Rayat Shikshan Sanstha's

Annasaheb Awate & Arts, Commerce Hutatma Babu Genu Science College,

Manchar Tal-Ambegaon, Dist-Pune

DEPARTMENT OF CHEMISTRY

F. Y. B. Sc.

NEP 2020 Course Outcomes (COs)

Sr. No.	Course	Course Outcomes
Semester First		
1	**CHE-101-T: Fundamentals of Chemistry I**	After the completion of this course, student will be able to – **CO-1:** recall the fundamental concepts of the mole concept, atomic structure, organic chemistry, catalysis, and surface chemistry. **CO-2:** explain the principles of chemical stoichiometry, Hund's rule, Aufbau principle and catalysis. **CO-3:** utilize the knowledge of the mole concept, atomic structure, factors affecting the reactivity of organic compounds, and surface chemistry. **CO-4:** apply the principles of the mole concept, atomic structure, organic reactivity, catalysis, and surface chemistry to solve the problems. **CO-5:** evaluate the solutions based on their concentration, and organic structures based on their reactivity and surface chemistry. **CO-6:** propose solutions to problems related to organic chemistry reactions, catalysis mechanisms, and atomic structure concepts, and apply them to real-world scenarios

2	**CHE-102- P: Chemistry Practical I**	After the completion of this course, student will be able to **CO-1**: acquire basic knowledge of experiments of including adsorption, organic qualitative analysis, and inorganic preparations and estimations. **CO-2**: utilize theoretical concepts to perform experiments, interpret data, and formulate conclusions. **CO-3:** foster critical thinking abilities to assess and enhance the reliability and accuracy of experimental findings. **CO-4:** report scientific findings of laboratory experiments. **CO-5:** evaluate experimental outcomes to draw insightful conclusions. **CO-6**: develop problem-solving skills.
3	**SEC-101- CHE (B)-P: Chemistry Laboratory Skills – I (Practical)**	After the completion of this course, student will be able to- **CO-1:** Learn the Chemistry laboratory techniques. **CO-2:** Know the safe manipulation of various glassware, apparatus and equipment. **CO-3:** explain safe and proper management of chemicals and laboratory apparatus/equipment. **CO-4:** formulate operational guidelines for chemical and instruments methods. **CO-5:** Evaluate the glassware, apparatus, and equipment's on the basis of need of the experiments. **CO-6:** Create a report/guideline on Chemistry Laboratory Techniques.

Semester Second		
4	**CHE-151-T: Fundamentals of Chemistry II**	After the completion of this course, student will be able to **CO-1:** recall and explain the fundamental principles and concepts from Photochemistry, Chemical Kinetics, Periodicity, Stereochemistry, and Chemical Bonding. **CO-2:** identify experimental key concepts involved in Photochemistry, Chemical Kinetics, Periodicity, Stereochemistry, and Chemical Bonding. **CO-3:** draw conclusions about reaction mechanisms, kinetics, periodic trends, stereochemical relationships, and bonding properties. **CO-4:** apply the principles of Photochemistry, Chemical Kinetics, Periodicity, Stereochemistry, and Chemical Bonding to solve complex problems and scenarios. **CO-5:** evaluate the significance of photochemical reactions, kinetic processes, periodicity, bonding theories like VBT and MOT and stereochemical structures. **CO-6:** propose solutions, and contribute to the advancement of scientific knowledge applications.
5	**CHE-152-P: Chemistry Practical II**	After the completion of this course, student will be able to **CO-1:** learn vital lab techniques: colorimetry, kinetics, organic purification, investigative inorganic experiments, and Avogadro applications. **CO-2:** apply theoretical principles to design and conduct experiments, analyze data, and draw conclusions. **CO-3:** cultivate critical thinking skills to ensure the reliability and accuracy of experimental results. **CO-4:** communicate scientific findings through laboratory reports, utilizing proper scientific formatting, terminology, and

		data analysis techniques. **CO-5**: evaluate experimental outcomes to draw insightful conclusions. **CO-6:** develop problem-solving skills.
7	**SEC-151 CHE (B)-P: Basics in Computer for Chemistry** **Course type: Skill Enhancement (Practical)**	After the completion of this course, student will be able to- **CO-1:** Create and format chemistry documents and spreadsheets using Word, Excel, or Google tools. **CO-2:** Design chemistry presentations with multimedia elements using PowerPoint or Google Slides. **CO-3:** Utilize chemistry software for drawing structures and predicting compound properties. **CO-4**: Explore and report on online chemistry learning resources like SWAYAM and NPTEL. **CO-5**: Summarize research and review articles in chemistry with key components. **CO-6**: Create and manage digital images and videos using tools like Paint and video recording software.