TELANGANA TRIBAL WELFARE RESIDENTIALDEGREECOLLEGE(GIRLS), DAMMAPETA

BhadradriKothagudemDistrict,TelanganaState–507101

(AffiliatedbyKakatiyaUniversity,Warangal,Telangana)

PROGRAMMEOUTCOMES/ PROGRAMME SPECIFIC OUTCOMES AND COURSEOUTCOMES

ACADEMICYEAR:2017-18

BachelorofScience(B.Sc.):

The Bachelor of Science requires the Three Years of Full time study consisting of six semesters. It translates in making a significant investment in one's professional career. In addition to the enhanced career prospects that can be gained by opting it a students also develop valuable personal skills and fulfill a crucial prerequisite to Master studies. It concentrates on providing opportunities for students to show outstanding performance at subject knowledge and understanding, intellectual skills related to the subject, transferable skills and attitudes through introduction of a wide range of topics, reasoning through unfamiliar problems, critical and analytical thinking, It provides the tools to investigate topics in depth, in order to find a systematic approach in analyzing and building up knowledge to reach a solution. The developments of teamwork and leadership abilities are imbibed to give importance to Safe Laboratory Practice.

- Studentswillhavea broadfoundationinthethreemajorsubjectsoftheirchoicewithscientific reasoning, problem solving and analytical skills.
- The students are trained in a breadth and depth of experimental techniques using Moderninstrumentationwhichhelpthemtotakeuphighereducationorjobsafterthe course.
- Theydeveloptheabilitytoeffectivelycommunicatescientific information inwrittenand oral formats.
- Theyacquire theabilityto workinteamsandapplybasic ethicalprinciples.

PROGRAMEDUCATIONALOBJECTIVES(PEO)

- PEO1:TheGraduatesareemployableassoftwareprofessionalsinreputedindustries
- PEO2: The Graduates analyze problems by applying the principles of computer science, mathematics and scientific investigations to design and implement industry accepted solutions using latest technologies
- PEO3: The Graduates work productively in supportive and leadership roles on multidisciplinary teams with effective communication and team work skills with high regard to legal and ethical responsibilities.
- PEO4: The Graduates embrace lifelong learning to meet ever changing developments in computer science and engineering

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- PO3: Design solutions for complex engineering problems and design system components. or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
- PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information toprovide valid conclusions.
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- PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
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PROGRAMSPECIFICOUTCOMES(PSO)

- PSO1:Theabilitytounderstand,analyzeanddevelopsoftwaresolutions
- PSO2: The ability to apply standard principles, practices and strategies for software development
- PSO3: The ability to become Employee, Entrepreneur and/or Life Long Leaner in the domain of Computer Science.

B.Sc.–CHEMISTRY

- Thechemistrydepartment pledgesstafftoencourage inthisbroadest andliberal mannerthe advancement of science and particularly chemistry in all of its branches
- Createanacademicenvironment whichpromotesthe intellectualandprofessional development of students
- Developand maintainacommitment toscholarlyactivityinresearchand undergraduate education which is commensurate with the goals and mission of G.D.C, Paloncha
- Graduating national provisionally qualified Personal who are necessary for the service of the community and the government plans and programs of development, education and industry within the Kingdom.
- Contributing to the improvement of the public at the scientific cultural awareness via the academic conferences and workshops.

    - Providingthetechnicalservicesinfieldofchemistrytobothpublicand private sectors.

ACADEMICYEAR:2018-19

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Department Of Chemistry

Programme Outcome:

Students will demonstrate an understanding of major concepts in all disciplines of chemistry. Students will employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community.

Programme specific out comes

By the end of the course, the students will be able to:

- Join school as Chemistry teacher.
- Prepare for competitive exams like MPSC,UPSC, GATE,CAT.
- Analyze and grasp abstract ideas to apply them to important practical problems.
- Develop strong analytical skills and a broad-based background in the Chemical sciences to join Indian industry.

Course Outcomes:

S. No.	Semester	Course	Credits	Course Outcomes
1	I	Chemistry – I	05	**By the end of this course, Students will be able to:** ❖ Inculcate industrial applications of carbides, silicones, acidity and reactivity of boran compounds. ❖ Detail understanding of various compounds of elements of p-block and theoretical knowledge to perform semi micro analysis i.e Identification of inorganic salts. ❖ Understand the concept nature of chemical bond. ❖ Overview of periodic table and S,P block elements ❖ These topics provide excellent understanding of basic knowledge of organic chemistry in future of course. ❖ These topics give a foundation to cater the needs of quantum mechanics future of course and use full to learn behaviour of real gases, liquification phenomenon, viscosity of liquids etc.
2	II	Chemistry – II	05	By the end of this course, Students will be able to: ❖ Understand reactivity and structures of oxides, oxy acids, structures of inter halogen compound. zero group elements and d-block elements. ❖ Understand the concept structure and bonding in organic compounds. ❖ Understand the concept of stereochemistry.Understand different types of reaction mechanism. ❖ Understand alkanes, alkenes. Understand the aromaticity of organic compounds. ❖ Understand the crystal structures, solutions ,colligative propertiesCertain physical techniques such as steam and fractional distillation methods. separation techniques based on Nernst law. ❖ Understand the quantitative analysis (volumetric analysis)and gravimetric analysis ❖ Inculcates the practical knowledge of identification and confirm the given unknown salt mixture

3	III	Chemistry – III	05	❖ Understand the chemistry of –F- blck and non aqeous solvents. and symmetry of the compounds. ❖ Understand the structure and chemical bonding in aryl ,alkyl halides,aldehydes. ❖ Understand the structure and chemical bonding in alcohols and phenols.. ❖ Understand chemical reactions of acids, alcohols, phenols etc. ❖ Understand the phase rule and phase diagramme. Surface chemistry and adorption, their importance in industry ❖ Understand the stereo chemistry of carbon compounds. Its importance in research field. Importance of nano materials in medical and industrial field. ❖ Volumetric analysis, and gravimetric analysis. estimation of carbonate, bicarbonate, copper etc.
4	IV	Chemistry – IV	05	❖ Understand the chemistry complex compounds, metal carbonys and organometallic compounds and applications. ❖ Understand the chemistry of carboxylic acids and their derivatives , active methylene compounds and nitro compounds . industrial and research importance. ❖ Understand the electrolytical cells, electrochemical cells applications batteries industry. Conductometric titrations, emf etc. ❖ Understand the modern approach ofchemistry i.e pericyclic reactions, strategic synthesis and stereoselectivity and their research applications ❖ To estimate the concentrations of given compounds by technical methods. Conductometry and potentiometry.
5	V Paper - V	Chemistry – V	4	❖ Understand the CFT, magnetic properties, colour properties, applications of complex compounds. ❖ Understand the chemistry amines and heterocyclic compounds and their importance medical fields. ❖ By the end of this course, Students will be able to: Understand the thermodynamics of chemical reactions.Understand the concept of chemical kinetics.
6	V Paper - VI	Chemistry – VI	4	

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5	V Paper - V	Chemistry – V	4	❖ Understand the CFT, magnetic properties, colour properties, applications of complex compounds. ❖ Understand the chemistry amines and heterocyclic compounds and their importance medical fields. ❖ By the end of this course, Students will be able to: Understand the thermodynamics of chemical reactions.Understand the concept of chemical kinetics.
6	V Paper - VI	Chemistry – VI	4	

ACADEMICYEAR:2022-23

BachelorofScience(B.Sc.):

The Bachelor of Science requires the Three Years of Full time study consisting of six semesters. It translates in making a significant investment in one's professional career. In addition to the enhanced career prospects that can be gained byopting it a students also develop valuable personal skills and fulfill a crucial prerequisite to Master studies. It concentrates on providing opportunities for students to show outstanding performance at subject knowledge and understanding, intellectual skills related to the subject, transferable skills and attitudes through introduction of a wide range of topics, reasoning through unfamiliar problems, critical and analytical thinking, It provides the tools to investigate topics in depth, in order to find a systematic approach in analyzing and building up knowledge to reach a solution. The developments of teamwork and leadership abilities are imbibed to give importance to Safe Laboratory Practice.

- Studentswillhavea broadfoundationinthethreemajorsubjectsoftheirchoicewithscientific reasoning, problem solving and analytical skills.
- The students are trained in a breadth and depth of experimental techniques using Moderninstrumentationwhichhelpthemtotakeuphigher educationor jobsafterthe course.
- Theydeveloptheabilitytoeffectivelycommunicatescientific informationinwrittenand oral formats.
- Theyacquire theabilityto workinteamsandapplybasic ethicalprinciples.

PROGRAMEDUCATIONALOBJECTIVES(PEO)

- PEO1:TheGraduatesareemployableassoftwareprofessionals inreputedindustries
- PEO2: The Graduates analyze problems by applying the principles of computer science, mathematics and scientific investigations to design and implement industry accepted solutions using latest technologies
- PEO3: The Graduates work productively in supportive and leadership roles on multidisciplinary teams with effective communication and team work skills with high regard to legal and ethical responsibilities.
- PEO4: The Graduates embrace lifelong learning to meet ever changing developments in computer science and engineering

PROGRAMOUTCOMES(PO)

- PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization for the solution of complex engineering problems.
- PO2: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

- PO3: Design solutions for complex engineering problems and design system componentsor processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
- PO4: Use research-based knowledge and research methods including design of experiments,analysisand interpretationofdata,andsynthesisofthe information to provide valid conclusions.
- PO5: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations.
- PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9: Function effectively as an individual, and as a member or leader in diverse teams,and in multidisciplinary settings.
- PO10: Communicate effectively on complex engineering activities with the engineering community and with the society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO11: Demonstrate knowledge and understanding of the engineering and management principlesandapplythesetoone'sownwork, asamemberand leader inateam, to manage projects and in multidisciplinary environments.
- PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. The POs formulated for each programme by the institute must be consistent with the NBA's Graduate Attributes.. The POs must foster the attainment of the PEOs.

PROGRAMSPECIFICOUTCOMES(PSO)

- PSO1:Theabilitytounderstand,analyzeanddevelopsoftwaresolutions
- PSO2: The ability to apply standard principles, practices and strategies for software development
- PSO3: The ability to become Employee, Entrepreneur and/or Life Long Leaner in the domain of Computer Science.

Department Of Chemistry

Programme Outcome:

Students will demonstrate an understanding of major concepts in all disciplines of chemistry. Students will employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community.

Programme specific out comes

By the end of the course, the students will be able to:

- Join school as Chemistry teacher.
- Prepare for competitive exams like MPSC,UPSC, GATE,CAT.
- Analyze and grasp abstract ideas to apply them to important practical problems.
- Develop strong analytical skills and a broad-based background in the Chemical sciences to join Indian industry.

Course Outcomes:

S. No.	Semester	Course	Credits	Course Outcomes
1	I	Chemistry – I	05	**By the end of this course, Students will be able to:** ❖ Inculcate industrial applications of carbides, silicones, acidity and reactivity of boran compounds. ❖ Detail understanding of various compounds of elements of p-block and theoretical knowledge to perform semi micro analysis i.e Identification of inorganic salts. ❖ Understand the concept nature of chemical bond. ❖ Overview of periodic table and S,P block elements ❖ These topics provide excellent understanding of basic knowledge of organic chemistry in future of course. ❖ These topics give a foundation to cater the needs of quantum mechanics future of course and use full to learn behaviour of real gases, liquification phenomenon, viscosity of liquids etc.
2	II	Chemistry – II	05	By the end of this course, Students will be able to: ❖ Understand reactivity and structures of oxides, oxy acids, structures of inter halogen compound. zero group elements and d-block elements. ❖ Understand the concept structure and bonding in organic compounds. ❖ Understand the concept of stereochemistry.Understand different types of reaction mechanism. ❖ Understand alkanes, alkenes. Understand the aromaticity of organic compounds. ❖ Understand the crystal structures, solutions ,colligative propertiesCertain physical techniques such as steam and fractional distillation methods. separation techniques based on Nernst law. ❖ Understand the quantitative analysis (volumetric analysis)and gravimetric analysis ❖ Inculcates the practical knowledge of identification and confirm the given unknown salt mixture

3	III	Chemistry – III	05	❖ Understand the chemistry of –F- blck and non aqeous solvents. and symmetry of the compounds. ❖ Understand the structure and chemical bonding in aryl ,alkyl halides,aldehydes. ❖ Understand the structure and chemical bonding in alcohols and phenols.. ❖ Understand chemical reactions of acids, alcohols, phenols etc. ❖ Understand the phase rule and phase diagramme. Surface chemistry and adorption, their importance in industry ❖ Understand the stereo chemistry of carbon compounds. Its importance in research field. Importance of nano materials in medical and industrial field. ❖ Volumetric analysis, and gravimetric analysis. estimation of carbonate, bicarbonate, copper etc.
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6	V Paper - VI	Chemistry – VI	4	

ACADEMICYEAR:2023-24

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