Programme Specific Outcome and Course outcome for FYUGP 2023-24

DEPARTMENT OF CHEMISTRY	
Programme Specific Outcome of B.Sc./ B.Sc. (Honours)/ B.Sc (Honours) with Research	
Programme Specific Outcome	1. Students will have broad and balanced knowledge in chemistry in addition to understanding of key chemical concepts, principles, and theories. 2. Students will acquire expertise over solving both theoretical and applied chemistry problems. 3. Students will have knowledge, ability, and skill to undertake further studies in chemistry or in related multidisciplinary areas that can be helpful for higher studies. In addition, a chemistry graduate as envisioned in this framework would be sufficiently competent in the field to undertake further discipline-specific studies, as well as to begin domain-related employment. 4. Cognitive development of students in a holistic manner, that provides the latest subject matter (both theoretical as well as practical), in such a way that foster their core competency and discovery learning. 5. Mould a responsible citizen who is aware of most basic domain independent knowledge, including critical thinking and communication. 6. Enable the graduates to compete in national/international and state level competitive examinations, such as IIT-JAM, CUCET, UPSC Civil Services Examination etc.

Course Outcomes of B.Sc./ B.Sc. (Honours)/ B.Sc (Honours) with Research			
Subject: CHEMISTRY			
Semester	**Course Category**	**Paper Code and Course Name**	**Outcomes**
1st	**Major/Minor**	**CHE0100104 Chemistry I (Theory)**	On successful completion, students would have clear understanding of the concepts related to atomic and molecular structure, chemical bonding, periodic properties. Students will also be able to identify different classes of organic compounds, describe their reactivity and explain/analyze their chemical and stereo chemical aspects. In gaseous state unit students will learn the kinetic theory of gases, ideal gas and real gases. In liquid state unit, the students are expected to learn the qualitative treatment of the structure of liquid along with the physical properties of liquid, viz, vapour pressure, surface tension and viscosity.
		Laboratory course I	Students will be able to work in a chemical laboratory following standard safety protocols. Students will also have hands on experience of standard solution preparation in different concentration units.
	MDC **(Multi Disciplinary Course)**	**Natural and Physical Sciences** **(Introduction to Natural and Physical Sciences) (MDC0100103)**	On successful completion, students will gain a foundational understanding of key concepts in natural and physical sciences, enabling them to comprehend the basic principles that govern the natural world. students would have clear understanding of

			the concepts related to atomic and molecular structure, chemical bonding, chemical formulas and chemical equations. Students will able to know Laws of nature, different properties of matters.
2nd	**Major/Minor**	**Chemistry II (Theory)**	Students will able to understand and apply the concepts of chemical bonding, coordination chemistry, acid and bases and the reactive intermediates. Moreover, students are expected to learn laws of thermodynamics, thermochemistry, thermodynamic functions, relations between thermodynamic properties, Gibbs Helmholtz equation, Maxwell relations etc. Students will be able to understand the chemical systems from thermodynamic point of view.
		Laboratory Course II	Students will acquire preliminary training on quantitative analysis, synthesis of coordination compounds, qualitative analysis of organic compounds and measurement of a few basic thermodynamic parameters.
	MDC **(Multi Disciplinary Course)**	**Natural and Physical Sciences** **(Natural and Physical Sciences in Everyday Life) (MDC0200103)**	Upon successfully completing the course, students will understand the role and importance of biomolecules. Students will also learn about the composition, properties and uses of everyday substances such as foods, beverages, germicides, pesticides and their impact on health and environment. Students will able to recognize the connections between chemistry, environmental science and how these discipline interact in everyday life.