

Estd. June 1964

“Education for Knowledge, Science and Culture.”

– Shikshanmaharshi Dr. Bapuji Salunkhe

Shri. Swami Vivekanand Shikshan Sanstha's

**VIVEKANAND COLLEGE, KOLHAPUR  
(AUTONOMOUS)**

2130 E, Tarabai Park, Tal. Karveer, Dist. Kolhapur 416 003

UGC Recognition Under 2 F & 12(B) UGC Act 1956

Affiliated to Shivaji University, Kolhapur (M.S.)

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**Department of Chemistry**

**Course Outcomes (COs): Chemistry (Major)**

B. Sc. Part I Chemistry ( NEP Introduced in the year 2023-24)	
Semester I	
Inorganic Chemistry (DSC03CHE11)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Learn introductory inorganic chemistry and understand size, shape and electron distribution in shells and sub-shells of an atom.
CO2	Impart different types of bonds and nature of bonding in inorganic compounds, calculations of different energies associated with ionic bonding.
CO3	Acquire knowledge of nature of bonding, geometry, stability and magnetic characters of covalent compounds by applying VBT.
CO4	Adopt and understand the properties and uses of the compounds of p-block elements as well as concepts of acids and bases in chemistry.
Organic Chemistry (DSC03CHE12)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Understand the fundamental concepts in Organic Chemistry.
CO2	Learn the spatial arrangement of atoms of organic molecule and their effect on properties of organic molecules.
CO3	Gain knowledge about heterocyclic compounds and its properties.
CO4	Impart concepts of aromaticity as well as transformation functional groups.
Semester II	
Physical Chemistry (DSC03CHE21)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Adopt and understand basic concepts and rules of logarithms, graphs, derivative and integrations.
CO2	Gain knowledge about basic concepts in kinetics and first order, second order reactions with characteristics. Also basic concepts and applications of thermodynamics.

CO3	Learn properties of liquid and apply this for the determination by various techniques.
CO4	Understand basic concepts in electrochemistry, conductors and conductivity cells, measurement of conductance.
<b>Analytical Chemistry (DSC03CHE22)</b>	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Learn concepts of analytical chemistry.
CO2	Understand the various aspects of industrial chemistry such as MSDS, preparation of various solutions and IPR.
CO3	Acquire knowledge of chromatographic separation technique such as Paper and Thin layer chromatography.
CO4	Gain theoretical concepts of various volumetric titrations.
<b>Laboratory Safety Management (SEC03CHE29)</b>	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Gain the knowledge of chemical handling and its laboratory management.
CO2	Acquire information about MSDS and safety symbols.
CO3	Adopt skills of Prevention of Accidents and First Aid Measures.
CO4	Understand General Safety & Safe Handling of Chemicals.



  
 Dr. (Mrs). S, D, Shirke  
**HEAD**  
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**Department of Chemistry**

**Course Outcomes (COs): Chemistry(Minor)**

B. Sc. Part I Chemistry ( NEP Introduced in the year 2023-24)	
Semester I	
Inorganic Chemistry (MIN03CHE11)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Learn introductory inorganic chemistry and understand size, shape and electron distribution in shells and sub-shells of an atom.
CO2	Impart different types of bonds and nature of bonding in inorganic compounds, calculations of different energies associated with ionic bonding.
CO3	Acquire knowledge of nature of bonding, geometry, stability and magnetic characters of covalent compounds by applying VBT.
CO4	Adopt and understand the properties and uses of the compounds of p-block elements as well as concepts of acids and bases in chemistry.
Organic Chemistry (DMIN03CHE12)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Understand the fundamental concepts in Organic Chemistry.
CO2	Learn the spatial arrangement of atoms of organic molecule and their effect on properties of organic molecules.
CO3	Gain knowledge about heterocyclic compounds and its properties.
CO4	Impart concepts of aromaticity as well as transformation functional groups.
Semester II	
Physical Chemistry (MIN03CHE21)	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Adopt and understand basic concepts and rules of logarithms, graphs, derivative and integrations.
CO2	Gain knowledge about basic concepts in kinetics and first order, second

	order reactions with characteristics. Also basic concepts and applications of thermodynamics.
CO3	Learn properties of liquid and apply this for the determination by various techniques.
CO4	Understand basic concepts in electrochemistry, conductors and conductivity cells, measurement of conductance.
<b>Analytical Chemistry (MIN03CHE22)</b>	
<b>CO No.</b>	<b>On completion of the course, student will be able to:</b>
CO1	Learn concepts of analytical chemistry.
CO2	Understand the various aspects of industrial chemistry such as MSDS, preparation of various solutions and IPR.
CO3	Acquire knowledge of chromatographic separation technique such as Paper and Thin layer chromatography.
CO4	Gain theoretical concepts of various volumetric titrations.



*S. D. Shirke*  
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## Department of Chemistry


### Course Outcomes (COs): Chemistry (Open Elective)

B. Sc. Part I Chemistry ( NEP Introduced in the year 2023-24)	
Semester I	
General Aspects of Inorganic Chemistry (OEC03CHE11)	
CO No.	On completion of the course, student will be able to:
CO1	Learn introductory Inorganic chemistry and understand size, shape and electron distribution in shells and sub- shells of an atom.
CO2	Understand of role of acids and bases in chemistry.
CO3	Illustrate the basic parameters of water, different water softening processes and ill effects of hard water.
CO4	Describe the principle, types and mechanism of corrosion and its control methods.
General Aspects of Organic Chemistry (OEC03CHE12)	
CO No.	On completion of the course, student will be able to:
CO1	Understand the fundamental concepts in Organic Chemistry.
CO2	Learn Chemistry of Aliphatic and Aromatic compounds.
CO3	Acquire the knowledge of basic concept of Green chemistry.
CO4	Gain the knowledge about soap and its manufacturing.
Semester II	
General Aspects of Physical Chemistry (OEC03CHE21)	
CO No.	On completion of the course, student will be able to:
CO1	Learn and coherently understand the basic concepts of solution, types of solution and distribution law.
CO2	Acquire knowledge of basic concepts and applications of thermodynamics.
CO3	Gain knowledge about basic concepts in Nuclear Chemistry.
CO4	Learn and coherently understand the concepts of surface tension, viscosity and refractive index.

### General Aspects of Applied Chemistry (OEC03CHE22)

CO No.	On completion of the course, student will be able to:
CO1	Learn concepts of analytical chemistry.
CO2	Understand the various aspects of industrial chemistry such as MSDS, preparation of various solutions and IPR.
CO3	Create awareness and sense of responsibilities towards environment.
CO4	Acquire knowledge of basic chemistry of fuels.



  
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