

## **Programme: B.Sc.**

### **Program Outcomes**

Bachelor of Science (B.Sc.) offers theoretical as well as practical knowledge about different subject areas. These subject areas include Physics, Chemistry, Mathematics and Biology, Zoology and other fields depending on the specialization a student opts. This programme course is most beneficial for students who have a strong interest and background in Science and Mathematics. The course is also beneficial for students who wish to pursue multi and inter-disciplinary science careers in future. Following are the various programme outcomes:

1. This course forms the basis of science and comprises of the subjects like physics, chemistry, biology, zoology and mathematics.
2. It helps to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace.
3. After the completion of this course students have the option to go for higher studies i.e. M. Sc and then do some research for the welfare of mankind.
4. After higher studies students can join as scientist and can even look for professional job oriented courses.
5. This course also offers opportunities for serving in Indian Army, Indian Navy, Indian Air Force as officers.
6. Students after this course have the option to join Indian Civil Services as IAS, IFS etc..
7. Science graduates can go to serve in industries or may opt for establishing their own industrial unit.
8. After the completion of the B.Sc. degree there are various other options available for the science students. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.
9. Apart from the research jobs, students can also work or get jobs in Marketing, Business & Other technical fields. Science graduates also recruited in the bank sector to work as customer service executives. Students can also find employment in government sectors.

### **Programme Specific Outcomes (Zoology)**

1. Gain the knowledge of Zoology through theory and practical's.
2. Study and understand the DNA Recombinant technology.
3. Understand the testing of hypothesis.
4. Use modern Zoological tools, Models, Charts and Equipments.
5. Know structure-activity relationship.
6. Understand good laboratory practices and safety.
7. Develop research oriented skills.

8. Make aware and handle the sophisticated instruments/equipments.
9. Understand the applications of Zoology in Agriculture, Medicine and daily life

### **Course Outcome(Zoology)**

<b>Topics</b>	<b>Outcome</b>
<b>Animal Diversity – Invertebrates</b>	<ul style="list-style-type: none"> <li>• Describe general taxonomic rules on animal classification.</li> <li>• Classify Protista up to phylum using examples from parasitic adaptation .</li> <li>• Classify Phylum Porifera to Echinodermata with taxonomic keys.</li> <li>• Describe Phylum Nematoda and give examples of pathogenic Nematodes.</li> </ul>
<b>Animal Diversity – Vertebrates &amp; Developmental Biology:</b>	<ul style="list-style-type: none"> <li>• Imparts conceptual knowledge of vertebrates, their adaptations and associations in relation to their environment.</li> <li>• Classify phylum Protochordates to Mammalia</li> <li>• Complex Vertebrate interactions.</li> <li>• Basic concepts of developmental biology.</li> </ul>
<b>Animal physiology genetics and evolution</b>	<ul style="list-style-type: none"> <li>• Students learn the concepts of endocrine systems and homeostasis a brief account of genetics and organic evolution.</li> <li>• This course helps students to gain fundamental knowledge in these topics.</li> <li>• Students gain fundamental knowledge of physiology and endocrine systems .</li> <li>• Students gain fundamental knowledge of physiology of homeostasis.</li> <li>• Understanding of basic concepts of genetics, laws of inheritance and central dogma of biology .</li> <li>• Understanding of genetic basis of evolution, human karyotyping and speciation.</li> </ul>
<b>WILDLIFE CONSERVATION &amp; MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• Wildlife habitat studies will enable students to solve problems of conservation.</li> <li>• Describe habitat management.</li> <li>• Understanding of Conservation will help protection of wildlife.</li> <li>• Explain wildlife trade that may enhance the economy.</li> <li>• Wildlife legislation will systematically organize the understanding of</li> <li>• wildlife conservation, trade and management.</li> </ul>
<b>IMMUNOLOGY</b>	<ul style="list-style-type: none"> <li>• Describe the evolution of immunology, historical perspective.</li> <li>• Describe the fundamental concept of Innate and adaptive immunity.</li> </ul>

	<ul style="list-style-type: none"> <li>• Develop the basic concepts of Antigenicity and immunogenicity.</li> <li>• Describe the molecular structure and function of major histocompatibility complex .</li> <li>• Describe the types of hypersensitivity and mechanism of tolerance.</li> </ul>
<b>General Embryology</b>	<ul style="list-style-type: none"> <li>• Identify the developmental stages.</li> <li>• Describe the key events in early and systematic embryological development.</li> <li>• Describe the process of gametogenesis.</li> <li>• Describe the chick development up to 96 hours of incubation and extra embryonic membranes.</li> <li>• Explain the life cycles of few parasites.</li> <li>• Explain the theories of preformation, and concepts like growth, differentiation and reproduction.</li> <li>• Explain the principles and process of fertilization and cleavage.</li> <li>• Prepare the flow chart of gametogenesis process.</li> </ul>