Janki Devi Bajaj Government Girls College

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AQAR 2022-23

Criterion 2: Teaching-Learning and Evaluation

Key Indicator-2.6: Student Performances and Learning Outcome

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

Supportive Documents

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2.6.1: Course Outcomes, Programme Outcomes and Programme Specific Outcomes

S.N.	Programme	Program Outcome	Program Specific Outcome	Course Outcome
1.	B. Sc.	The program helps in the understanding of fundamental concepts, theories, practical applications and objective conclusions in Botany, Chemistry, Mathematics, Physics and Zoology subjects of science stream.	The endurance is on skills in the laboratory, understanding of phenomenon, sustainable development areas, and interdisciplinary areas of science courses. The students are competent for admission in the higher education programs for degree and certificates and also for various jobs at the completion of this program.	The course offers theoretical as well as practical knowledge in different subject areas. The subject areas include Physics, Chemistry and Mathematics (Math stream) & Botany, Chemistry and Zoology (Biology Stream). This program is most beneficial for students who have a strong interest and background in Bio-science and Mathematics. The course is also beneficial for students who wish to pursue multi and inter- disciplinary science careers in future. The course content is designed to provide exposure to the core subjects and equip the students for higher education. The students will develop understanding about basic and applied sciences.
2.	M. Sc. Botany	The aim of the program is to enhance students understanding in Biology and diversity of Algae and Bryophytes, Microbiology, Mycology and Plant Pathology, Cytogenetics, Genetics and Plant Breeding, Plant Ecology, conservation and evolution, Pteridophytes, Gymnosperms and Palaeobotany, Plant developmental Biology, Cell and Molecular Biology, Plant growth and development, Skill Course etc.	MSc pass outs can pursue career in following areas: Food processing industries, Arboretum, Forest services, Biotechnology firms, Oil industry, Land management agencies, Seed industry and Nursery, Plant explorer, Conservationist, Ecologist, Environmental consultant, Horticulturist, Molecular Biologist, Educational institutions. Prepare the students for many competitive exams of State and Central Government	Develop a conceptual understanding of principles and importance of Botany. Students will be benefited with knowledge of core subjects like plant diversity, physiology and biochemistry, molecular cytogenetic and application of statistics etc. Create, select and apply appropriate techniques, resources and modern technology in multidisciplinary way. Teaching subject with knowledge to design experiments, analyze and interpret data to reach to an effective conclusion. Environment & Sustainability: Understand the issues of environmental

				contexts and sustainable development with respect to assessment, conservation and utilization.
3.	**M. Sc. Chemistry**	At the end of the program Students will be able to have many opportunities in the field of teaching, administration, Research Scientists, Quality control chemist, analyst, Quality assurance, Quality manager, Laboratory assistant Operations manager, Quality control inspector, Research Manager.	The students gain knowledge in Inorganic, Organic and Physical Chemistry, Group Theory and Spectroscopy, Environmental and Green chemistry, advanced Spectroscopic Techniques, Bioinorganic, Bio-organic and Biophysical chemistry, special methods of analysis, Photochemistry and Supra-molecules, Modern interfaces of organic chemistry, Chemistry of heterocyclic compounds, Medicinal chemistry, Chemistry of natural products etc.	Students will have sound knowledge about the fundamentals and applications of chemical and scientific theories. Every branch of science and technology is related to Chemistry. Can easily assess the properties of all elements. Can apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries. Become well versed with the different branches of chemistry like analytical, organic, inorganic, physical, environmental, polymer and biochemistry. Helps in understanding the causes of environmental pollution and can find new methods for remediation. Develop analytical skills and problem-solving skills requiring application of chemical principles. Acquires the ability to synthesize, separate and characterize compounds using laboratory.
4.	**M. Sc. Mathematics**	On completion of the program students understand the interdisciplinary nature of mathematics in various fields and develop problem solving and critical thinking skills to analyze and solve complex scientific problems in algebra, analysis, number theory, differential equations and numerical analysis.	Acquire a deep understanding of the fundamental concepts of Mathematics and their applications in diverse mathematical problems. Acquire proficiency in the use of mathematical software packages and tools, and apply them to solve complex problems in algebra, number theory and differential equation and numerical analysis. Develop effective communication and	The course outcome is to understand the basic concept of Algebra, analysis and linear integral equations, analyze and apply methods to solve problems in special function, partial differential equation and numerical analysis. Learn and get knowledge about the both pure and applied mathematics and their applications. To create an academically sound environment that nurtures,

			presentation skills, and present mathematical arguments and solutions clearly and precisely in both oral and written form.	motivates and inspires excellence in research and teaching in Mathematics along with concern for society. To develop logical, analytical and mathematical thinking power in the minds of students in order to cater the mathematical needs of the society.
5.	**M. Sc. Physics**	On completion of program, the post graduates will apply the knowledge and skill in the design and development of electronic circuits to fulfill the needs of electronic industry. Become trained in the area of electronics, nonlinear circuits, optical communication, material characterization and lasers. Pursue research in Physics & material characterization.	Understanding the basic concepts of Physics particularly concepts in classical mechanics, quantum mechanics, electrodynamics and electronics to appreciate how diverse phenomena observed in nature follow from a small set of fundamental laws. Learn to carry out experiments in basic as well as certain advanced areas of physics such as nuclear physics, electronics and lasers. A research-oriented learning that develops analytical and integrated problem-solving approach.	The course outcome of this PG course can be illustrated as better understanding of Mathematical methods of Physics, Classical mechanics, Classical Electrodynamics, Quantum Mechanics, Electronics, Microwave and its propagation, Mathematical methods of Physics, Laboratory Practice as well as many physical branches of this course.
6.	**M. Sc. Zoology**	After completing the MSc degree students are able to pursue research in zoology and its applied branches. As a zoologist, comprehensive knowledge of animal sciences, competence to perform the corresponding lab techniques as well as the propensity for fieldwork renders limitless avenues in the academics, government bodies and agricultural, environmental or pharmaceutical industries. Candidates will find jobs as animal behaviorist, conservationist, wildlife biologist, zoo curator, wildlife educator, Zoology	Students gain knowledge and skill in the fundamentals of animal sciences, understand the complex interactions among various living organisms; analyze complex interactions among the various animals of different phyla, their distribution and their relationship with the environment. Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms. Understands the complex evolutionary processes and behavior of animals. Correlates the physiological processes	Developing deeper understanding of key concepts of biology at biochemical, molecular and cellular level, physiology and reproduction at organismal level and ecological impact on animal behavior. Elucidation of animal-animal, animal-plant, animal-microbe interactions and their consequences to animals, humans and the environment. Development of understanding of zoological science for its application in medical entomology, apiculture, aquaculture, agriculture and modern medicine. Development of

		faculty, forensic experts, lab technician, pharmacy industry, media houses as scientific writers and editors, environment consultants etc. Prepares the students for various competitive exams.	of animals and relationship of organ systems. Understand the environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species. Apply ethical principles and commitment to professional ethics and responsibilities	theoretical and practical knowledge in handling the animals and using them as a model organism. To identify a research problem and to formulate a scientific solution.