NSCB Memorial Govt. Degree College
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COURSES OUTCOMES

Class: B. Sc. III (Major Physics, Chemistry, Botany, Zoology & Mathematics)
Subject: Chemistry
Course Type:
1. Polynuclear hydrocarbons, Dyes, Heterocyclic compounds and spectroscopy.
2. Polymer Chemistry
3. Chemical Technology & Society and Business Skills for Chemistry.
4. Pesticide Chemistry & Pharmaceutical Chemistry.

Paper Code: 1. CHEM-301TH
2. CHEM-305TH
3. CHEM-307
4. CHEM-308

Course Learning Outcomes:

DSE-1 **COURSE: CHEM 301 TH**	Polynuclear hydrocarbons, Dyes, Heterocyclic compounds and spectroscopy.	CO1: Apply the basic concepts of Ultraviolet and Visible Spectroscopy and its applications. CO2: Understand the basic principle of IR spectroscopy and its applications. CO3: Understand the basic principle of NMR spectroscopy and to apply its role for the structure elucidation. CO4: Use of spectroscopic techniques in structure determination. CO5: Identification of aromatic compounds in heteronuclear chemistry and their properties. CO6: The synthesis and applications of some reagents used in organic synthesis.
DSE-2 **COURSE: CHEM 305 TH**	Polymer Chemistry	CO1: Application of basic concepts of polymerization reactions in polymer synthesis. CO2: Understanding of the various techniques of polymer synthesis and characterization. CO3: Explain the stereoisomerism and its effect on polymer structures and physical properties CO4: Comprehend the importance of polymer as carriers, reagents and polymeric substrates in polymer applications. CO5: The applications of various natural and synthetic polymers in industries.

SEC **COURSE: CHEM 307**	Chemical Tech. & Society and Bus. Skills for Chemistry	CO1: Facilitation of students towards clean technology and scope of different types of equipment needed in chemical industries. CO2: Basic of business skills like, business plans, market need and project management. CO4: The role of different technologies in the development of India and Global economies. CO5: Current challenges and opportunities for chemistry CO6: To understand the financial aspects of business with case studies. CO7: To aware the students towards the concept of intellectual property and patents. CO8: Applying the knowledge in current challenges and opportunities in the field of industrial chemistry and business. CO9: To appreciate the achievements in chemistry and to know the role of chemistry in nature and in society.
SEC **COURSE: CHEM 308**	Pesticide Chemistry & Pharmaceutical Chemistry.	CO1: Graduates will learn about benefits and adverse effects of pesticides, structure activity relationship in pesticides; can easily be recognized by knowing about them. CO2: Synthesis uses of pesticides in organochlorines, organophosphates, carbamates, anillides and quinines. CO3: Synthesis of various classes of drugs, design and development. CO4: They will come to know about synthesis of some vitamins. Uses of pesticides in organochlorines, organophosphates, carbamates, anilides and quinines. CO5: Will know different methods for the synthesis of various classes of drugs, designing of new drugs, and their modes of action. CO6: They will learn about synthesis of various vitamins and their biological importance. This will make them aware of the nutrition requirement for good health.

DSE-1 **COURSE: CHEM 305 PR**	Polymer Chemistry Lab	CO1: Graduates will learn about different methods of polymer synthesis & Characterization. CO2: learn to determine the molecular weight by different methods. CO3: Polymer synthesis provides a root to the formation of plastics, CO4: biosynthesis of proteins and highly polymeric carbohydrates. CO5: Polymer Characterization is important for the synthesis of new materials their evaluation and improvement in performance.
DSE-2 **COURSE: CHEM 301 PR**	Polynuclear hydrocarbons, Dyes, Heterocyclic compounds and spectroscopy. Lab	CO1: Become able to detect the given function group present in organic compound by qualitative analysis. CO2: Able to separate ion and mixture by the use of chromatographic technique. CO3: Able to prepare complexes and measure their conductivity.