

Notice

It is for information to all the students of H S 2nd year class of the session 2026-27, that as per the revised syllabus of HS 2nd year Mathematics, every student has to prepare a project in Mathematics on a topic selected by the student as per given in the syllabus and must has to submit the project to the department on or before 16.11.2026. After screening of the projects a Viva-Voce will be held in the department and the Viva-date will be published as a notice in the College Website.

The students are advised to contact the department to know about the rules for the preparation and submission of the project.

Project Work in Mathematics

Class : H S 2nd Year

(Marks : 20)

Objectives:

- ☐ Apply mathematical concepts to practical situations.
- ☐ Encourage exploration and creativity.
- ☐ Develop logical presentation and communication skills.

Structure of the Project:

- 1) Cover Page (title, student and school details).
- 2) Acknowledgement and Certificate.
- 3) Objective / Aim.
- 4) Theoretical Background.
- 5) Materials or Tools Used.
- 6) Procedure and Observations.
- 7) Calculations, Graphs, Tables, Charts etc.
- 8) Results and Discussion.
- 9) Conclusion.
- 10) Learning Outcomes.
- 11) Bibliography.

Suggested Topics:

Unit 1: Relations & Functions and Inverse Trigonometric Functions

1. Types of relations and functions and their uses.
2. Concepts of inverse trigonometric functions and their graphical representation.
3. Using functions and their inverses to create and decode secret codes.

Unit 2: Algebra (Matrices & Determinants)

1. Applications of matrices and determinants in real-life problems.
2. Cryptography using matrices and determinants.

Unit 3: Calculus

1. Derivatives and their applications.
2. Integrals and their applications.
3. Role of calculus in business and economics.
4. Area under a curve using integrals.
5. Finding maximum and minimum values (e.g., volume) using derivatives.
6. Differential equations in biology and population studies.

Unit 4: Vectors & Three-dimensional Geometry

1. Vectors and their types.
2. Applications of vectors and three-dimensional geometry in physics.
3. Applications of shortest distance in space geometry.

Unit 5: Linear Programming

1. Linear programming in resource management.
2. Maximization and minimization in linear programming.

Unit 6: Probability

1. Applications of conditional probability in different fields.
2. Use of Bayes' theorem and total probability in real-life situations.

Marking Scheme for Project Work:

1 Relevance of the Topic	3
2 Mathematical Content and Understanding	6
3 Presentation and Creativity	3
4 Viva-Voce	8

Total 20

HoD, Mathematics