INDIAN SCHOOL MUSCAT
SENIOR SECTION
ANNUAL PLAN - 2022-2023
CLASS: XII
SUBJECT: APPLIED MATHEMATICS - (241)

No.	Units	Marks
I	Numbers, Quantification and Numerical Applications	11
II	Algebra	10
III	Calculus	15
IV	Probability Distributions	10
V	Inferential Statistics	05
VI	Index Numbers and Time-based data	06
VII	Financial Mathematics	15
VIII	Linear Programming	08
Total		80
Internal Assessment		20

MONTH	Chapter	Lesson Objectives/Subtopics At the end of the topic student will be able to understand the concept of
MARCH 2022	Matrices and Determinants Practical on Matrix multiplication and inverse	Basic concepts. Types and operations on Matrices
		Transpose, symmetric and skew symmetric Matrices, Invertible matrices. The determinant of a square matrix, Properties of determinants. Finding minors, cofactors, adjoint and inverse of a square matrix. Application: Solving system of linear equations using Cramer's Rule, Matrix method and Row reduction. Consistency conditions ➢ Revision and a diagnostic test.
APRIL 2022	NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS	Modulo Arithmetic, Congruence Modulo Alligation and mixtures, Problems on Boats and streams, pipes and cisterns, Races and Games. Numerical Inequalities Revision and a diagnostic test.

MAY 2022	**PROBABILITY** **Practical on binomial, Poisson and normal distributions.**	Probability distribution: Random variables (discrete and continuous) , Mathematical Expectance and Variance. Binomial, Poisson and Normal Distribution
	CALCULUS **DIFFERENTIATION AND ITS APPLICATIONS** **Practical on Maxima and minima of a function**	**Revision of Class 11 concepts** Methods of Differentiation, Second order derivatives Revisiting concept of straight lines, Tangent and Normal, Marginal cost and Marginal revenue.
JUNE 2022	**APPLICATION OF DIFFERENTIATION (CONTINUED)** **Time Based Data** **Practical on Time series data**	Increasing and Decreasing functions, Maxima and Minima and its simple applications. **Revision and a diagnostic test**. Time series, Analysis, Methods of measuring trends
	PROJECT FOR TERM-1 **SUMMER VACATION- 17th June to 6th August 2022**	
AUGUST 2022	**INFERENTIAL STATISTICS**	Population and sample, Types of Sampling, parameter and statistics t- test for One sample t-test and two sample (independent) analysis **Revision and a diagnostic test**.
	LINEAR PROGRAMMING PROBLEMS	Solving LPP by Graphical, Iso profit and Iso cost method
SEPTEMBER 2022	**FIRST TERM EXAMINATIONS**	
	FINANCIAL MATHEMATICS **Practical on Financial Mathematics**	Nominal rate of returns, Compound annual growth rate, linear depreciation method.

OCTOBER 2022	**FINANCIAL MATHEMATICS**	Perpetuity, Sinking Funds, EMI. **Revision and a diagnostic test**.
	INTEGRATION **APPLICATIONS OF INTEGRATION**	Integration as anti-derivative, basic Integral concepts. Different Methods of Integration, Fundamental theorem of Calculus, Basic properties of definite integrals. Finding Cost function, revenue function, consumer's surplus, producer's surplus and equilibrium price. **Revision and a diagnostic test**.
NOVEMBER 2022	**DIFFERENTIAL EQUATIONS**	Definition, order and degree. Solution of differential equation by variable separation method
		Growth and Decay Model.
DECEMBER 2022	REVISION	
	WINTER VACATION- 19th December, 2021 to 2nd January, 2022	
JANUARY 2023	**PREBOARD EXAMS**	
FEBRUARY 2023	**PREBOARD EXAMS**	
MARCH 2023	**FINAL EXAMINATIONS**	