



## **Changu Kana Thakur Arts, Commerce and Science College, New Panvel (Autonomous)**

*Re-accredited 'A+' Grade by NAAC (Third Cycle - 3.61 CGPA)  
'College with Potential for Excellence' Status Awarded by University Grants Commission  
'Best College Award' by University of Mumbai*



## **OUTCOME BASED EDUCATION**

***Department of Biotechnology***



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# Department of Biotechnology

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### **Program Information**

<b>Programs</b>	<b>B.Sc. Biotechnology</b> <b>B.Sc. Biotechnology</b>
<b>Programme Coordinator:</b>	Dr. (Mrs.) J.S. Thakur
<b>Head</b>	Dr. (Mrs.) S.S. Kokitkar



## Department of Biotechnology

### Program Outcomes for B.Sc. Degree Program

Sr. No.	OUTCOME FOR B.SC. PROGRAM After completion of B.Sc. program students will acquire	GRADUATE ATTRIBUTE
PO-1	The knowledge of the disciplines and in-depth and extensive knowledge, understanding and skills in a specific field of interest.	Disciplinary knowledge
PO-2	An ability to develop and conduct experiments, analyze, and interpret data and use scientific judgment to draw conclusions	Scientific reasoning
PO-3	An ability to use current technology, and modern tools necessary for creation, analysis, dissemination of information.	Digital literacy
PO-4	Innovative, professional, and entrepreneurial skills needed in various disciplines of science.	Life-long learning
PO-5	An ability to achieve high order communication skills.	Communication skills
PO-6	An ability to collect, analyse and evaluate information and ideas and apply them in problem solving using conventional as well as modern approaches .	Problem solving
PO-7	A sense of social responsibility; intellectual and practical skills and demonstration of ability to apply it in real-world settings.	Reflective thinking
PO-8	An ability to engage in independent and life-long learning through openness, curiosity, and a desire to meet new challenges.	Life-long learning
PO-9	A capacity to relate, collaborate, and lead others, and to exchange views and ideas to work in a team to achieve desired outcomes.	Teamwork
PO-10	An ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Leadership
PO-11	An ability to understanding values, ethics, and morality in a multidisciplinary context.	Moral and ethical awareness



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### Program Specific Outcomes for B.Sc. Biotechnology

Name of the Programme:	Programme Coordinator:	Head of the Department:
B.Sc. Biotechnology	Dr. (Mrs.) J.S. Thakur	Dr. (Mrs.) S.S. Kokitkar
	Upon completion of B.Sc. Biotechnology programme students will be able to:	
<b>PSO-1</b>	Develop an understanding of the fundamental principles and techniques of Biotechnology and allied subjects.	
<b>PSO-2</b>	Apply biotechnical tools, techniques and skills to solve problems in the core and allied fields of Biotechnology.	
<b>PSO-3</b>	Demonstrate proficiency in basic laboratory skills, analyse and interpret experimental data, scientific report writing and oral presentations.	
<b>PSO-4</b>	Explain the importance of Biosafety, Bioethics and protection of new knowledge and innovations through IPR along with Entrepreneurial way of thinking.	



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### Program Outcomes for M.Sc. Degree Program

Sr. No.	OUTCOME FOR M.SC. PROGRAM After completion of B.Sc. program students will acquire	GRADUATE ATTRIBUTE
PO-1	The ability to identify and describe broadly accepted methodologies of science, and different modes of reasoning.	Disciplinary knowledge
PO-2	An ability to demonstrate proficiency in various instrumentation, modern tools, and advanced techniques to meet industrial expectations and research outputs.	Disciplinary knowledge
PO-3	Ability to identify problems, formulate, and prove hypotheses by applying theoretical knowledge and skills relevant to the discipline.	Problem-solving
PO-4	The ability to articulate thoughts, research ideas, information, scientific outcomes in oral and in written presentation to range of audience.	Communication skills
PO-5	A capacity for independent, conceptual, and creative thinking, and critical analysis through the existing methods of enquiry.	Critical thinking
PO-6	Acquisition of skills required for cutting edge research, investigations, field study, documentation, networking, and ability to build logical arguments using scholarly evidence.	Research skills
PO-7	An ability to portray good interpersonal skills with the ability to work collaboratively as part of a team undertaking a range of different team roles	Teamwork
PO-8	The ability to understand ethical responsibilities and impact of scientific solutions in global, societal, and environmental context and contribute to sustainable development.	Moral and ethical awareness/ multicultural competence
PO-9	An openness to and interest in, life-long learning through directed and self-directed study.	self-directed learning
PO-10	The ability to translate the knowledge and demonstrate the skills required to be employed and successful professional development.	Life-long learning



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### Program Specific Outcomes for M.Sc. Biotechnology

Name of the Programme:	Programme Coordinator:	Head of the Department:
M.Sc. Biotechnology	Dr. (Mrs.) J.S. Thakur	Dr. (Mrs.) S.S. Kokitkar
	Upon completion of M.Sc. Biotechnology programme students will be able to:	
<b>PSO-1</b>	Demonstrate comprehensive knowledge and interdisciplinary skills in the core and allied courses in biotechnology along with other emerging trends.	
<b>PSO-2</b>	Apply modern Bio-analytical tools, techniques, software and equipment to analyse and solve problems in different areas of biotechnology.	
<b>PSO-3</b>	Design research problems, test hypothesis, prepare scientific report and use biostatistical and bioinformatics tools for data interpretation and draw conclusions.	
<b>PSO-4</b>	Apply entrepreneurial skills and appraise bioethics, biosafety, research ethics, Plagiarism and intellectual property rights.	