Chemistry
Course Outcomes

B.Sc. I Semester- I

Paper: I Physical Chemistry

On completion of the course B.Sc. I student will able to

1. Understand distribution law , process of extraction, solubility and distribution indicators.
2. Understand basics terminology involved in thermodynamics and carnots cycles efficiency.
3. Understand basics concepts and terminologies involved in chemical kinetics.
4. Understand deviation of real gas from ideal behavior and different types of gaseous law.
5. Understand properties of rays, terminologies and types of nuclear radiations in nuclear chemistry.

Paper: II Inorganic Chemistry

On completion of the course B.Sc.Istudent will able to

1. Understand the concept of ionic bond, formation, , Born Haber Cycle, fajans rule, radious ratio,effect and calculations.
2. Understand the theories diagramsand applications of VBT, VSEPR theory, MOT, LCAO method.
3. Understand Arrhenious, Bromsted-Lowry, Lewis theory, Luxflood concept of acids and bases.
4. Understand of P- block Elements of alkali metals and Alkaline earth metals
5. understandphysical,chemicals properties andstructure and bonding of Xe compounds
6. Understand ionic product of water, Buffer solutions.

B.Sc. I Semester- II

Paper: III Organic Chemistry

On completion of the course B.Sc. I student will able to

1. Understand basics concept, preparation, stability and applications of reactive intermediate.
2. Understand different types of isomerism and nomenclature of stereo-isomers.
3. Understand properties, preparations, applications of cycloalkane, cycloalkenes and alkadienes.
4. Understand the preparations and applications of synthetic reagents.
5. Unerstand properties, importance terms, theory, applications of Huckel rule and aromatic nucleophilic and electrophilic substitution reactions..

Paper IV Industrial Chemistry

On completion of the course B.Sc. I student will able to

1. Understand basics concept of Industrial chemistry.
2. Understandphysical parameter, physical and chemicals properties of water
3. Understand the classification and properties of fuels.
4. Understandvarious operations used in industry.
5. Understandsclassification and manufactures of fertilizer.

B.Sc. II Semester- III

Paper: V Organic Chemistry

On completion of the course B.Sc.II student will able to

1. Understand basics concept, preparation, stability and applications of reactive intermediate.
2. Understand different types of isomerism and nomenclature of stereoisomers.
3. Understand properties, preparations, applications of aromatic hydrocarbon.
4. Understand the preparations and applications of synthetic reagents.
5. Understand properties, importance terms,theory, applications of Huckel rule and aromatic compound.

Paper :VI Analytical chemistry:

On completion of the course, S.Y B.Sc. student will able to

1. To study classification of analysis, sampling & errors
2. To known how to use stoichiometry to analysis the result of Precipitation.
3. To study theoretical principals in qualitative analysis & application of complex formation.
4. Understand the importance of analytical chemistry in analysis of compounds bytitrimetric, gravimetric and instrumental methods.
5. To know the importance of sampling methods and ways of interpretation of results of analysis.
6. Determine the causes of errors and their minimization during analysis
7. Learn the application of types of titrations for quantitative analysis of the samples.
8.To analysis nitrogen, phosphorous & potassium

B.Sc. II Semester- IV

Paper :VII Physical chemistry

On completion of the course B.Sc. II student will able to
1. Understand basics concepts, terminologies applications involved in thermodynamics.
2. Understand concept third order reaction, method of determination of order of reaction. effect oftemperature on rate of reaction.
3. Understand physicals properties of liquids,
4. Understand basics concept of electrochemistry. Debye-Huckel theory of conductance, Kohlrauschlaw, buffer solutions and its types.

Paper: VIII Inorganic Chemistry

On completion of the course, B.Sc.II student will able to
1. Understand study of d block elements and various properties of transition metals.
2. Understand study of f block elements, various properties and separation of lanthanides.
3. Understand about coordination with respect to werner's theory, CFT, John teller distortion,CFSE, High spin and low spin complexes, factor affecting on CFT and limitation of CFT.
4. Understand ligand, structural requirements, classification of chelating agents and applications ofchelating agents.
5. Understand about classification, types,mechanism, and industrial applications of catalyst.

Practical Chemistry Practical

On completion of the course B.Sc.I student will able to
1. Understand the determination of heat of solution, equivalent weight, surface tension etc.
2. Carry out rate of reaction, heat of ionization of weak acid
3. Carry out quantitative analysis by gravimetric method
4. Carry out qualitative analysis of acidic and basic radicals.
5. Learn the applications of types of titrations for various estimations
6. Carry out quantitative analysis by volumetric method.
7. Carry out the water anlaysis.
8. Handle viscometer to determine the viscosity and relative viscosity of liquids.
9. Perform qualitative analysis of organic compounds.
10. Estimate of acetamide/aniline aspirin.

RayatShikshanSanstha;s
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Tal. Man, Dist. Satara

Department of Chemistry

Programme Specific Outcome

To enable the students-

1. To promote understanding of basic facts and concepts in Chemistry while retaining theexcitement of Chemistry.
2. To make students capable of studying Chemistry in academic and Industrial courses.
3. To expose the students to various emerging new areas of Chemistry and apprise them with their prevalent in their future studies and their applications in various spheres ofchemical sciences.
4. To develop problem solving skills in students.
5. To expose the students to different processes used in Industries and their applications.
6. To developed ability and to acquire the knowledge of terms, facts, concepts, processes,techniques and principles of subjects,
7. To develop ability to apply the knowledge of contents of principles ofchemistry.
8. To inquire of new knowledge of chemistry and developments therein.
9. To expose and to develop interest in the fields of chemistry
10. To develop proper aptitude towards the subjects.
11. To develop the power of appreciations, the achievements in Chemistry and role in natureand society.
12. To develop skills required in chemistry such as the proper handling of apparatus andchemicals

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