**Program Objectives**

**B.Sc. (Hons.) Mathematics**

**(Undergraduate programs offered by the department)**

1. **Name of the program: Bachelor of Science in Mathematics (Hons.)**

**2. Program Specifications**

Department of Studies: University of Delhi

Department: Mathematics

Program: BSc. (Hons.) Mathematics **(LOCF)**

Head of the Department: Ms. Alpana Rastogi

Year of Approval: 2019

Next revision: 2022 (NEP)

**3. Mode of Study:** Full-time (Semester System): Classroom teaching; Demonstrative

learning; Tutorials; Project assignments; research activities.

**Student Learning Objectives**

The Mathematics program promotes mathematical skills and knowledge for their intrinsic beauty, effectiveness in developing proficiency in analytical reasoning, and utility in modelling and solving real-world problems. To responsibly live within and participate in the transformation of a rapidly changing, complex, and interdependent society, students must develop and unceasingly exercise their analytical abilities. Students who have learned to logically question assertions, recognize patterns, and distinguish the essential and irrelevant aspects of problems can think deeply and precisely, nurture the products of their imagination to fruition in reality, and share their ideas and insights while seeking and benefiting from the knowledge and insights of others.

Students majoring in Mathematics attain proficiency in

*Critical thinking*

     The ability to identify, reflect upon, evaluate, integrate, and apply different types of information and knowledge to form independent judgments. Analytical and logical thinking and the habit of drawing conclusions based on quantitative information.

*Problem-solving*

     The ability to assess and interpret complex situations, choose among several potentially appropriate mathematical methods of solution, persist in the face of difficulty, and present full and cogent solutions that include appropriate justification for their reasoning.

*Effective communication*

     The ability to communicate and interact effectively with different audiences, developing their ability to collaborate intellectually and creatively in diverse contexts, and to appreciate ambiguity and nuance, while emphasizing the importance of clarity and precision in communication and reasoning.

     Students acquire and enhance these abilities in mathematical contexts, but the acquired habits of rigorous thought and creative problem-solving are invaluable in all aspects of life. These skills are acquired through experience in the context of studying specific mathematical topics and exploring problems chosen to challenge students’ abilities, spurring them to acquire new techniques and abandon familiar but restrictive habits of thought. The overarching objectives can be realized in terms of more focused, appraisable objectives specific to mathematics.