

Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Chemistry

Syllabus Completion Report 2025-26 : SEM- II, IV and VI, M.Sc.-SEM-II and IV

Teacher Name: Dr. Mrs. S. D. Shirke, M.Sc. Ph.D.

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. I (Sem- II) NEP	Major , Minor and OE	----	No organic Chemistry Theory paper for SEM-II Practicals - As per syllabus	NIL
B.Sc. II (Sem IV)	Organic Chemistry	01	- Amines and Diazonium Salts - Introduction Amines- Definition , Classification, Preparation methods, of Primary , secondary and Tertiary amines.- Chemical Reactions, - Diazonium Salts-Definition, examples. - Preparation of diazonium salts from aromatic amines and HNO₂ - Electrophilic Substitution reactions and Sandmeyer's reactions. Practical –As per syllabus	NIL
B.Sc. III Sem VI	Organic Chemistry	01	Natural Products - 1. Terpenoids -Citral - Introduction, Classification, General methods for analytical Evidence and Synthetic Evidence Of Citral, 2.Alkaloids - Nicotine : Classification, Isolation methods, Properties, Analytical and Synthetic Evidence of Nicotine.	NIL
		02	Electrophilic Addition Reactions across C=C and C≡C: Structure and addition reactions of , O ₂ , O ₃ , NOCl, H ₂ O, HX...etc. Practical –As per syllabus	NIL
M. Sc.-I SEM-II	Organic Chemistry	1	Unit-III : a)Methodologies in organic synthesis - Disconnection Approach b)Alkylation and Acylation	NIL
M.Sc.-II SEM-IV	Organic Chemistry	1	Agrochemicals - Synthesis of some selected agrochemicals from, Carbamates, Organophosphorous insectides, PGR, Juvenile Hormones.... etc.	NIL

Dr. Mrs. S. D. Shirke

Head of Department
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Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Syllabus Completion Report

Academic Year - 2025-26

Sem-I, Sem-III, Sem-V

Department - Chemistry

Name of the Teacher – **Dr. A. S. Tapase**

Name of the Class	Units/ Practical Allotted	Units/ Practical Completed	Remark
B. Sc. I	B.Sc. I Practical	B.Sc. I Practical	Completed
B. Sc. II (Major)	- Chemical Kinetics - Electrochemistry II	- Chemical Kinetics - Electrochemistry II	Completed
B. Sc. II (Minor)	Chemical Kinetics	Chemical Kinetics	Completed
B. Sc. II	Practical	Practical	Completed
B.Sc. III (Major)	- Quantum Theory - Photochemistry	- Quantum Theory - Photochemistry	Completed
B. Sc. III (Minor)	Photochemistry	Photochemistry	Completed
B. Sc. III	B. Sc. III physical Chemistry Practical	B. Sc. III physical Chemistry Practical	Completed
M. Sc. II	Surface characterization by spectroscopy	Surface characterization by spectroscopy	Completed



Dr. A. S. Tapase



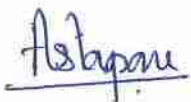
Dr. Mrs. S. D. Shirke

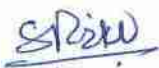
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**DEPARTMENT OF CHEMISTRY
VIVEKANAND COLLEGE, KOLHAPUR
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Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)
Syllabus Completion Report
Academic Year - 2025-26
Sem-II, Sem-VI, Sem-IV
Department - Chemistry
Name of the Teacher – **Dr. A. S. Tapase**

Name of the Class	Units Allotted	Units Completed	Remark
B. Sc. I	- Chemical Kinetics - Electrochemistry I	- Chemical Kinetics - Electrochemistry I	Completed
B.Sc. I	B. Sc. I Practical	B. Sc. I Practical	Completed
B.SC.II	Practical	Practical	Completed
B.Sc. III	- Adsorption - Chemical Kinetics	- Adsorption - Chemical Kinetics	Completed
B. Sc. III (Minor)	Surface chemistry	Surface chemistry	Completed
B.Sc. III	B. Sc. III physical Chemistry Practical	B. Sc. III physical Chemistry Practical	Completed


Dr. A. S. Tapase


Dr. Mrs. S. D. Shirke
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Syllabus Completion Report

Academic Year - 2025-26

M.Sc. I Sem I

Department - Chemistry

Name of the teacher: Miss. S.N. Inamdar

Name of the class	Units Allotted	Units Completed	Remark
M.Sc. I (Physical & Analytical Chemistry)	Chemical Kinetics	Chemical Kinetics	Completed
M.Sc. I (Inorganic & Organic Chemistry)	Study of lanthanides and actinides	Study of lanthanides and actinides	Completed
M.Sc. I (Analytical chemistry) Elective	Spectroscopic Techniques	Spectroscopic Techniques	Completed
M.Sc. II (Analytical Chemistry)	Voltammetry Techniques	Voltammetry Techniques	Completed



Miss. S.N. Inamdar
Name of Faculty



Prof. Dr. A. S. Kumbhar
PG- Coordinator



Prof. Dr. S. D. Shrike
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Vivekanand College, Kolhapur
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Syllabus Completion Report

Academic Year - 2025-26

M.Sc. I Sem II

Department - Chemistry

Name of the teacher: Miss. S.N. Inamdar

Name of the class	Units Allotted	Units Completed	Remark
M.Sc. I (Physical & Analytical Chemistry)	Electrochemistry	Electrochemistry	Completed
M.Sc. I (Analytical chemistry) Elective	Advanced liquid chromatographic techniques	Advanced liquid chromatographic techniques	Completed
M.Sc. II (Analytical Chemistry)	Analysis of cosmetic products	Analysis of cosmetic products	Completed
	Kinetic methods of analysis	Kinetic methods of analysis	Completed


Miss. S.N. Inamdar
Name of Faculty


Prof. Dr. A. S. Kumbhar
PG- Coordinator


Prof. Dr. S. D. Shrike
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Vivekanand College, Kolhapur

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Syllabus Completion Report

Academic Year - 2025 - 26

Sem - I, Sem - III, Sem - V

Department - Chemistry

Name of the Teacher – **Dr. S. D. Shinde**

Name of the Class	Units Allotted	Units Completed	Remark
B. Sc. I	- Atomic Structure and Periodicity of Elements - p – block elements B. Sc. I Organic, Inorganic and Physical Chemistry Practicals	- Atomic Structure and Periodicity of Elements - p -block elements B. Sc. I Organic, Inorganic and Physical Chemistry Practicals	Completed
B. Sc. II	B. Sc. II Organic, Inorganic and Physical Chemistry Practicals	B. Sc. II Organic, Inorganic and Physical Chemistry Practicals	Completed
B. Sc. III (Major)	- Metals, Semiconductors and Superconductors. - Chemistry of Non-Aqueous Solvents B. Sc. III Inorganic Chemistry Practicals	- Metals, Semiconductors and Superconductors. - Chemistry of Non-Aqueous Solvents B. Sc. III Inorganic Chemistry Practicals	Completed
B. Sc. III (Minor)	Electronic Properties of Materials	Electronic Properties of Materials	Completed
M. Sc. II Analytical Chemistry	Introduction to Nanotechnology and Nano Chemistry	Introduction to Nanotechnology and Nano Chemistry	Completed



Dr. S. D. Shinde



Dr. Mrs. S. D. Shirke

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Syllabus Completion Report

Academic Year - 2025 - 26

Sem - II, Sem - IV, Sem - VI

Department - Chemistry

Name of the Teacher – **Dr. S. D. Shinde**

Name of the Class	Units Allotted	Units Completed	Remark
B. Sc. I	▪ B. Sc. I Organic, Inorganic and Physical Chemistry Practicals	▪ B. Sc. I Organic, Inorganic and Physical Chemistry Practicals	Completed
B. Sc. II (Major)	▪ Valence Bond Theory [VBT] ▪ Crystal Field Theory [CFT] ▪ B. Sc. II Organic, Inorganic and Physical Chemistry Practicals	▪ Valence Bond Theory [VBT] ▪ Crystal Field Theory [CFT] ▪ B. Sc. II Organic, Inorganic and Physical Chemistry Practicals	Completed
B. Sc. II (Minor)	▪ Valence Bond Theory [VBT]	▪ Valence Bond Theory [VBT]	Completed
B. Sc. III	▪ Lanthanides and Actinides ▪ Inorganic Reaction Mechanism ▪ B. Sc. III Inorganic Chemistry Practicals	▪ Lanthanides and Actinides ▪ Inorganic Reaction Mechanism ▪ B. Sc. III Inorganic Chemistry Practicals	Completed



Dr. S. D. Shinde



Dr. Mrs. S. D. Shirke

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Vivekanand College, Kolhapur (Empowered Autonomous)
Syllabus Completion Report

Academic Year - 2025-26 M. Sc. Part-I & II (Sem- II & IV)

Department - Chemistry

Name of the Teacher: **Dr. S. D. Kharade**

Name of the Class	Units Allotted	Units Completed	Remark
M. Sc. I Sem-II	1. A) Stereochemistry and bonding in main group compounds.	1. A) Stereochemistry and bonding in main group compounds	Completed
	B) Metal-ligand equilibria in solution 2. Thermal Analysis (TGA, DTA, DSC, TMA).	B) Metal-ligand equilibria in solution 2. Thermal Analysis (TGA, DTA, DSC, TMA).	Completed
M. Sc. II Sem IV (Analytical Chemistry)	1. Food and Food Additive Analysis.	1. Food and Food Additive Analysis.	Completed
	2. Analysis of Paints, pigments, and petroleum products.	2. Analysis of Paints, pigments, and petroleum products.	Completed
	3. Analysis of soil and fertilisers.	3. Analysis of soil and fertilisers.	Completed


Dr. S. D. Kharade


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Syllabus Completion Report

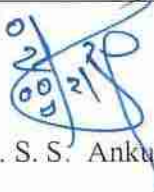
Academic Year – 2025-26

Sem-I, Sem-III, Sem-V

Department - Chemistry

Name of the Teacher – **Dr. S. S. Ankushrao**

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc. I	- Chemical Bonding and Molecular structure -Ionic Bonding - Chemical Bonding and Molecular structure-Valence bond theory (VBT)	- Chemical Bonding and Molecular structure - Ionic Bonding - Chemical Bonding and Molecular structure-Valence bond theory (VBT)	Completed
B.Sc. I	Inorganic, Organic & Physical Chemistry Practicals	Inorganic, Organic & Physical Chemistry Practicals	Completed
B.Sc.I	IKS-Chemistry in Ancient and Medieval India	IKS-Chemistry in Ancient and Medieval India	Completed
B.Sc. II (Major)	Unit Operations and Unit Processes	Unit Operations and Unit Processes	Completed
B.Sc.II (Minor)	Unit Operations and Unit Processes	Unit Operations and Unit Processes	Completed
B.Sc. III	- Soil & Water Analysis - Chromatography	- Soil & Water Analysis - Chromatography	Completed
B.Sc. III VSC	Soil & Water Analysis	- Soil & Water Analysis - Food Analysis	Completed
B.Sc. III	Inorganic Chemistry Practicals	Inorganic Chemistry Practicals	Completed
M.Sc. I	Data Interpretation & Report Writing	Data Interpretation & Report Writing	Completed
M.Sc. II	Proton NMR Spectroscopy	Proton NMR Spectroscopy	Completed
M.Sc.II	Carbon-13 NMR Spectroscopy	Carbon-13 NMR Spectroscopy	Completed


Dr. S. S. Ankushrao


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Vivekanand College, Kolhapur (Empowered Autonomous)

Syllabus Completion Report

Academic Year: 2025-26

Sem-II, Sem-IV, Sem-VI

Department - Chemistry

Name of the Teacher – **Dr. S. S. Ankushrao**

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc.I	- Fundamentals of Industrial Chemistry & IPR - Introduction to Analytical Chemistry	- Fundamentals of Industrial Chemistry & IPR - Introduction to Analytical Chemistry	Completed
B.Sc. I	Inorganic, Organic & Physical Chemistry Practicals	Inorganic, Organic & Physical Chemistry Practicals	Completed
B.Sc. II (Major)	Crystal Field Theory	Crystal Field Theory	Completed
B.Sc.II (Minor)	Crystal Field Theory	Crystal Field Theory	Completed
B.Sc. III	- Chemical Kinetics - Nuclear Chemistry - Bioinorganic Chemistry	- Chemical Kinetics - Nuclear Chemistry - Bioinorganic Chemistry	Completed
B.Sc. III VSC	Food Analysis	Food Analysis	Completed
B.Sc. III	Inorganic Chemistry Practicals	Inorganic Chemistry Practicals	Completed
M.Sc. II	Pericyclic Reactions	Pericyclic Reactions	Completed
M.Sc. II	Stereochemistry of Allene, Spiranes and Bicyclic Compounds	Stereochemistry of Allene, Spiranes and Bicyclic Compounds	Completed

Dr. S. S. Ankushrao


Dr. Mrs. S. D. Shirke

Vivekanand College, Kolhapur

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Syllabus Completion Report

Academic Year – 2025-26

Sem-I, III, V

Department - Chemistry

Name of the Teacher – **Prof. A. S. Kumbhar**

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc.II (Major)	▪ Kinetic Theory of Gases ▪ Thermodynamics	▪ Kinetic Theory of Gases ▪ Thermodynamics	Completed
B.Sc.II (Minor)	▪ Kinetic Theory of Gases ▪ Thermodynamics	▪ Kinetic Theory of Gases ▪ Thermodynamics	Completed
B.Sc.III	▪ Mass Spectroscopy	▪ Mass Spectroscopy	Completed
M.Sc.I	▪ Stereochemistry ▪ Hydroboration, Enamines	▪ Stereochemistry ▪ Hydroboration, Enamines	Completed
M.Sc.II	▪ Mass Spectroscopy (Analytical) ▪ Mass Spectrometry (Organic) ▪ Applications of the Following Metals and Ligands in Organic Synthesis (Organic)	▪ Mass Spectroscopy (Analytical) ▪ Mass Spectrometry (Organic) ▪ Applications of the Following Metals and Ligands in Organic Synthesis (Organic)	Completed



Prof. A. S. Kumbhar



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Academic Year – 2025-26

Sem-II, IV, VI

Department - Chemistry

Name of the Teacher – **Prof. A. S. Kumbhar**

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc.II (Major)	- Carbohydrates - Amino acids, peptides and proteins	- Carbohydrates - Amino acids, peptides and proteins	Completed
B.Sc.II (Minor)	- Carbohydrates - Amino acids, peptides and proteins	- Carbohydrates - Amino acids, peptides and proteins	Completed
B.Sc.III	Reagents	Reagents	Completed
M.Sc.I	Photochemistry	Photochemistry	Completed
M.Sc.II	- Stereochemistry of fused and bridged ring systems (Organic) - Newer Methods of Organic Synthesis - Alkaloids (Organic)	- Stereochemistry of fused and bridged ring systems - Newer Methods of Organic Synthesis - Alkaloids	Completed



Prof. A. S. Kumbhar



Prof. Dr. Mrs. S. D. Shirke

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Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Chemistry

Academic Year - 2025-26

M. Sc. Part-I & II (Sem- I & III)

Syllabus Completion Report

Name of the Teacher: Ms. V. S. Rajmane

Name of the Class	Units Allotted	Units Completed	Remark
M. Sc. I Sem I	UNIT III: Electroanalytical Techniques	UNIT III: Electroanalytical Techniques	Completed
M. Sc. II Sem III	Unit III: Advanced Instrumentation Techniques-B	Unit IV: Advanced Instrumentation Techniques-B	Completed
M. Sc. II Sem III (Analytical Chemistry)	Unit IV: A) Ion selective electrodes	Unit IV: A) Ion selective electrodes	Completed
M. Sc. II Sem III (Organic Chemistry)	Unit IV: (A) Five- Study of five and six-membered heterocycles containing one membered heterocycles	Unit IV: (A) Five- Study of five and six-membered heterocycles containing one membered heterocycles	Completed



Signature of the Faculty

(Miss. V. S. Rajmane)



Signature of HOD

(Dr. Mrs. S. D. Shirke)

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Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Chemistry

Academic Year - 2025-26

M. Sc. Part-I & II (Sem- III & IV)

Syllabus Completion Report

Name of the Teacher: Ms. V. S. Rajmane

Name of the Class	Units Allotted	Units Completed	Remark
M. Sc. I Sem I	UNIT-III: Chromatographic Techniques.	UNIT-III: Chromatographic Techniques.	Completed
M. Sc. I Sem I	UNIT-I: Study of following chromatographic Techniques	UNIT-I: Study of following chromatographic Techniques	Completed
M. Sc. II Sem III (Analytical Chemistry)	UNIT-IV: X-ray spectroscopy UNIT-III: Ion Chromatography	UNIT-IV: X-ray spectroscopy UNIT-III: Ion Chromatography	Completed Completed
M. Sc. II Sem III (Organic Chemistry)	UNIT – IV A) Kinetic and thermodynamic control of reactions	UNIT – IV A) Kinetic and thermodynamic control of reactions	Completed


Signature of the Faculty
(Miss. V. S. Rajmane)


Signature of HOD
(Dr. Mrs. S. D. Shirke)
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Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Chemistry

Academic Year - 2025-26

M. Sc. Part-I & II (Sem- I & III)

Syllabus Completion Report

Name of the Teacher: Ms. P. D. Narande

Name of the Class	Units Allotted	Units Completed	Remark
M. Sc. I Sem I	UNIT I: B) Photochemistry	UNIT I: B) Photochemistry	Completed
M. Sc. II Sem III (Analytical Chemistry)	Unit II: Colloids, Emulsion and Gel	Unit II: Colloids, Emulsion and Gel	Completed
M. Sc. II Sem III (Analytical Chemistry)	Unit III: Particle Size Analysis	Unit III: Particle Size Analysis	Completed



Signature of the Faculty

(Ms. P. D. Narande)



Signature of HOD

(Dr. Mrs. S. D. Shirke)

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Vivekanand College, Kolhapur (Empowered Autonomous)

Department of Chemistry

Academic Year - 2025-26

M. Sc. Part-I & II (Sem- II & IV)

Syllabus Completion Report

Name of the Teacher: Ms. P. D. Narande

Name of the Class	Units Allotted	Units Completed	Remark
M. Sc. I Sem I	UNIT-I: Thermodynamics	UNIT-I: Thermodynamics	Completed
M. Sc. II Sem IV (Analytical Chemistry)	UNIT-I: Analysis of oils, fat, soap and detergent	UNIT-I: Analysis of oils, fat, soap and detergent	Completed
M. Sc. II Sem III (Analytical Chemistry)	UNIT-IV: Analysis of Commercial materials	UNIT-IV: Analysis of Commercial materials	Completed
M. Sc. II Sem III (Organic Chemistry)	UNIT – III: Steroids and prostaglandins	UNIT – III: Steroids and prostaglandins	Completed


Signature of the Faculty
(Ms. P. D. Narande)


Signature of HOD
(Dr. Mrs. S. D. Shirke)
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Vivekanand College, Kolhapur
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Syllabus Completion Report
Academic Year - 2025-26
Sem-II, Sem-IV,
Department - Chemistry
Name of the Teacher — Mr. A.T. Mane

Name of the Class	Units Allotted	Units Completed	Remark
M.Sc.I	Unit I: Chemistry of non-transition elements	Unit I: Chemistry of non-transition elements	Completed
M.Sc.II (Analytical chemistry)	UNIT-I: Spectrochemical Methods of Analysis UNIT-IV: Fluorescence and Phosphorescence Spectrophotometry	UNIT-I: Spectrochemical Methods of Analysis UNIT-IV: Fluorescence and Phosphorescence Spectrophotometry	Completed


Mr. A. T. Mane


Dr. A. S. Kumbhar
CO-ORDINATOR
M.Sc.(ORGANIC & INORGANIC CHEMISTRY)
VIVEKANAND COLLEGE, KOLHAPUR
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Dr. Mrs. S. D. Shirke
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Vivekanand College, Kolhapur
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Syllabus Completion Report
Academic Year - 2025-26
Sem-I, Sem-III,
Department - Chemistry
Name of the Teacher — Mr. A.T. Mane

Name of the Class	Units Allotted	Units Completed	Remark
M.Sc.I	Unit I : a) Chemistry of transition elements b) Bioinorganic Chemistry	Unit I : a) Chemistry of transition elements b) Bioinorganic Chemistry	Completed
M.Sc.II (Analytical chemistry)	UNIT-I : A) Drug Analysis B) Analysis of vitamins UNIT-III: A) Pesticides Analysis B) Forensic Analysis	UNIT-I : A) Drug Analysis B) Analysis of vitamins UNIT-III: A) Pesticides Analysis B) Forensic Analysis	Completed



Mr. A. T. Mane



Dr. A. S. Kumbhar

CO-ORDINATOR

Sc.(ORGANIC & INORGANIC CHEMISTRY)
VIVEKANAND COLLEGE, KOLHAPUR
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Dr. Mrs. S. D. Shirke

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Department: Chemistry

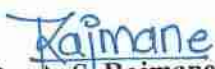
Academic Year – 2025-26

M.Sc. Part-I & II (Sem-I & III)

Syllabus Completion Report

Name of the Teacher – Dr. A. S. Rajmane

Name of the Class	Units Allotted	Units Completed	Remark
M.Sc. I	▪ Fundamentals of Research Methodology	▪ Fundamentals of Research Methodology	Completed
M.Sc. I	▪ Computer Applications (A) Database Search Engines (B) Publishers in Chemical Sciences (C) Chemometrics (D) Software for Chemistry	▪ Computer Applications (A) Database Search Engines (B) Publishers in Chemical Sciences (C) Chemometrics (D) Software for Chemistry	Completed
M.Sc. I	▪ Study of Organometallic compounds	▪ Study of Organometallic compounds	Completed
M.Sc. II	▪ Application of the following reagents in synthesis	▪ Application of the following reagents in synthesis	Completed
M.Sc. II	▪ (A) Six-membered Heterocycles with two or more Heteroatoms ▪ (B) Seven membered Heterocycles	▪ (A) Six-membered Heterocycles with two or more Heteroatoms ▪ (B) Seven membered Heterocycles	Completed


Dr. A. S. Rajmane


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Department: Chemistry

Academic Year – 2025-26

M.Sc. Part-I & II (Sem-II & IV)

Syllabus Completion Report

Name of the Teacher – Dr. A. S. Rajmane

Name of the Class	Units Allotted	Units Completed	Remark
M.Sc. I	▪ Oxidation	▪ Oxidation	Completed
M.Sc. I	▪ Application of the Following in Synthesis	▪ Application of the Following in Synthesis	Completed
M.Sc. II	▪ (A) Introduction of natural products ▪ (B) Terpenoids	▪ (A) Introduction of natural products ▪ (B) Terpenoids	Completed
M.Sc. II	▪ Vitamins	▪ Vitamins	Completed


Dr. A. S. Rajmane


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Syllabus Completion Report

Academic Year – 2025-26

Sem-I, Sem-III, Sem-V

Department - Chemistry

Name of the Teacher – Dr. A. N. Ambhore

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc. I (Sem- I)	- Chromatography - Theory of Titrimetric Analysis	- Chromatography - Theory of Titrimetric Analysis	Completed
B.Sc. II (Sem- III)	Practical's as per syllabus	Practical's as per syllabus	Completed
B.Sc. III (Sem- V)	- Potentiometry and Colorimetry - Flame Photometry	- Potentiometry and Colorimetry - Flame Photometry	Completed
M.Sc. I (Sem- I)	- Reaction Mechanism: Structure and Reactivity - Elimination Reaction	- Reaction Mechanism: Structure and Reactivity - Elimination Reaction	Completed
M.Sc. II (Sem- III)	Study of UV and IR Spectroscopy	Study of UV and IR Spectroscopy	Completed



(Dr. A. N. Ambhore)



(Dr. Mrs. S. D. Shirke)

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Syllabus Completion Report

Academic Year – 2025-26

Sem-II, Sem-IV, Sem-VI

Department - Chemistry

Name of the Teacher – Dr. A. N. Ambhore

Name of the Class	Units Allotted	Units Completed	Remark
B.Sc. II (Sem- IV)	▪ Gravimetric Analysis ▪ Conductometric Analysis	▪ Gravimetric Analysis ▪ Conductometric Analysis	Completed
B.Sc. II (Sem- IV)	▪ Practical as per syllabus	▪ Practical as per syllabus	Completed
B.Sc. III (Sem- VI)	▪ Manufacturing of Sugar and Jaggery ▪ Manufacturing of Heavy Chemicals ▪ Green Chemistry	▪ Manufacturing of Sugar and Jaggery ▪ Manufacturing of Heavy Chemicals ▪ Green Chemistry	Completed
M.Sc. I (Sem- II)	▪ Study of Following Reactions	▪ Study of Following Reactions	Completed
M.Sc. II (Sem- IV)	▪ Methods of Determining Reaction Mechanism	▪ Methods of Determining Reaction Mechanism	Completed



(Dr. A. N. Ambhore)



(Prof. Dr. Mrs. S. D. Shirke)

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"Dissemination of Education for Knowledge, Science and Culture"

-Shikshan Maharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

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SYLLABUS COMPLETION REPORT 2025-2026

Name of the Teacher: **Dr. Damodar J. Sutar**

Name of the Department: **Chemistry**

Term: **I**

Class	Subject	Syllabus Assigned	Syllabus Covered	Syllabus Not Covered	Remarks
B. Sc. II Sem III	General Aspects in Physical Chemistry (MIN03CHE31)	Unit-IV Electrochemistry II • Introduction of Conductance of electrolyte solution, Migration of ions. • Transference number, determination of transport number using moving boundary method, factors affecting transport number: nature of electrolyte, concentration, temperature, complex formation and degree of hydration. • Conductometric titrations – A) Acid - base titrations with mixture of strong and weak acid - a) strong acid and strong base b) weak acid and weak base B) Precipitation titration. • Advantages of conductometric titrations.	Unit-IV Electrochemistry II • Introduction of Conductance of electrolyte solution, Migration of ions. • Transference number, determination of transport number using moving boundary method, factors affecting transport number: nature of electrolyte, concentration, temperature, complex formation and degree of hydration. • Conductometric titrations – A) Acid - base titrations with mixture of strong and weak acid - a) strong acid and strong base b) weak acid and weak base B) Precipitation titration.	Nil	Completed
B. Sc. III Sem V	Physical Chemistry Practical's (DSC03CHE59)	Non-Instrumental Experiments A. Chemical kinetics (2 Experiments) B. Partial molar volume Instrumental Experiments A. Potentiometry (2 Experiments) B. Conductometry	Non-Instrumental Experiments A. Chemical kinetics (2 Experiments) B. Partial molar volume Instrumental Experiments A. Potentiometry (2 Experiments) B. Conductometry	Nil	Completed

		(3 Experiments) C. Colorimetry D. pH metry	(3 Experiments) C. Colorimetry D. pH metry		
B. Sc. I Sem I	Practicals (Open Elective) (2OEC03CHS11)	1) Estimation of Acetic acid from the given vinegar sample 2) Estimation of Cu (II) ions 3) Spot Tests (Any Two) Detection of following cations using spot tests: Cu^{2+} , Co^{2+} , Ni^{2+} , Fe^{3+} , Al^{3+} , Zn^{2+} , Mg^{+2} , Pb^{2+} 4) Paper Chromatography Detection of following cations using Paper Chromatography: Cu^{2+} + Co^{2+} , Co^{2+} + Ni^{2+} , Ni^{2+} + Cu^{2+} 5) Organic Spotting – 6) Derivatives: Preparation of Urea Oxalate. Preparation of 2,4-DNP of ketones. 7) To determine normality of bulk solution of HCl. 8) Estimation of Phenol	1) Estimation of Acetic acid from the given vinegar sample 2) Estimation of Cu (II) ions 3) Spot Tests (Any Two) Detection of following cations using spot tests: Cu^{2+} , Co^{2+} , Ni^{2+} , Fe^{3+} , Al^{3+} , Zn^{2+} , Mg^{+2} , Pb^{2+} 4) Paper Chromatography Detection of following cations using Paper Chromatography: Cu^{2+} + Co^{2+} , Co^{2+} + Ni^{2+} , Ni^{2+} + Cu^{2+} 5) Organic Spotting – 6) Derivatives: Preparation of Urea Oxalate. Preparation of 2,4-DNP of ketones. 7) To determine normality of bulk solution of HCl. 8) Estimation of Phenol	Nil	Comp.



Dr. S. D. Shirke

Signature of H.O.D.

HEAD

DEPARTMENT OF CHEMISTRY
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)



Dr. D. J. Sutar

Teacher Signature

"Dissemination of Education for Knowledge, Science and Culture"

-Shikshan Maharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(An Empowered autonomous Institute)

SYLLABUS COMPLETION REPORT 2025-2026

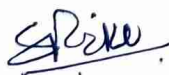
Name of the Teacher: **Dr. Damodar J. Sutar**

Term: **II**

Name of the Department: **Chemistry**

Class	Subject	Syllabus Assigned	Syllabus Covered	Syllabus Not Covered	Remarks
B. Sc. III Sem VI	Physical Chemistry (DSC03CHE61)	Unit-IV Chemical Kinetics •Introduction •Third Order Reaction – Derivation of rate constant, properties, examples •Steady state approximation (Statement, one example) •Simultaneous reactions such as i. Opposing or reversible or counter reaction: (Derivation of rate equation for first order opposed by first order expected) ii. Side reaction or parallel reactions (Derivation expected). iii. Consecutive or successive reactions (Derivation not expected).	Unit-IV Chemical Kinetics •Introduction •Third Order Reaction –Derivation of rate constant, properties, examples •Steady state approximation (Statement, one example) - Simultaneous reactions such as i. Opposing or reversible or counter reaction: (Derivation of rate equation for first order opposed by first order expected) ii. Side reaction or parallel reactions (Derivation expected). iii. Consecutive or successive reactions (Derivation not expected).	Nil	Completed
B. Sc. III Sem VI	Physical Chemistry Practical's (DSC03CHE69)	Non-Instrumental Experiments A. Chemical kinetics (2 Experiments) B. Solubility Instrumental Experiments A. Potentiometry (2 Experiments) B. Conductometry (2 Experiments) C. Colorimetry D. pH metry	Non-Instrumental Experiments A. Chemical kinetics (2 Experiments) B. Solubility Instrumental Experiments A. Potentiometry (2 Experiments) B. Conductometry (2 Experiments) C. Colorimetry D. pH metry	Nil	Completed

B. Sc. I Sem II	Practicals (Open Elective) (2OEC03CHS21)	1) Water analysis: To determine the alkalinity of water sample by using Phenolphthalein and Methyl Orange Indicator 2) Water analysis: To determine the acidity of water sample by using Phenolphthalein Indicator 3) To prepare standard 0.1 N KMnO_4 solution and to determine the strength of given oxalic acid solutions. 4) To determine quantity of Fe (II) ions from the given solutions by titrating it with 0.1N $\text{K}_2\text{Cr}_2\text{O}_7$ solutions by using internal indicator. 5) Preparation of Urea 6) Organic Spotting – (Any Four) 7) Estimation of Aniline 8) Estimation of Acetamide 9) To study the reaction rate of hydrolysis of methyl acetate in presence of 0.5N HCl. 10) To determine viscosity of given liquid A and B. 11) To determine equivalent weight of Mg by Eudiometer. 12) Determination of enthalpy of ionization of acetic acid.	1) Water analysis: To determine the alkalinity of water sample by using Phenolphthalein and Methyl Orange Indicator 2) Water analysis: To determine the acidity of water sample by using Phenolphthalein Indicator 3) To prepare standard 0.1 N KMnO_4 solution and to determine the strength of given oxalic acid solutions. 4) To determine quantity of Fe (II) ions from the given solutions by titrating it with 0.1N $\text{K}_2\text{Cr}_2\text{O}_7$ solutions by using internal indicator. 5) Preparation of Urea 6) Organic Spotting – (Any Four) 7) Estimation of Aniline 8) Estimation of Acetamide 9) To study the reaction rate of hydrolysis of methyl acetate in presence of 0.5N HCl. 10) To determine viscosity of given liquid A and B. 11) To determine equivalent weight of Mg by Eudiometer. 12) Determination of enthalpy of ionization of acetic acid.	Nil	Completed
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Dr. S. D. Shirke
Signature of H.O.D.

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Dr. D. J. Sutar
Teacher Signature