Applied Mathematics

Grade XI-XII

Secondary School Education prepares students to explore future career options after graduating from the school. Mathematics is an important subject helps students to choose various fields of their choices. Mathematics is widely used in higher studies in the field of Economics, Commerce, Social Sciences and many other. It has been observed that the syllabus of Mathematics meant for Science subjects may not be appropriate for the students pursuing Commerce or Social Science-based subjects in university education. By keeping this in mind, one more elective course in Mathematics syllabus is developed for Sr. Secondary classes with an aim to provide students relevant experience in Mathematics which can be used in the fields other than Physical Sciences.

This course is designed to develop substantial mathematical skills and methods needing in other subject areas. Topics covered in two years aim to enable students to use mathematical knowledge in the field of business, economic and social sciences. It aims to promote appreciation of mathematical power and simplicity for its countless applications in diverse fields. The course continues to develop mathematical language and symbolism to communicate and relate everyday experiences mathematically. In addition, it reinforces the logical reasoning skills of formulating and validating mathematical arguments, framing examples, finding counter examples. It encourages students to engage in mathematical investigations and to build connections within mathematical topics and with other disciplines. The course prepares students to use algebraic methods as a means of representation and as a problem-solving tool. It also enables students to interpret two dimensional geometrical figures using algebra and to further deduce properties of geometrical figures in coordinate system. The course content will help students to develop sound understanding of descriptive and inferential statistics which they can use to describe and analysis a give set of data and to further make meaningful inferences out of it. Data based case studies from the field of business, economics, psychology, education, biology and census data will be used to appreciate the power of data in contemporary society.

It is expected that the subject is taught connecting concepts to the application in various fields. The objectives of the course areas are as follows:

Objectives:

a) To develop an understanding of basic mathematical and statistical tools and their applications in the field of commerce (business/ finance/economics) and social sciences;
b) To model real world experiences/problems into mathematical expressions using numerical/algebraic/graphical representation;
c) To make sense from the data by organizing, representing, interpreting, analysing, and to make meaningful inferences from the real-world situations;
d) To develop logical reasoning skills and apply the same in simple problem solving;
e) To reinforce mathematical communication by formulating conjectures, validating logical arguments and testing hypothesis;
f) To make connections between Mathematics and other disciplines.