Bajaj College of Science, Wardha

Programme Outcomes

Bajaj College of Science (BCS) offers Bachelor of Science (B.Sc.), Master of Science (M.Sc.) and Doctor of Philosophy (Ph. D) in two science subjects mainly Chemistry and Botany. The B.Sc. degree at BCS is a comprehensive, interdisciplinary academic program that builds on existing strength in nine science departments. The BSc offers courses that integrate the material students learn in disciplinary courses such as chemistry, zoology, botany, physics, electronics, mathematics, computer science and biotechnology through practical experiences within academic program. The integration occurs through a College - College Alumni- University partnership where academic professional (invited faculty and resource persons) are actively involved in students' education through guest lectures and mentoring experiences and by providing internship opportunities.

Programme outcomes (POs) of B.Sc. program will be prepared to:

- Demonstrate general knowledge of basic biological, physical, chemical and mathematical principles.
- Practice professional ethics in conduct of science.
- Develop problem-solving and analytical skills.
- Able to operate and interpret the data from instrumentation.
- Able to use library sources for the academic upbringing of the selected science subjects.
- Demonstrate an ability to understand career opportunities in science and technology industries.

Programme Specific Outcomes

- BCS offers various programs (hereafter referred as ‘options’) within BSc degree which are as follows:

Degree	Section	Option (program specific)
BSc	Maths	Physics, Chemistry and Maths
		Physics, Electronics and Maths
		Physics, Computer Science and Maths
		Electronics, Computer Science and Maths
	Biology	Botany, Zoology and Chemistry
		Botany, Microbiology and Chemistry
		Zoology, Microbiology and Chemistry
		Botany, Biotechnology and Chemistry
		Zoology, Biotechnology and Chemistry
		Microbiology, Biotechnology and Chemistry
MSc	-	Botany
		Zoology
		Chemistry
		Microbiology
PhD		Botany
		Chemistry

Program specific outcomes of B.Sc. degree with Math section considering the computer science (CS) as core subject. Upon graduation, CS students will

1. Apply fundamental concepts of discrete mathematics such as logic, proofs, set theory, relations, functions, and combinatorics to model computational problems,
2. Demonstrate the application of abstract structures such as graphs, finite state machines, and recurrence relations to the solution of computer science problems,
3. Analyze and evaluate comparative performance of algorithms and data structures appropriate to solving computer science problems,
4. apply concepts related to data structures such as lists, stacks, queues, arrays, graphs, trees, heaps, and hashing to design and create algorithms.
5. be proficient in one programming language and have a basic knowledge of several others and be able to write efficient solutions to specific problems using an object-oriented programming language.
6. understand the hardware and software architecture of computer systems and be able to explain the function and interaction of computer processing units, memories, and input/output devices,
7. be able to communicate effectively about computer science-related topics and be able to
    a. deliver an audience-sensitive oral technical presentation,
    b. write an audience-sensitive technical document,
    c. contribute effectively on software-based system development teams
8. demonstrate the ability to be responsible practitioners of computer science and understand the social and ethical implications of computing and be able to
    a. demonstrate ways in which computers pose new ethical questions or pose new versions ofstandards, moral problems and dilemmas,
    b. recognize and, when appropriate, to resolve ethical problems or dilemmas related to the computing profession.

Program specific outcomes of B.Sc. degree with Math section considering the chemistry (Chem) as core subject. Upon graduation, Chemistry students will

1. Students will have a firm foundation in the fundamentals and application of current chemical and scientific theories.

2. Students will develop problem-solving and analytical skills.

3. Students will be able to communicate scientific results orally and in writing.

4. Students will know and follow the proper procedures and regulations for safe handling and use of chemicals.

5. Students will be able to operate and interpret data from instrumentation.

6. Students will be able to use library resources to research chemical topics and chemical techniques.

Students graduating with a B.Sc. in Physics should be able to:

1. Students will demonstrate proficiency in mathematics and the mathematical concepts needed for a proper understanding of physics.

2. Students will demonstrate knowledge of classical mechanics, electromagnetism, quantum mechanics, and thermal physics, and be able to apply this knowledge to analyze a variety of physical phenomena.

3. 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.

4. Students will be capable of oral and written scientific communication, and will prove that they can think critically and work independently.