

# University of Pune

## Faculty of Technology

### Board of Studies in Chemical and Biotechnology

#### Curriculum Structure

Sr. No.	Course Title	Semester	Credits
1	Core 1 – Bioprocess Technology	I	5
2	Core 2 – Bio-reaction Engineering	I	5
3	Core 3 – Advanced Modeling Techniques	I	5
4	Core 4 – Applied Biology	II	5
5	Core 5 – Advanced Transport Phenomena	II	5
6	Elective I*	I	5
7	Elective II*	II	5
8	Elective III*	II	5
9	Open Elective I**	I	5
10	Open Elective II**	II	5
11	Seminar –I (Advanced Topic based on courses in semester I)	I	5
12	Seminar –II (Advanced Topic based on courses in semester II)	II	5
13	Advanced Mathematics	III	5
14	Advanced Technologies in Materials and Mechanical Engineering/ Computer and Information Sciences/ Life and Biological Sciences/ Electronics and Electrical Engineering	III	5
15	Research Methodology	III	5
16	Seminar III on Literature review of Research Problem/ Field Works/ Assignments	III	5
17	Research Progress Seminar I and Report	IV	20
18	Research Progress Seminar II and Report	V	20
19	Research Progress Seminar III and Report	VI	20
20	Research Progress Seminar IV and Report	VII	20
21.	Thesis Submission	VIII	

#### Note

Candidates are expected to perform minimum four (4) assignments for every core and elective course, and submit report as a bona fide document to supervisor/course instructor. The assignment may be in the form of modeling/ simulation/ programming/ experimental investigation/ fieldwork

\*

The candidates are expected to select three electives from the list provided in Table 1

\*\* The candidates are expected to select two open electives

**TABLE 1**

CBE1: Fermentation Technology
CBE2: Advanced Biomaterials
CBE3: Genomics & Proteomics
CBE4: Advanced Downstream Processing
CBE5: Biofuel & Bioenergy
CBE6: Advanced Genetic Engineering
CBE7: Nutrition & Food Processing
CBE8: Herbal Drug Technology
CBE9: Enzyme Technology
CBE10: Alcohol and Brewery Technology
CBE11: Stem Cell & Cancer Biology
CBE12: Advanced Bioinformatics
CBE13: Metabolic Engineering
CBE14: Structural Biology
CBE15: Nanotechnology
CBE16: Intellectual Property Rights & Bioethics
CBE17: Analytical Chemistry
CBE18: Instrumentation & Process Control
CBE19: Thermodynamics
CBE20: Strain Development