

	1. ENERGY	Rate topics 1 to 5
a.	Energy stores	
b.	Changes in energy	
c.	Kinetic energy	
d.	Gravitational & elastic potential energy	
e.	Specific heat capacity	
f.	Power & work done	
g.	Conduction	
h.	Unwanted energy transfers	
i.	Efficiency	
j.	Energy resources (renewable & non-renewable)	
k.	Energy resources (environmental impact)	

	4. ATOMIC STRUCTURE	Rate topics 1 to 5
a.	Structure of an atom	
b.	Mass number, atomic number & isotopes	
c.	Development of atomic model	
d.	Radioactive decay	
e.	Properties of nuclear radiation	
f.	Nuclear equations	
g.	Half life	
h.	Contamination & irradiation	
i.	Background radiation	
j.	Half-life & hazards	
k.	Uses of nuclear radiation	
l.	Nuclear fission	
m.	Nuclear fusion	

	2. ELECTRICITY	Rate topics 1 to 5
a.	Circuit diagram symbols	
b.	Charge & current	
c.	Current, resistance & potential difference	
d.	I-V characteristic curves	
e.	LDR & thermistor	
f.	Series & parallel circuits	
g.	D.C. & A.C.	
h.	Mains electricity	
i.	Power in circuits	
j.	Energy transfers in electrical appliances	
k.	The national grid	
l.	Role of transformers	
m.	Static electricity	
n.	Electric fields	

	5. FORCES	Rate topics 1 to 5
a.	Scalars & vectors	
b.	Contact & non-contact forces	
c.	Gravity & weight	
d.	Resultant forces	
e.	Work done	
f.	Springs & elasticity	
g.	Moments	
h.	Pressure in a fluid	
i.	Upthrust	
j.	Atmospheric pressure	
k.	Distance & displacement	
l.	Speed & velocity	
m.	Distance-time graphs	
n.	Acceleration	
o.	Velocity-time graphs	
p.	Terminal velocity	
q.	Newton's first law	
r.	Newton's second law	
s.	Newton's third law	
t.	Stopping distance & reaction time	
u.	Factors affecting braking distance	
v.	Car safety features	

	3. PARTICLE MODEL OF MATTER	Rate topics 1 to 5
a.	Density	
b.	Changes of state	
c.	Internal energy	
d.	Specific heat capacity (<i>again</i>)	
e.	Specific latent heat	
f.	Particle motion in gases	
g.	Pressure & volume of gases	

6. WAVESRate topics 1 to 5

a.	Transverse & longitudinal waves	
b.	Properties of waves	
c.	Reflection	
d.	Refraction	
e.	Ray diagrams (reflection & refraction)	
f.	Electromagnetic (EM) spectrum	
g.	Risks of EM radiation	
h.	Uses of EM waves	
i.	Ray diagrams (lenses)	
j.	Visible light	
k.	Black body radiation	

RP 8: "Measure the frequency, wavelength and speed of waves in a ripple tank, and waves in a solid."

RP 9: "Investigate the reflection of light off different surfaces, and the refraction of light by different substances."

RP 10: "Investigate how the amount of infrared radiation absorbed and radiated changes depending on the type of surface."

ASSESSMENTSDurationMarksTopics

Paper 1 02/06/2026	1 hour 45 minutes	100 marks	Topics 1 – 4
Paper 2 15/06/2026	1 hour 45 minutes	100 marks	Topics 5 - 8

7. MAGNETISM & ELECTROMAGNETISMRate topics 1 to 5

a.	Bar magnets	
b.	Magnetic fields	
c.	Electromagnets	
d.	The motor effect	
e.	Alternators & dynamos	

8. SPACE PHYSICSRate topics 1 to 5

a.	Our solar system	
b.	The life cycle of a star	
c.	Natural & artificial satellites	
d.	Red shift	
e.	The big bang theory	

PRACTICALSRate topics 1 to 5

RP 1: "An investigation to determine the specific heat capacity of one or more materials."	
RP 2: "Investigate the effectiveness of different materials as thermal insulators, and factors that affect the thermal insulation properties of a material."	
RP 3a: "Investigate how the length of a wire at constant temperature affects the resistance of electrical circuits."	
RP 3b: "Investigate how combinations of resistors in series and parallel affect the resistance of electrical circuits."	
RP 4: "Use circuit diagrams to investigate the I-V characteristics of a filament lamp, a diode and a resistor at constant temperature."	
RP 5: "Determine the densities of regular and irregular solid objects and liquids."	
RP 6: "Investigate the relationship between force and extension of a spring."	
RP 7: "Investigate separately how varying the force and mass of an object affect its acceleration."	