

The City School



Syllabus Breakup for Academic Year 2014-15

Class 9

Mathematics

Note: The total number of **active teaching weeks** for AY 2014-15 is **30** (excluding recap, revision and examination weeks):

- **First term: 14 weeks + 1 week for the recap of previous topics**
- **Second term: 16 weeks**
- It is highly recommended that teachers consult the **CIE Mathematics Syllabus (4024)** on regular basis to avoid any problem in implementing the curriculum

Following objectives have been prepared carefully in order to facilitate the subject teachers. It is highly recommended to read through these objectives and find out the connections. Any query is welcome.

First Term Syllabus Breakup August – December 2014					
Month	Week	Number of Lessons	Topic	Objectives	Resources
August	1	4	Recap of Previous Topics <ul style="list-style-type: none">• Four Operations of fractions and decimals• Number Sequence• Arithmetical problems• Algebraic manipulation• More on inverse proportion	<ul style="list-style-type: none">• Solve expressions and equations using BODMAS rule;• Continue a given sequence and find the nth term;• Profit, loss and discount issues;• Basic Algebra; Identify two quantities as inversely; proportional to each other by reading a word statement.	Use workbooks of syllabus D New Syllabus Mathematics to plan worksheets

August	2	5	Direct and Inverse Variation <ul style="list-style-type: none"> • Direct Variation • Inverse Variation 	<ul style="list-style-type: none"> • Write an equation connecting the two quantities involved in direct variation • Write an equation/law/relation connecting two inversely proportional quantities; • Connect two inversely proportional quantities in an equation with the help of a proportionality constant; • Calculate value of proportional constant. 	Book 2 Chapter 2 Ex. 2b, 2c Ex. 2e, 2f,
September	3 to 5	15	Algebraic Manipulation and Formulae <ul style="list-style-type: none"> • Addition and subtraction of algebraic fractions • Changing the subject of a formula • Finding an unknown in a formula • Fractional Indices 	<ul style="list-style-type: none"> • Add and subtract algebraic fractions; • Change the subject of a formula • Find the value of an unknown quantity in a formula; • Simplify fractional indices. 	Book 2 Chapter 4 Ex. 4f, Ex. 4j, 4k Book 3 Chapter 2 Ex. 2e, 2f
September	6	5	Linear Inequalities <ul style="list-style-type: none"> • Linear Inequalities in one variable 	<ul style="list-style-type: none"> • Solve linear Inequalities in one variable 	Book 3 Chapter 3 Ex. 3d,
September & October	7	5	Mensuration - Arc Length, Sector Area	<ul style="list-style-type: none"> • Revise area and circumference of a circle; • Calculate area and perimeter of shaded regions in the given diagrams. 	Book 3 Chapter 12 Ex.12a
October	8	5	<ul style="list-style-type: none"> • Length of Arc and Area of sector 	<ul style="list-style-type: none"> • Calculate arc length; • Compute area of sector; • Solve word statements by drawing sector to compute its radius, arc length, angle, area and perimeter 	Book 3 Chapter 12 Ex.12b
October	9	5	Pythagoras' Theorem <ul style="list-style-type: none"> • Pythagoras Theorem 	<ul style="list-style-type: none"> • Find the length of a side of a right-angled triangle using Pythagoras theorem 	Book 2 Chapter 6 Ex. 6a
October	10	5	Trigonometric Ratios <ul style="list-style-type: none"> • Pythagoras Theorem • Trigonometrical ratios 	<ul style="list-style-type: none"> • Solve problems involving Pythagoras theorem; • Understand the relationship between sides and angles in a right-angled triangle 	Book 2 Chapter 6 Ex. 6b Book 3 Chapter 10 Ex.10a

October & November	11	5	<ul style="list-style-type: none"> • Solving Right Angled Triangle • Finding Value of an Angle • Finding Value of Angles and Sides 	<ul style="list-style-type: none"> • Evaluate expressions consisting of four operations among trigonometrical ratios to four significant figures. • Find the length of a side and an angle of a right-angled triangle using the trigonometrical ratios for acute angle; • Solve the triangles to find their sides and angles. 	Book 3 Chapter 10 Ex.10b,10c, Book 3 Chapter 10 Ex.10d, 10e
November	12	5	<ul style="list-style-type: none"> • Practical application of trigonometry 	<ul style="list-style-type: none"> • Understand the concept of angle of elevation and depression; • Solve word problems involving trigonometry. 	Book 3 Chapter 10 Ex.10f, 10g
November	13	5	<p>Volume and Surface Area</p> <ul style="list-style-type: none"> • Volume and total surface area of Pyramid 	<ul style="list-style-type: none"> • Calculate volume of pyramids • Calculate surface area of pyramids; • Find slant height of pyramids by using Pythagoras' theorem; • Use volume of pyramid to find its height or sides of its base; • Find volume and surface area of composite solid; 	Book 2 Chapter 2 Ex. 7a
November	14	5	<ul style="list-style-type: none"> • Volume and Surface area of cone 	<ul style="list-style-type: none"> • Calculate volume of circular cone; • Find surface area of right circular cone; • Compute curved surface area of cone; • Workout slant height of cone 	Book 2 Chapter 2 Ex. 7b
November	15	5	<ul style="list-style-type: none"> • Volume and Surface area of Sphere 	<ul style="list-style-type: none"> • Compute volume and surface area of sphere and hemisphere; • Find volume and surface area of sphere and hemisphere. 	Book 2 Chapter 7 Ex.7c
December	16	5	Revision		
Mid-Year Examination					

Mathematics
Second Term Syllabus Breakup
January - May 2015

Month	Week	Number of Lessons	Topic	Objectives	Resources
January	1 – 2	10	Numeration <ul style="list-style-type: none"> • Percentages • Currency conversion • Taxation 	<ul style="list-style-type: none"> • Solve problems involving percentages; • Convert one currency to another; • Solve problems involving taxation. 	Book 3 Chapter6 Ex. 6b Book 3 Chapter6 Ex. 6f, 6g
January	3	5	<ul style="list-style-type: none"> • Personal and Household Finance 	<ul style="list-style-type: none"> • Solve problems based on personal and household finance. 	Book 3 Chapter6 Ex. 6h
January & February	4 - 5	10	Coordinate Geometry <ul style="list-style-type: none"> • Length of segment • Mid-point 	<ul style="list-style-type: none"> • Calculate length of segment; • Calculate Mid-point of a line. 	Book 3 Chapter 4 Ex. 4a Prepare worksheets to calculate mid-point of a line
February	6 – 7	10	<ul style="list-style-type: none"> • Gradient of a straight line • Equation of a straight line • Plane symmetry and rotational symmetry 	<ul style="list-style-type: none"> • Calculate gradient of a line. • Find the equation of a straight line. • Draw/state the number of planes of symmetry; • Draw/state the number of axes of rotational symmetry. 	Book 3 Chapter 4 Ex. 4b, 4c Book 1 Addendum Ex. 1 e
February	8	5	Measurement and Geometry <ul style="list-style-type: none"> • Congruent and Similar triangles 	<ul style="list-style-type: none"> • Test for congruency between two triangles; • Solve problems involving congruent triangles; • Solve problems involving ratio of areas of two triangles having a common side. • 	Book 3 Chapter 8 Ex. 8a, 8b
March	9	5	<ul style="list-style-type: none"> • Similar triangles • Similarity tests 	<ul style="list-style-type: none"> • Test for similarity between two triangles; • Solve problems involving similar triangles. 	Book 3 Chapter 8 Ex. 8d, 8e

March	10	5	<ul style="list-style-type: none"> Area and Volume of similar figures and solids 	<ul style="list-style-type: none"> Solve problems using the relationship between areas of similar figures; Solve problems using relationship between volumes of similar solids. 	Book 3 Chapter 9 Ex.9a, 9b
March	11	10	Handling Data <ul style="list-style-type: none"> Statistics 	<ul style="list-style-type: none"> Calculate averages of grouped frequency distribution. Interpret and analyze cumulative frequency curve; Estimate the median, quartiles, percentiles from the cumulative frequency curve; Estimate the inter-quartile range. 	Book 2 Chapter 11 Ex. 11c Book 4 Chapter 5 Ex. 5a, 5b
March & April	12	15	<ul style="list-style-type: none"> Histogram, Frequency polygon 	<ul style="list-style-type: none"> Construct a cumulative frequency table; Construct a histogram representing a grouped frequency table; Construct a frequency polygon representing a grouped frequency table with unequal class interval. 	Book 3 Addendum Ex. III a, III b
April	13	5	Solutions to Quadratic Equations <ul style="list-style-type: none"> Factorisation, Completing the square method 	<ul style="list-style-type: none"> solve quadratic equations by factorization; solve quadratic equations by completing the square method 	Book 3 Chapter 1 Ex. 1 a, Ex. 1 b, Ex. 1 c
April	14	5	<ul style="list-style-type: none"> Solutions of Quadratic Equations 	<ul style="list-style-type: none"> solve quadratic equations by using formula 	Book 3 Chapter 1 Ex. 1 d, Ex. 1 e
April & May	15-16	10	<ul style="list-style-type: none"> Problems involving Quadratic equations 	<ul style="list-style-type: none"> solve problems that can be reduced to quadratic equations. 	Book 3 Chapter 1 Ex. 1 f
May			Revision		
End of Year Examination					

