



2026/2027 SYLLABUS DISTRIBUTION

SUBJECT (COMPUTER SCIENCE 9618)

GRADE (11)

Term 1

- Chapter 1: Information Representation, which includes
 - 1.1: Data Representation
 - 1.2 Multimedia
 - 1.3 Compression
- Chapter 6. Data Security
- Chapter 2: Networks, which includes
 - 2.1 Networks including the Internet
- Chapter 8 Database, which includes
 - 8.1 Database Concepts
 - 8.2 DBMS
 - 8.3 DDL & DBMS
- Chapter 7: Ethics & Ownership
- Chapter 3: Computer and their components, includes
 - 3.1 Computers and their components
 - 3.2 Logic Gates



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SUBJECT: BIOLOGY (9700)

GRADE: 11

Term 1

1. Cell structure
2. Biological molecules
3. Enzymes
4. Cell membranes and transport
5. The mitotic cell cycle



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SUBJECT: Chemistry

GRADE: 11 CIE

Term 1

Topic 1: Atomic Structure

Topic 2: Atoms, molecules and stoichiometry

Topic 3: Chemical Bonding

Topic 4: States of matter

Topic 5: Chemical energetics

Topic 6: Electrochemistry

Topic 7: Equilibria

Topic 8: Reaction Kinetics

Topic 9: Periodic Table

Topic 10: Group 2

Topic 11: Group 17

Topic 12: Nitrogen and Sulfur



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SUBJECT: PHYSICS GRADE: 11

Term 1

Topics	Chapters
T1: Physical quantities and units	Physical quantities and units
T2: Kinematics	Chapter 1: Kinematics and Physical quantities Chapter 2: Accelerated motion - Chapter 3: Dynamics
T3: Dynamics	Chapter 3: Dynamics Chapter 6: Momentum
T4: Forces, density and pressure	Chapter 4: Forces
T5: Work, energy and power	Chapter 5: Work, energy and power
T6: Deformation of solids	Chapter 7: Matter and materials
T7: Waves	Chapter 12: Waves
T8: Superposition	Chapter 13: Superposition of waves Chapter 14: Stationary waves
T9: Electricity	Chapter 8: Electric current Chapter 9: Kirchhoff's laws Chapter 10: Resistance and resistivity
T10: D.C. Circuits	Chapter 11: Practical circuits
P3: Manipulation, measurement and observation	Practical paper 3

SYLLABUS DISTRIBUTION
Term 1 2026-27
MATHEMATICS, PURE MATHEMATICS1- GRADE 11



	Topics (Chapters)	Learning Objectives
1.1	Quadratics (Chapter #1)	Carry out the process of completing the square for a quadratic polynomial $ax^2 + bx + c$ and use a completed square form, e.g. to locate the vertex of the graph of $y = ax^2 + bx + c$ or to sketch the graph.
		Find the discriminant of a quadratic polynomial $ax^2 + bx + c$ and use the discriminant, e.g. to determine the number of real roots of the equation $ax^2 + bx + c = 0$; knowledge of the term 'repeated root' is included.
		Solve quadratic equations, and quadratic inequalities, in one unknown, by factorising, completing the square and using the formula.
		Solve by substitution a pair of simultaneous equations of which one is linear and one is quadratic e.g. $x + y + 1 = 0$ and $x^2 + y^2 = 25$, $2x + 3y = 7$ and $3x^2 = 4 + 4xy$.
		Recognise and solve equations in x which are quadratic in some function of x , e.g. $x^4 - 5x^2 + 4 = 0$, $6x + \sqrt{x} - 1 = 0$, $\tan^2 x = 1 + \tan x$.
1.2	Functions (Chapter #2)	Understand the terms function, domain, range, one-one function, inverse function and composition of functions
		Identify the range of a given function in simple cases, and find the composition of two given functions, e.g. range of $f: x \mapsto \frac{1}{x}$ for $x \geq 1$ and range of $g: x \mapsto x^2 + 1$ for $x \in \mathbb{R}$; including the condition that a composite function gf can only be formed when the range of f is within the domain of g
		Determine whether or not a given function is one-one, and find the inverse of a one-one function in simple cases, e.g. finding the inverse of $h: x \mapsto (2x + 3)^2 - 4$ for $x < -\frac{3}{2}$
		Illustrate in graphical terms the relation between a one-one function and its inverse; sketches should include an indication of the mirror line $y = x$
		Understand and use the transformations of the graph of $y = f(x)$ given by $y = f(x) + a$, $y = f(x + a)$, $y = af(x)$, $y = f(ax)$ and simple combinations of these; including use of the terms 'translation', 'reflection' and 'stretch' in describing transformations; questions may involve algebraic or trigonometric functions, or other graphs with given features
1.3	Coordinate geometry (Chapter #3)	Find the equation of a straight line given sufficient information e.g. given two points, or one point and the gradient
		Interpret and use any of the forms $y = mx + c$, $y - y_1 = m(x - x_1)$, $ax + by + c = 0$ in solving problems; including calculations of distances, gradients, midpoints, points of intersection and use of the relationship between the gradients of parallel and perpendicular lines
		Understand that the equation $(x - a)^2 + (y - b)^2 = r^2$ represents the circle with centre (a, b) and radius r ; including use of the expanded form $x^2 + y^2 + 2gx + 2fy + c = 0$

		Use algebraic methods to solve problems involving lines and circles; including use of elementary geometrical properties of circles, e.g. tangent perpendicular to radius, angle in a semicircle, symmetry; implicit differentiation is not included
		Understand the relationship between a graph and its associated algebraic equation, and use the relationship between points of intersection of graphs and solutions of equations, e.g. to determine the set of values of k for which the line $y = x + k$ intersects, touches or does not meet a quadratic curve
1.4	Circular measure (Chapter #4)	Understand the definition of a radian, and use the relationship between radians and degrees
		Use the formulae $s = r\theta$ and $A = \frac{1}{2}r^2\theta$ in solving problems concerning the arc length and sector area of a circle; including calculation of lengths and angles in triangles and areas of triangles
1.5	Trigonometry (Chapter #5)	Sketch and use graphs of the sine, cosine and tangent functions (for angles of any size, and using either degrees or radians); including e.g. $y = 3\sin x$, $y = 1 - \cos 2x$, $y = \tan(x + \frac{1}{4}\pi)$
		Use the exact values of the sine, cosine and tangent of 30° , 45° , 60° , and related angles, e.g. $\cos 150^\circ = -\frac{1}{2}\sqrt{3}$, $\sin \frac{3}{4}\pi = \frac{1}{\sqrt{2}}$
		Use the notations $\sin^{-1}x$, $\cos^{-1}x$, $\tan^{-1}x$ to denote the principal values of the inverse trigonometric relations; no specialised knowledge of these functions is required, but understanding of them as examples of inverse functions is expected
		Use the identities $\frac{\sin \theta}{\cos \theta} \equiv \tan \theta$ and $\sin^2 \theta + \cos^2 \theta \equiv 1$, e.g. in proving identities, simplifying expressions and solving equations
		Find all the solutions of simple trigonometrical equations lying in a specified interval (general forms of solution are not included), e.g. solve $3 \sin 2x + 1 = 0$ for $-\pi < x < \pi$, $3 \sin^2 \theta - 5 \cos \theta - 1 = 0$ for $0^\circ \leq \theta \leq 360^\circ$
1.6	Series (Chapter #6)	use the expansion of $(a + b)^n$, where n is a positive integer; including the notations $\binom{n}{r}$ and $n!$; knowledge of the greatest term and properties of the coefficients are not required
		Recognise arithmetic and geometric progressions
		use the formulae for the n th term and for the sum of the first n terms to solve problems involving arithmetic or geometric progressions; including knowledge that numbers a, b, c are 'in arithmetic progression' if $2b = a + c$ (or equivalent) and are 'in geometric progression' if $b^2 = ac$ (or equivalent); questions may involve more than one progression
		Use the condition for the convergence of a geometric progression, and the formula for the sum to infinity of a convergent geometric progression

1.7	Differentiation (Chapter #7)	understand the gradient of a curve at a point as the limit of the gradients of a suitable sequence of chords, and use the notations $f'(x)$, $f''(x)$, $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ for first and second derivatives; only an informal understanding of the idea of a limit is expected; e.g. includes consideration of the gradient of the chord joining the points with x coordinates 2 and $(2 + h)$ on the curve $y = x^3$; formal use of the general method of differentiation from first principles is not required.
		use the derivative of x^n (for any rational n), together with constant multiples, sums and differences of functions, and of composite functions using the chain rule, e.g. find $\frac{dy}{dx}$ given $y = \sqrt{2x^3 + 5}$
		apply differentiation to gradients, tangents and normals, increasing and decreasing functions and rates of change; including connected rates of change, e.g. given the rate of increase of the radius of a circle, find the rate of increase of the area for a specific value of one of the variables.
		locate stationary points and determine their nature, and use information about stationary points in sketching graphs; including use of the second derivative for identifying maxima and minima; alternatives may be used in questions where no method is specified; knowledge of points of inflexion is not included.