



**Savitribai Phule Pune University**  
(Formerly University of Pune)



Styaniketan's  
**Adv. M. N. Deshmukh Arts, Science and Commerce**  
**College Rajur**

**B.Sc. in Chemistry**

(Faculty of Science & Technology)

**Program Outcomes**  
&  
**Program Specific Outcomes**

**T.Y. B. Sc. Chemistry**

(As Per National Education Policy-2020)

## Program Outcomes

### **PO1: Chemistry Knowledge**

Apply fundamental and advanced knowledge of physical, inorganic, organic, analytical, polymer, environmental, biochemical, forensic, medicinal and materials chemistry to solve scientific problems.

### **PO2: Problem Analysis**

Identify, formulate, analyze and interpret chemical problems using scientific principles, mathematical tools, and modern analytical techniques.

### **PO3: Laboratory Competency**

Demonstrate proficiency in laboratory techniques, chemical synthesis, quantitative analysis, instrumental methods, data interpretation, and safe laboratory practices.

### **PO4: Modern Instrumentation**

Use modern chemical instruments, computational chemistry software, and analytical tools for qualitative and quantitative investigations.

### **PO5: Research and Innovation**

Design and conduct experiments, analyze experimental data, prepare scientific reports, and develop research aptitude for higher education and industrial applications.

### **PO6: Environment and Sustainability**

Apply principles of green chemistry, environmental protection, waste management, and sustainable chemical practices to minimize environmental impact.

### **PO7: Ethics and Professional Responsibility**

Demonstrate professional ethics, laboratory safety, responsible conduct of research, and adherence to environmental and legal regulations.

### **PO8: Communication Skills**

Communicate scientific information effectively through technical reports, seminars, presentations, research papers, and teamwork.

### **PO9: Leadership and Teamwork**

Work effectively as an individual and as a member or leader of multidisciplinary teams in academic, industrial, and research environments.

### **PO10: Lifelong Learning and Employability**

Develop self-learning ability, entrepreneurship skills, adaptability to emerging technologies, and preparedness for higher education, competitive examinations, research, and employment in chemical industries.

## **Program Specific Outcomes**

### **PSO1: Core Chemical Sciences**

Acquire comprehensive knowledge of Physical, Organic, Inorganic and Analytical Chemistry and apply chemical principles for solving theoretical and practical problems.

### **PSO2: Experimental and Analytical Skills**

Develop competency in chemical synthesis, purification, qualitative and quantitative analysis, chromatography, spectroscopy, electrochemical methods, thermal analysis, and instrumental techniques.

### **PSO3: Research and Industrial Applications**

Apply research methodology, computational chemistry, field projects, industrial training, and problem-solving skills to pharmaceutical, polymer, environmental, forensic, materials and chemical industries.

### **PSO4: Green and Sustainable Chemistry**

Implement green chemistry principles, environmental monitoring, pollution control, sustainable resource utilization, and safe chemical handling for societal benefit.

### **PSO5: Professional Development**

Demonstrate scientific communication, ethical practices, teamwork, entrepreneurship, and lifelong learning necessary for careers in research laboratories, academia, quality control, chemical industries, and higher education.