Syllabus
Fourth Semester Courses in
MSc
Biotechnology
(2024-2025)

Contents:

- **Syllabus for Core Course:**
  - **PSBTY6502RP1 Research Project with Dissertation**

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APPROVED SYLLABUS

ST. XAVIER'S COLLEGE-AUTONOMOUS ★ MUMBAI-400 001 ★

PRINCIPAL
ST. XAVIER'S COLLEGE
AUTONOMOUS
MUMBAI - 400 001.

MSc II in BIOTECHNOLOGY		
Course Title: RESEARCH PROJECT WITH DISSERTATION **Course Code: PSBTY6502RP1**		
Credits: 18	**Practical Course**	
	Course Objectives	
	• The Dissertation work aims to enable students to formulate clear, focused research questions or hypotheses that address a gap in knowledge or contribute to a specific field of study. The dissertation process will prepare students for future academic or professional endeavours, including further study at the PhD level, career advancement, or engagement in research-related activities. • The Internship in a Biotechnology based industry will help the learner to bridge the gap between academic learning and industry practice, preparing them for careers in the field.	
CO	**Course Outcomes** ***On completing the course, the learner will be able to***	**Bloom's Taxonomy Level (BT level)**
1	Identify a research query based on the knowledge acquired across the previous semesters and relevant scientific literature.	Applying
2	Design the research study, plan, and execute the research project and validate the methods for reliability and reproducibility.	Analyzing
3	Apply ethical principles of scientific research.	Evaluating
4	Critically evaluate the data obtained and compare it with existing scientific literature with regard to validity and applicability.	Creating
5	Develop skills and competencies that are valuable for future academic or professional endeavors, such as critical analysis, written and oral communication, and project management.	Analysis, Creating
6	Develop effective communication (interpersonal, oral , written) and collaboration skills by working closely with supervisors, mentors, and team members on projects.	Applying

Content			40 hours/week
		• Project in Research Institute /Internship at Biotechnology based /allied Industry for 6 months with Dissertation / Report	

Evaluation (Practical- Research Project, PSBTY6502RP1):
Total Marks: 500

I. Summative Assessment 'of' Learning (focus on outcomes, quantitative data for outcomes of instruction).
Each student will be supervised by one Research Institute mentor/ Industry Mentor and one internal faculty member throughout the project/internship period

a) Research Project-
- Mentor/Principal Investigator/Supervisor's evaluation – 200 M.
- Dissertation– 200 M
- Presentation and Viva Voce (External Examiners)- 100M

b) Internship in industry
- Industry Mentor/Project Supervisors evaluation- 200M
- Report with Certificate – 200M.
- Presentation and Viva (External Examiners)- 100M

Distribution of Bloom's Taxonomy Levels for the Course Assessment

Units	Remembering	Understanding	Analyzing	Application	Evaluation	Creation
*Percentage	NA	20	20	20	20	20