath etc.
- Media Preparation Room: Electronic balance, Hot plate, pH meter, Distillation unit etc.
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- Incubation Room: BOD incubator, Shaker Incubator, Water bath, Refrigerator etc.
- Decontamination Room

Distinctive Features

- Strategic location of the Institute in the midst of top technology giants in the Pune Infotech Park
- Over 12+ years of quality experience in delivering technology programmes in niche & emerging areas
- Well qualified and committed faculty with rich teaching, research and industry experience
- Curriculum evaluated by industry experts
- State-of-the-art Laboratory to gain hands on experience on various technological tools and platforms
- Wired broadband internet connectivity of 8 Mbps
- Digital campus learning environment
- Dedicated placement team to facilitate the students for career counseling & placement assistance
- Active interface with technology and user companies
- Excellent on-campus hostel facility available (optional)
- Cafeteria facility available (on cash and carry basis)

Knowledge Partners



Faculty

- Prof. Jayant Pawar
- Prof. Jay N. Yadav
- Prof. Prasen Vinchurkar
- Prof. Aparna Khandekar
- Industry Experts
- Visiting Faculty (Leading industry experts)

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Email: ibt@isquareit.com

Recruiters (Abridged List)

Tata Chemicals Ltd.
www.tatachemicals.com

Dr. Reddy's Laboratories Ltd.
www.drreddys.com

Serum Institute of India
www.seruminstitute.com

Nestle India
www.nestle.in

Cipla
www.cipla.com

Biocon Ltd.
www.biocon.com

Praj Industries Ltd.
www.praj.net

GlaxoSmithKline Pharmaceuticals Ltd.
www.gsk-india.com

Johnson & Johnson Ltd.
www.jnjindia.com

Emcure Pharmaceuticals Ltd.
www.emcure.co.in

Eligibility

- B.Sc. / M.Sc. in Biotechnology/ Biochemistry/ Genetics / Chemistry/ Microbiology/ Botany/ Zoology, with 55% marks from a recognized university.
- B.Tech/ M.Tech in Biotechnology/ Food technology/ any other life science graduates.
- B. Pharm/ M. Pharm.

For more details about the Programmes, Admission, Application & Selection process, please visit www.isquareit.com or call any of our student counselors between 9 AM & 6 PM on: **+91 9372121253 / 9372121254**



I²IT Trust & Society's CENTRE FOR ADVANCED STUDIES

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Disclaimer:

- The courses and course contents, lab hardware and software environment are subject to change without prior notice keeping in mind the new advances in technology and industry requirements.
- Advanced Certificate Programmes / Electives mentioned will be offered depending on the number of students opting for the respective courses.
- Due to any unforeseen circumstances, the Institute reserves the right to delay / postpone the commencement of the programme.
- The images and pictures used in this leaflet are for illustration purposes only, and in no way constitute or represent exact location, service or idea in this context.