DEPARTMENT OF MATHEMATICS
RANIGANJ GIRLS COLLEGE

A. Program outcomes: Bachelor of Science (B.Sc.)
Students taking admission of the program will able to:

(i)   Handle the realistic and/or unrealistic situations by analyzing the problem in scientific way.
(ii)   Inculcating thinking and awareness among the students and society in scientific manners.
(iii)   Explaining the basic scientific theory, principles and methods.
(iv)   Tackling of issues related to natural, environmental, economical and commercial situations.
(v)   Effectively utilizing computerization system and inculcating knowledge about modern digital technology.
(vi)   Understanding the issues related to weather conditions of environment, environmental pollutions and natural calamity.

B. Program specific outcomes
(i) Mathematics Honours
(ii) Mathematics Programme

C. Course outcomes:

(i) Mathematics Honours
Students taking admission in Mathematics Honours will able to learn different topics in mathematics; semester wise as follows:

SEMESTER I:
- Classical Algebra and Abstract Algebra - I
- Real Analysis-I and Integral Calculus –I

SEMESTER II
- Linear Algebra and Abstract Algebra - II
- Geometry of Two and Three Dimension

SEMESTER III
- Vector Analysis and Tensor Calculus
- Real Analysis II and Number Theory
- Differential Equations

Skill Enhancement Course-1 (Any One of the following)
- Mathematical Study on Local Weather Conditions
- Object Oriented Programming in C++

SEMESTER IV
- Real Analysis III
- Introduction to Operations Research
- Mechanics I

Skill Enhancement Course-2 (Any One of the following)
- Mathematical Study on Environmental Pollutions

- Use of Latex

SEMESTER-V
- Metric Spaces and Elementary Complex Analysis
- Mechanics II (Classical Dynamics, Dynamics of a System of Particles and Rigid Body)

Discipline Specific Elective (DSE-1) (Any one of the following)
- Elements of Topology and Functional Analysis
- Linear Algebra

Discipline Specific Elective (DSE-2) (Any one of the following)
- Mathematical Modeling
- Integral Transforms
- Probability & Statistics

SEMESTER-VI
- Numerical Analysis
- Computer Aided Numerical Practical using Fortran / C

Discipline Specific Elective (DSE-3) (Any one of the following)
- Discrete Mathematics
- Special Theory of Relativity

Discipline Specific Elective (DSE-4) (Any one of the following)
- Optimization Techniques
- Programming in C / Fortran with Applications
- Mechanics III (Statics and Hydrostatics)

(ii) Mathematics Programme
Students taking admission in Mathematics Programme will able to learn different topics in mathematics; semester wise as follows:

SEMESTER I:
- Differential Calculus – I
- Integral Calculus-I
- Ordinary Differential equation I

SEMESTER II
- Differential Calculus –II
- Integral Calculus-II
- Ordinary Differential equation II

SEMESTER III
- Algebra (Classical, Abstract and Linear)

Skill Enhancement Course-1
- Mathematical Study on Local Weather Conditions

SEMESTER IV
- Geometry and Vector Analysis

Skill Enhancement Course-2
- Object Oriented Programming in C++

SEMESTER-V   **Discipline Specific Elective (DSE-1A) (Any one of the following)**

- Mechanics
- Probability and Statistics

Skill Enhancement Course-3
- Mathematical Study on environmental pollutions

SEMESTER-VI **Discipline Specific Elective (DSE-1B) (Any one of the following)**
- Linear programming problem
- Numerical methods and computer programming

Skill Enhancement Course-4
- Use of Latex