	Level		
	A	B1	B2
1.1 **Arithmetic**	1	2	2
Arithmetical terms and signs, methods of multiplication and division, fractions and decimals, factors and multiples, weights, measures and conversion factors, ratio and proportion, averages and percentages, areas and volumes, squares, cubes, square and cube roots.			
1.2 **Algebra**			
(a)	1	2	2
Evaluating simple algebraic expressions, addition, subtraction, multiplication and division, use of brackets, simple algebraic fractions;			
(b)	—	1	1
Linear equations and their solutions;			
Indices and powers, negative and fractional indices;			
Binary and other applicable numbering systems;			
Simultaneous equations and second degree equations with one unknown;			
logarithms;			
1.3 **Geometry**			
(a)	—	1	1
Simple geometrical constructions;			
(b)	2	2	2
Graphical representation; nature and uses of graphs, graphs of equations/functions;			
(c)	—	2	2
Simple trigonometry; trigonometrical relationships, use of tables and rectangular and polar coordinates.			

	Level		
	A	B1	B2
Nature and properties of solid, fluid and gas; Pressure and buoyancy in liquids (barometers).			
2.2.2 *Kinetics*	1	2	1
Linear movement: uniform motion in a straight line, motion under constant acceleration (motion under gravity); Rotational movement: uniform circular motion (centri-fugal/centripetal forces); Periodic motion: pendular movement; Simple theory of vibration, harmonics and resonance; Velocity ratio, mechanical advantage and efficiency.			
2.2.3 *Dynamics*			
(a)	1	2	1
Mass Force, inertia, work, power, energy (potential, kinetic and total energy), heat, efficiency;			
(b)	1	2	2
Momentum, conservation of momentum; Impulse; Gyroscopic principles; Friction: nature and effects, coefficient of friction (rolling resistance).			
2.2.4 *Fluid dynamics*			
(a)	2	2	2
Specific gravity and density;			
(b)	1	2	1
Viscosity, fluid resistance, effects of streamlining; effects of compressibility on fluids; Static, dynamic and total pressure: Bernoulli's Theorem, venturi.			
2.3 **Thermodynamics**			
(a)	2	2	2
Temperature: thermometers and temperature scales: Celsius, Fahrenheit and Kelvin; Heat definition.			
(b)	—	2	2
Heat capacity, specific heat; Heat transfer: convection, radiation and conduction; Volumetric expansion; First and second law of thermodynamics;			

	Level		
	A	B1	B2
Gases: ideal gases laws; specific heat at constant volume and constant pressure, work done by expanding gas; Isothermal, adiabatic expansion and compression, engine cycles, constant volume and constant pressure, refrigerators and heat pumps; Latent heats of fusion and evaporation, thermal energy, heat of combustion.			
2.4 **Optics (Light)**	—	2	2
Nature of light; speed of light; Laws of reflection and refraction: reflection at plane surfaces, reflection by spherical mirrors, refraction, lenses; Fibre optics.			
2.5 **Wave Motion and Sound**	—	2	2
Wave motion: mechanical waves, sinusoidal wave motion, interference phenomena, standing waves; Sound: speed of sound, production of sound, intensity, pitch and quality, Doppler effect.			