



INDIAN SCHOOL MUSCAT
SENIOR SECTION
APPLIED MATHEMATICS
CLASS XI
YEAR PLAN 2022-2023

Subject (Code: 241)

UNIT No.	Unit	Marks
1.	<u>UNIT1: NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS</u> *BINARY NUMBERS *INDICES *LOGARITHM AND ANTILOGARITHM *NUMERICAL APPLICATIONS	09
2.	<u>UNIT2: ALGEBRA</u> *SETS *RELATIONS *SEQUENCE AND SERIES *PERMUTATIONS AND COMBINATIONS	15
3.	<u>UNIT3: MATHEMATICAL AND LOGICAL REASONING</u> *PROBLEMS BASED ON LOGICAL REASONING	06
4.	<u>UNIT4: CALCULUS</u> *FUNCTIONS *LIMITS AND CONTINUITY *DIFFERENTIATION	10
5.	<u>UNIT5: PROBABILITY</u> *RANDOM EXPERIMENT AND SAMPLE SPACE *TOTAL PROBABILITY *BAYES' THEOREM	8
6.	<u>UNIT6: DESCRIPTIVE STATISTICS</u> *DATA INTERPRETATION *PERCENTILE RANK AND QUARTILE RANK *CORRELATION	12
7.	<u>UNIT 7: FINANCIAL MATHEMATICS</u> *SIMPLE AND COMPOUND INTEREST *EFFECTIVE RATE OF INTEREST *PRESENT VALUE AND FUTURE VALUE *ANNUITIES *TAX *BILLS	15
8.	<u>UNIT 8: COORDINATE GEOMETRY</u> *STRAIGHT LINES *PARABOLA *CIRCLES	5
	TOTAL	80

MONTH	UNIT	At the end of the topic student will be able to understand the concept of:
May 2022 UNIT -1	NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS	<ul style="list-style-type: none"> * Binary Numbers, Express decimal numbers in binary system, Express binary numbers in decimal system * Indices, Logarithm and Antilogarithm * Laws and properties of logarithms, Simple applications of logarithm and antilogarithm. * Numerical problems on averages, calendar, clock, time, work and distance, Mensuration. * Seating arrangement (Linear/circular).
June 2022 UNIT -1 UNIT -3	NUMBERS, QUANTIFICATION AND NUMERICAL APPLICATIONS MATHEMATICAL AND LOGICAL REASONING SUMMER VACATION	<ul style="list-style-type: none"> * Numerical problems on averages, calendar, clock, time, work and distance, Mensuration. * Seating arrangement (Linear/circular). * Problems based on logical reasoning (coding-decoding, odd man out, blood relation, syllogism etc).
August 2022 UNIT -7	FINANCIAL MATHEMATICS PRACTICAL-1 PRACTICAL-2	<ul style="list-style-type: none"> * Simple and compound interest rates with equivalency, Effective rate of interest, Present value, net present value and future value. * Annuities, calculating value of regular annuity, Simple applications of regular annuities, * Tax, calculation of tax and simple applications of tax calculation in Goods and service tax, Income Tax * Bills, tariff rates, fixed charge, surcharge, service charge, Calculation and interpretation of electricity bill, water supply bill and other supply bills.
September 2022 UNIT -5	PROBABILITY PRACTICAL-3 REVISION & FIRST TERM EXAMINATION	<ul style="list-style-type: none"> * Random experiment and sample space, Event. * Conditional Probability * Total Probability * Bayes' Theorem

<p>October 2022</p> <p>UNIT -2</p>	<p>ALGEBRA</p>	<p>*Sets, Types of sets, Subsets, Intervals, Venn diagram, Operations on sets, De Morgan's laws, Problem solving using Venn diagram.</p> <p>*Ordered pairs, Cartesian product of two sets, Relations and Domain and range of a relation.</p> <p>*Introduction of Sequences, Series, Arithmetic and Geometric progression, Relationship between AM and GM, applications of AP and GP,</p> <p>*Factorial, Fundamental Principle of Counting, Basic concepts of Permutations and Combinations.</p>
<p>November 2022</p> <p>UNIT 6</p>	<p>DESCRIPTIVE STATISTICS</p> <p>PRACTICAL-4</p> <p>PRACTICAL-5</p> <p>HALF YEARLY EXAMS</p>	<p>*Data interpretation (measures of Dispersion- Range, Quartile Deviation, Mean deviation, Standard deviation, variance, skewness and kurtosis, coefficient of skewness).</p> <p>*Percentile rank and quartile rank.</p> <p>*Correlation (Product moment correlation, Karl Pearson and Spearman method of correlation).</p>
<p>December 2022</p> <p>UNIT 4</p>	<p>CALCULUS</p> <p>WINTER VACATION</p>	<p>*Functions, Domain, Range and Co-Domain of functions, Types of functions, graphical representation of functions.</p> <p>*Concept of limits and continuity of a function, Instantaneous rates of change.</p> <p>*Differentiation as a process of finding derivative, Derivatives of algebraic functions using Chain rule.</p>
<p>January 2023</p> <p>UNIT 8</p>	<p>COORDINATE GEOMETRY</p> <p>PRACTICAL-6</p>	<p>*Straight Line- Find the slope and equation of line in various form, Find angle between the two lines, Find the perpendicular from a given point on a line, Find the distance between two parallel lines.</p> <p>*Circles- Find different form of equations of a circle (Standard form, central form, diameter form and general form).</p> <p>*Parabola- Define parabola and related terms, Define eccentricity of a parabola, Derive the equation of parabola</p>
<p>February 2023</p>	<p>REVISION & ANNUAL EXAM 2022-23</p>	