

## 3 Year Bachelor Programmes in Science

### 1. Programme outcomes and subject outcomes in chemistry:-

Shankarlal Agrawal Science college's Bachelor of Science in Chemistry degree program provides a broad background in chemical sciences. The bachelors in chemistry domains and competencies cover topics such as:

#### Data Analysis and Interpretation:-

- Design experiments to test hypotheses.
- Develop and integrate data retrieval strategies resulting in the communication of useful chemical and scientific information.

#### Chemistry:-

- Explain properties of matter and behavior of matter in chemical reactions, including organic compounds.
- Examine and apply various concepts such as organometallic and coordination chemistry

#### Chemical Analysis:-

- Apply various principles such as stoichiometry, thermodynamics, chemical kinetics, equilibrium and electrochemistry.
- Demonstrate useful skills related to the synthesis of compounds and the study of reaction mechanisms.

- **Turn Your Curiosity for Chemistry into a Career:-**

The bachelors in chemistry is designed for students seeking careers in high-growth areas such as biotechnology and healthcare research or future training in graduate chemical and biomedical professional programs. Many graduates enter employment in the biomedical, biotechnology, pharmaceutical, environmental research and chemical industries.

- **Discover Your Career as a Chemist or Technician:-**

Potential career opportunities include agricultural, analytical, bench, food, formulary, industrial, inorganic, laboratory, nuclear, organic, quality control, chemical data storage, curation and retrieval or research and development chemist.

Graduates of the bachelor's degree in chemistry program may also pursue careers in quality and assurance as an assayer, in a chemical laboratory conducting research or as a technician in fields such as general or inorganic chemistry and life, physical or social sciences.

## **2. Programme outcomes and subject outcomes in zoology:-**

After completing these programme students becomes familiar with chordate and non-chordates world that surrounds us. Students will be able to appreciate the process of evaluation viz unicellular cells to complex, multicellular organisms. Students identify the invertebrates and classify them. Understand the basis of life processes in the non-chordates and recognize the economically important invertebrate fauna. Among students it will create deeper understanding of what life is and how it will functions at cellular level. Describe cellular membrane structure and function, fine structure and function of cell organelles. Perform a variety of molecular and cellular biology techniques. Students will apply the knowledge to collect various Biological data and will understand importance of bioinformatics.

## **3. Programme outcomes and subject outcomes in Botany:-**

The syllabus for the B. Sc. Programme in Botany has been designed with a motto to encouraging the broad instructional goals and to support the growing demands and challenging trends in the educational scenario. It targets at providing an environment that encourages, promotes and stimulates the intellectual, professional and personal development of the student. The curriculum caters to the all-round development of the student, rolling out globally ready individuals into the fast pacing world.

### **The specific outcome of the program and subject:-**

- to understand importance and scope of the subject and programme.
- Inculcate interest in and care of nature with its myriad living forms.
- Share knowledge of Science as the basic objective of Education.
- Expose students to the diversity amongst life form.
- Develop skill in practical work, experiments, equipment and laboratory use along with collection and interpretation of biological materials and data.
- Make them aware of natural resources and environment and the importance of conserving it.
- Appreciate and apply ethical principles to biological science research and studies.

## **4. Programme outcomes and subject outcomes in Physics:-**

- Students will demonstrate proficiency in mathematics and the mathematical concepts which are applicable for a proper understanding of physics.

- Students will demonstrate knowledge of selected topics from classical mechanics, quantum mechanics, black body radiation, electromagnetism, quantum mechanics, and thermal physics, and be able to apply this knowledge to analyze a broad range of physical phenomena.
- Students will show that they have learned laboratory skills, enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusions.
- Students will be capable of oral and written scientific communication, and will prove that they can think critically and work independently.

## **5. Programme outcomes and subject outcomes in computer science:-**

Students which successfully completed this programme will have following skill.

- Demonstrate mastery of Computer Science in the following core knowledge areas
  - Algorithms, Data Structures, and Complexity
  - Programming Languages and Compilers
  - Software Engineering and Development
  - Computer Hardware
- Apply system-level perspective by thinking at multiple levels of detail and abstraction and by recognizing the context in which a computer system may function, including its interactions with people and the physical world.
- Apply problem-solving skills and the knowledge of computer science to solve real problems.
- Understand how technological advances impact society and the social, legal, ethical and cultural ramifications of computer technology and their usage.
- Write about and orally communicate technical material about computer science and computer systems, broadly conceived.

## **3 -Year Bachelor Programmes in Arts**

### **6. History Graduate Outcomes:-**

By successfully completing of this programme, graduates should be able to:

1. Demonstration on understanding of past contexts also analyse the ideas and behaviours of past actors in the Historical Context
2. Demonstrate understanding that history is an interpretation of the past from various perspectives historical interpretation
3. Demonstrate ability to find, evaluate, and use historical sources to produce historical analysis by historical evidence.

### **7. Hindi outcomes:-**

By successfully completing of this programme, graduates should be able to:

1. Comprehend the phonological, morphological, and syntactic structure of Hindi;
2. Critically evaluate Hindi Literature in its various spoken and written forms;
3. Analyse the emergence and development of Hindi Language

#### **8. Sociology Graduate Outcomes:-**

By successfully completing of this programme, graduates should be able to:

1. Critically analyse social behaviour, practices and issues of relevance to Pacific Island societies and cultures by applying the basic principles of sociological thinking, theories and concepts (Social Analysis);
2. Design social research, supported by relevant methods and methodologies that are informed by ethical and reflexive considerations, to analyse social issues, practices and policies (Social Research);
3. Recognise and critically examine the structures, processes and dynamics of inequalities at local, regional and global levels (Critical Scholarship).

#### **9. Economics Graduate Outcomes:**

1. Identify and solve economic problems, assess results, and determine alternative courses of action using various economic tools.
2. Analyze, apply, and communicate basic economic principles, policies, theories, models, and analytical methods in macroeconomics, microeconomics, and environmental economics.
3. Recognize economics as inextricably intertwined with politics and history, business and markets, governments and global economies, as well as social and cultural institutions.

#### **10. Political Science Graduate Outcomes:-**

1. Institutional and Political Dynamics is to present a systematic analysis of all the major dimensions of Indian Political System.
2. The study of the Indian political system as a window to understand politics in the society.
3. About the way Indian political system has been working and the way it shapes institutions India.
4. How institutions are shaped through interaction with actual politics.
5. Idea of political system and the account of the making and working of constitutional institutions.