Form 4

Academic year

2023- 2024

Course Outline

Term 1

1. Algebra
2. Functions
3. Coordinate geometry
4. Linear programming 1 (inequality graphing only)

Term 2

1. Linear programming (interpretation of worded problems)
2. Quadratics
3. Trigonometry 1 and 2

Term 3

1. Statistics 1 and 2
2. Matrices
3. Vectors

Form 5

Mathematics

2023-2024

Term 1

1. Transformation
2. Geometry (Circle geometry, Polygons)
3. Mensuration (similarity, congruency, volume, area, surface area, density)
4. Consumer Arithmetic
5. SBA

Term 2

1. Travel graph
2. Logic questions
3. Constructions
4. Sets
5. SBA submission

Term 3

1. Past Paper question

Term 1

Topic	Modules
Algebra	Evaluating formulae Changing the subject of the formulae (Transposing) Factorizing Working with algebraic fractions Indices Variation (direct and indirect proportion) Binary operations Simultaneous equations
Relations and Functions	Definition relation Arrow diagram Types of relations Definition functions Domain, range Finding inverse of a function Composite function
Coordinate geometry	Plotting points on Cartesian plane Equation of a straight line Finding gradient, y- intercept Midpoint Length of a line Perpendicular and parallel lines Graphing a straight line Graphical method for simultaneous equations, point of intersection
Linear programming 1	Inequalities, use of symbols Inequality set notation Inequality on number line Graphing inequalities

Term 2

Topic	Module
Linear programming 2	Interpretation of worded problems Determining mathematical inequality Determining the critical polygon region Determining critical points Optimization expression
Quadratics	Expanding binomial expression Defining quadratic expression, equation Factorizing quadratic equation Use of quadratic formulae Completing the square Graphing quadratic function Identifying roots, maximum, minimum point, line of symmetry Simultaneous equation of linear and quadratic Worded problems giving rise to quadratic equation
Trigonometry	Pythagoras theorem Trigonometric ratios Trigonometric ratios for $30^{\circ}, 45^{\circ}, 60^{\circ}$ Angle of elevation depression Bearings Sine, cosine, tangent graphs Sine rule Cosine rule Problems in 3D

Term 3

Topic	Modules
Statistics	Collecting and organizing data Presenting data : pie chart, histogram, bar chart, frequency polygon Fining mean , mode, median Measure of spread : standard deviation, range Quartiles, interquartile range, semi interquartile range Grouped data Cumulative frequency Ogive Analyzing and interpreting statistical data
Matrices	Type of matrices Addition, subtraction, multiplication of matrices Matrix notation Equality of matrices Inverse of 2×2 matrix Matrix solution to simultaneous equations
Vectors	Definition of vectors Vector notation Graphical representation of vector Resultant vectors Inverse vectors Addition and subtraction of vectors Multiplying a vector by a scalar

Form 5
Mathematics
Outline 2023/2024

Term 1

Topic	Module
Transformations	Graphical work: Translation, Reflection , Enlargement, Rotation Matrix representation various transformation Combining transformations
Geometry	Angles: supplementary, complementary, vertically opposite, corresponding, alternating, co-interior transversal lines Polygons: regular and irregular, interior and exterior angles, sum of interior and exterior angles in a polygon Circle geometry : all the rules
Mensuration	Area Volume Surface area Congruency Similarity Density
Consumer Arithmetic	Foreign exchange Wages

	Utility bills, rates and taxes Simple interest Profit and loss Hire purchase Depreciation
Full draft SBA submissions	

Term 2

Topic	Module
Travel graphs	Interpreting simple travel graphs
Logic questions	Identifying general patterns and sequences
Constructions	Constructions using pencil, ruler, protractor and compass Constructing triangles Perpendicular lines Parallel lines Construct and measure angles 0 to 360 Bisecting angles
Sets	Set notation Solving two and three set problems
Final SBA submission	

Term 3

Revision

Practice with past paper questions and other resources