DAWOOD PUBLIC SCHOOL

Course out line 2011-2012
Subject Maths
Class – VI

Book:

Seng, T.et al, 2008, *New Syllabus Mathematics 1*(6th Edition), Singapore; Oxford University Press

Syllabus Aims and Assessment:

The syllabus demands understanding of basic mathematical concepts and their applications, together with an ability to show this by clear expression and careful reasoning.
In the examination, importance will be attached to skills in algebraic manipulation and to numerical accuracy in calculations.

Aims

The course should enable students to:

- Develop their mathematical knowledge and oral, written and practical skills in a manner which encourages confidence;
- Read mathematics, and write and talk about the subject in a variety of ways;
- Develop a feel for number, carry out calculations and understand the significance of the results obtained;
- Apply mathematics in everyday situations and develop an understanding of the part which mathematics plays in the world around them;
- Solve problems, present the solutions clearly, check and interpret the results;
- Develop an understanding of mathematical principles;
- Recognize when and how a situation may be represented mathematically, identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve problems;
- Use mathematics as a means of communication with emphasis on the use of clear expression;
- Develop the abilities to reason logically, to classify, to generalize and to prove;

Assessment objectives:

The examination tests the ability of candidates to:

- Recall, apply and interpret mathematical knowledge in the context of everyday situations;
- Set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology;
- Organize, interpret and present information accurately in written, tabular, graphical and diagrammatic forms;
- Perform calculations by suitable methods;
- Use an electronic calculator;
- Understand systems of measurement in everyday use and make use of them in the solution of problems;
- Estimate, approximate and work to degrees of accuracy appropriate to the context;
- Use mathematical and other instruments to measure and to draw to an acceptable degree of accuracy;
- Recognize patterns and structures in a variety of situations and form generalizations;
- Interpret, transform and make appropriate use of mathematical statements expressed in words or symbols;

Units:

SI units will be used in questions involving mass and measures: the use of the centimeter will continue.

Monthly Syllabus

AUGUST	• Factors and Multiples • Integers
SEPTEMBER	• Integers • Perimeter and Area of Simple Geometrical Figures
OCTOBER	• Perimeter and Area of Simple Geometrical Figures • Fundamental Algebra • Geometrical Constructions
NOVEMBER	• REVISION FOR MID TERM EXAMS
DECEMBER	• **MID TERM EXAMS**
JANUARY	• Basic Geometrical Concepts and Properties • Estimation and Approximation
FEBRUARY	• Angle Properties of Polygon

	• Rational Numbers
MARCH	• Rational Numbers • Algebraic Equations and Simple Inequalities
APRIL	• REVISION FOR FINAL EXAMS
MAY	• **FINAL TERM EXAMS**

Syllabus Content

Theme or Topic	Subject Content
• Factors and Multiples Chap No. 1 Pg No.(1-27) • Integers Chap No. 2 Pg No.(29-49)	*Students should be able to:* • use the four operations for calculations with whole numbers, decimal fractions and vulgar (and mixed) fractions, including correct ordering of operations and use of brackets. • use natural numbers, integers (positive, negative and zero), prime numbers, common factors and common multiples, rational and irrational numbers, real numbers;
• Perimeter and Area of Simple Geometrical Figures Chap No.8 Pg No.(167-189)	• use and interpret vocabulary of triangles, circles, special quadrilaterals; • solve problems involving (i) the perimeter and area of a rectangle and triangle, (ii) the circumference and area of a circle, (iii) the area of a parallelogram and a trapezium,
• Fundamental Algebra Chap No.5 Pg No.(89-108) • Geometrical Constructions Chap No.16 Pg No.(381-399)	• use letters to express generalized numbers; • use four operation for calculation of algebraic equations; • measure lines and angles; • construct simple geometrical figures from given data, angle bisectors and perpendicular bisectors using protractors or set squares as necessary; • read and make scale drawings. (Where it is necessary to construct a triangle given the three sides, ruler and compasses only must be used.)
• Basic Geometrical Concepts and Properties Chap No.14 Pg No.(331-353) • Estimation and Approximation Chap No.4 Pg No.(71-88)	• use and interpret the geometrical terms: point, line, plane, parallel, perpendicular, right angle, acute, obtuse and reflex angles, interior and exterior angles, regular and irregular polygons, pentagons, • make estimates of numbers, quantities and lengths, give approximations to specified numbers of significant figures and decimal places and round off answers to reasonable accuracy in the context of a given problem.
• Angle Properties of Polygons Chap No.15 Pg No.(355-377) • Rational Numbers Chap No.3 Pg No.(51-70)	• use and interpret vocabulary of triangles, circles, special quadrilaterals; • calculate unknown angles and give simple explanations using the following geometrical properties: (a) angles on a straight line; (b) angles at a point; (c) vertically opposite angles; (d) angles formed by parallel lines; • calculate squares, square roots, cubes and cube roots of numbers.
• Algebraic Equations and Simple Inequalities Chap No.7 Pg No.(137-165)	• solve simple linear equations in one unknown; • solve fractional equations with numerical and linear algebraic denominators;

Breadth of study

During the key stage, students should be taught the knowledge, skills and understanding through:

(a) Activities that ensure they become familiar with, and confident using, standard

Procedures for the range of calculations appropriate to this level of study;
(b) Solving familiar and unfamiliar problems in a range of numerical, algebraic and graphical contexts and in open-ended and closed form;

(c) Using standard notations for decimals, fractions, percentages, ratio and indices;

(d) Activities that show how algebra, as an extension of number using symbols, gives precise form to mathematical relationships and calculations;

(e) Activities in which they progress from using definitions and short chains of reasoning to understanding and formulating proofs in algebra and geometry;

(f) A sequence of practical activities that address increasingly demanding statistical problems in which they draw inferences from data and consider the uses of statistics in society;

Activities:

AUGUST	●Mental Maths ● Maths activity calendar
SEPTEMBER	● Puzzle ● Maths activity calendar
OCTOBER	● Maths Fun Activity ● Maths activity calendar
NOVEMBER	●Maths Quiz/ MCQs ● Maths activity calendar
DECEMBER	●MID TERM EXAMS
JANUARY	● Mental Maths ● Maths activity calendar
FEBRUARY	● Puzzle ● Maths activity calendar
MARCH	● Maths Fun Activity ● Maths activity calendar
APRIL	●Maths Quiz/ MCQS ● Maths activity calendar
MAY	●FINAL TERM EXAMS

Assessment and Home Work
Students will be assessed by taking test of each and every chapter. Home Work shall be given on a daily basis.

Mathematical Notations:

The list which follows summaries the notation used

Mathematical Symbols

=	is equal to
≠	is not equal to
≡	is identical to or is congruent to
≈	is approximately equal to

Operations

$a + b$	a plus b
$a - b$	a minus b
$a \times b$, ab, $a.b$	a multiplied by b
$a \div b$, $\frac{a}{b}$, a/b	a divided by b

Resource List

New Mathematics Syllabus D work book 1;
Bostock, L, S Chandler, A Shepherd, E Smith ST(P) Mathematics Books 1A to 5A
(Stanley Thornes)
Book 1A
Book 1B
Buckwell, Geoff Mastering Mathematics (Macmillan Education Ltd) 0 333 62049 6
Collins, J, Warren, T and C J Cox Steps in Understanding Mathematics (John Murray)
Book 1
Book 2
National Mathematics Project (NMP) Mathematics for Secondary Schools Red Track Books 1 to 5 (Longman Singapore Publishers Pte Ltd)
Book 1
Book 2

Cox, C J and D Bell Understanding Mathematics Books 1–5 (John Murray)
Book 1

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