



GKSM Govt College Tanda Urmar

**BACHELOR OF SCIENCE
DEPARTMENT OF CHEMISTRY**

Under Graduate Program

POs & COs



GKSM Govt College Tanda Urmar

Program Outcome (POs) |

On Successful completion of the BSc Programme, the students will be able to

PO1	Demonstrate problem-solving, analytical, and logical skills to provide solutions For scientific requirements.
PO2	Communicate the subject effectively.
PO3	Students get an exposure in the field of Apiculture, Sericulture, Pisciculture etc.
PO4	Enhance research culture and uphold scientific integrity and objectivity.
PO5	They can pursue scientific research in the areas of Botany, Zoology, and Chemistry.
PO6	After higher studies students can join as scientists, university teachers, college teachers and can even look for professional job-oriented courses.
PO7	After doing B.Sc. Medical Students are eligible for other courses like B.Ed., MBA etc. They can pursue Post-Graduation in any subject which they have studied in B.Sc.
PO8	Develop critical thinking with a scientific temper.
PO9	Students are eligible to appear in various competitive examinations for government jobs at national and state level as Banking, LIC, FCI, and Police Department etc.
PO10	After this course, students have the opportunity to join Indian Civil Services as IAS, IFS, and IPS etc.



GKSM Govt College Tanda Urmar

B.Sc. I Year (1st & 2nd Semester)

Course Title: Inorganic chemistry – I

CO1	Student will have foundation in fundamental concept of bonding.
CO2	Student will be able to identify the structure and geometry of different types of molecules.
CO3	Student will be able to explain chemical behaviour shown by different elements in periodic table
CO4	Student will have knowledge about S-block elements and their compounds.
CO5	Student will have knowledge about P-block elements and their compounds.

Course Title: Organic Chemistry – I

CO1	Student will be able to predict and analyze structure of different organic compounds.
CO2	Student will have deep knowledge about Alkanes, Cycloalkanes and their reaction and properties.
CO3	Student will be able to explain alkenes and cycloalkenes.
CO4	Student will have knowledge about alkynes and Alkyl halides.
CO5	Student will have knowledge structure, Configuration of Organic molecules.



GKSM Govt College Tanda Urmar

Course Title: Physical Chemistry

CO1	Student will be able to derive various chemical equations related to gaseous state.
CO2	Student will be able to explain liquid crystals and structure and geometry of different types of solids.
CO3	Student will have knowledge of rate of reactions and will be able to predict kinetics of various chemical reactions
CO4	Student will have knowledge about nuclear reactions, radioactivity and reaction associated with radioactive elements
CO5	Student will have deep knowledge about chemical equilibrium and equilibrium constant for various solutions.



GKSM Govt College Tanda Urmar

B.Sc. II Year (3rd & 4th Semester)

Course Title: Inorganic Chemistry

CO1	Student will have deep understanding for properties and behaviour of d-block elements.
CO2	Student will be able to identify and characterise second and third transition series.
CO3	Student will be able to explain Ligands, Chelates, Coordination number, Coordination compounds and isomerism in them.
CO4	Student will have knowledge about Lanthanides and Actinides.
CO5	Student will have knowledge Different types and reactions of Acid and Bases also solvents.

Course Title: Organic Chemistry

CO1	Student will have deep understanding for IR and UV-visible spectroscopy-their principle, rules and application.
CO2	Student will be able to identify and differentiate between reactions of alcohol and phenols.
CO3	Student will be able to explain structure and reactions of Aldehyde and ketones.
CO4	Student will have knowledge about nomenclature, chemical and physical properties of Carboxylic acid and ethers.
CO5	Student will gain theoretical understanding about Nitrogen compounds and will be able to identify their reactions.



GKSM Govt College Tanda Urmar

Course Title: Physical Chemistry

C01	Student will have deep knowledge about three laws of thermodynamics.
CO2	Student will be able to explain phase coexistence for various one and two components.
CO3	Student will have knowledge of electrical transport and Reactions.
CO4	Student will have knowledge different types of Electrodes and Buffer mechanism.
CO5	Student will have deep knowledge about adsorption phenomenon.



GKSM Govt College Tanda Urmar

B.Sc.III Year (5th & 6th Semester)

Course Title: Inorganic Chemistry

CO1	Student will have foundation in fundamental concept of Acid and bases.
C02	Student will be able to identify the structure and geometry of different types of Metal Complexes.
C03	Student will be able to explain different types of magnetic behavior shown by Transition Metal complexes.
C04	Student will have knowledge Orgel energy diagram and its application in various tetrahedral and octahedral complexes.
CO5	Student can easily explain the sources and consequences of excess and deficiency of trace metals and learn about the toxicity of certain metal ions, the reasons for toxicity and antidots.

Course Title: Organic Chemistry

CO1	Student will gain insight into the basic principles of UV, IR and NMR spectroscopic techniques. Use spectroscopic techniques to determine structure and stereochemistry of known and unknown compounds.
CO2	Student will have knowledge about various Organometallic compound and their application as catalyst and in other fields. Student will know about the chemistry of natural and synthetic polymers including fabrics and rubber.
C03	Student will be able to classify carbohydrates and will have sound knowledge about Fats, oils and detergents , their impact on biological system.
C04	Students will be able to classify proteins, amino acids and will be having deep understanding about the structure of DNA and RNA.
C05	Student will have sound knowledge about the theory of colour and constitution as well as the chemistry of dyeing. Know applications of various types of dyes including those in food and textiles.



GKSM Govt College Tanda Urmar

Course Title: Physical Chemistry

CO1	Student will learn about limitations of classical mechanics and solution in terms of quantum mechanics for atomic/molecular systems.
CO2	Student will be able interpret various types of spectra and know about their application in structure elucidation.
CO3	Student will have knowledge about structure elucidation using UV spectroscopy
CO4	Student will have knowledge Photochemical phenomenon and reaction.
CO5	Student will have Optical activity, Polarization and Dipole moment.