

TDC (Non-CBCS) Programme Outcomes ***(From Academic Year: 2011-2012)***

1. B.Sc. with Chemistry Honours Course
2. B.Sc. with Chemistry Pass Course

After completion of the course students are able to understand the following topics:

B.Sc. with CHEMISTRY (Honours Course)

First Semester (Hons. Course)

CHMH-101: Inorganic Chemistry

Describe the structure of atom, theories of chemical bonding, concept of Nanomaterials, compounds of noble gases, oxide and oxoacids of halogens, compounds of nitrogen family, manufacture types of cement and preparation and uses of some common fertilizers.

CHMH-102: Organic Chemistry

Describe the bonding in organic compounds, basic concepts of reaction mechanism & reactive intermediates, synthesis & reactivity of aliphatic and aromatic halogen compounds, alcohols and ethers.

CHMH-103: Physical Chemistry

Describe the concept of gaseous state & solid state, thermodynamics, phase equilibrium of one & two component system and probability.

Second Semester (Hons. Course)

CHMH-201: Inorganic Chemistry

Explain classical wave equation in one dimension & three dimension system, theoretical basis of qualitative inorganic analysis, theories of nuclear force and chemistry of Paints.

CHMH-202: Organic Chemistry

Describe the concept of stereochemistry, Nucleophilic Substitution reaction and active Methylene Compounds.

CHMH-203: Physical Chemistry

Explain the critical Phenomenon, Surface Phenomenon and thermochemistry.

CHMH-204: Practical

Qualitative analysis of inorganic sample mixture with four radicals, Inorganic synthesis and Laboratory techniques.

Third Semester (Hons. Course)

CHMH-301: Inorganic Chemistry

Describe the study of Coordination complexes and theories of chemical bonding.

CHMH-302: Organic Chemistry

Describe the details of Carbohydrates, Terpenoids, alkaloids and types of polymers and polymerization process.

CHMH-303: Physical Chemistry

Explain Thermodynamics, Chemical equilibrium, Solution, colligative properties and Electrochemistry.

Fourth Semester (Hons. Course)

CHMH-401: Inorganic Chemistry

Application of coordination compound, General study of Lanthanides and Actinides, Molecular Orbital Theory and Magneto Chemistry.

CHMH-402: Organic Chemistry

Describe Polynuclear Hydrocarbon, Amino acids, Vitamins, Dyes and Green Chemistry.

CHMH-403: Physical Chemistry

Explain Second law of thermodynamics, Chemical Kinetics, Colloidal state and Electrochemistry and Diffusion.

CHMH-404: Practical

Estimate ferric iron, copper, acetic acid barium, sulphate, nickel, detection of elements & functional group in organic compound and Physical experiments.

Fifth Semester (Hons. Course)

CHMH-501: Inorganic Chemistry

Describe crystal structure, Colorimetry, Flame photometry, Statistical analysis of experimental data and inorganic reaction mechanism.

CHMH-502: Organic Chemistry

Describe Hetero cyclic compounds, uv-visible spectroscopy, Infrared Spectroscopy and Mass spectroscopy and Organic photochemistry.

CHMH-503: Physical Chemistry

Explain third law of thermodynamics, Photochemistry and Liquid crystal.

Sixth Semester (Hons. Course)

CHMH-601: Inorganic Chemistry

Describe Alloys and intermetallic compounds, Environmental Chemistry, Molecular symmetry, and Bioinorganic Chemistry.

CHMH-602: Organic Chemistry

Describe Organometallic compounds, Nuclear magnetic resonance spectroscopy and Pericyclic reaction and pharmaceutical compounds.

CHMH-603: Physical Chemistry

Explain Elementary quantum mechanics and Statistical thermodynamics.

CHMH-604: Practical

Organic synthesis, estimation of glucose, cholesterol, urea, uric acid and physical experiments.

B.Sc. with CHEMISTRY (Pass Course)

First Semester (Pass Course)

CHMP-101: Inorganic, Organic & Physical Chemistry

Describe the structure of atom, compounds of noble gases, bonding in organic molecules, stereochemistry of organic molecules, details of gaseous state, liquid state and solid state.

Second Semester (Pass Course)

CHMP-201: Inorganic, Organic & Physical Chemistry

Describe periodic properties of elements, theories of acids and bases, compounds of nitrogen family, coal, petroleum and petrochemicals, arene and elementary idea of thermodynamics, phase equilibrium & solution.

CHMP-202: Practical

Inorganic qualitative analysis of a salt mixture containing four radicals and laboratory Techniques.

Third Semester (Pass Course)

CHMP-301: Inorganic, Organic & Physical Chemistry

Describe coordination compounds, nuclear chemistry, bio-inorganic chemistry, carboxylic acid & their derivatives, amino acids, carbohydrates, Thermodynamics and thermochemistry.

Fourth Semester (Pass Course)

CHMP-401: Inorganic, Organic & Physical Chemistry

Explain theories of bonding in complexes, environmental chemistry, peptide & protein, urea, chromatography, chemical equilibrium and chemical kinetics.

CHMP-402: Practical

Volumetric estimation of ferrous & ferric iron and qualitative organic analysis.

Fifth Semester (Pass Course)

CHMP-501: Inorganic, Organic & Physical Chemistry

Explain theories of chemical bonding, crystal structure, Heterocyclic compounds, electrochemistry photochemistry and colloidal state.

Sixth Semester (Pass Course)

CHMP-601: Inorganic, Organic & Physical Chemistry

Describe electronegativity, VSEPR theory, Lattice energy, Dyes, organometallic compounds, elementary quantum mechanics and spectroscopy.

CHMP-602: Practical

Determination of viscosity and surface tension of a liquid and preparation of Aspirin, Iodoform, Urea-oxalate, etc.
