SUMMARY OF KEY QUANTITIES, SYMBOLS AND UNITS

The following list illustrates the symbols and units that will be used in question papers.

Quantity	***Usual symbols***	***Usual unit***
Base Quantities		
mass	m	kg
length	l	m
time	t	s
electric current	I	A
thermodynamic temperature	T	K
amount of substance	n	mol
Other Quantities		
distance	d	m
displacement	s, x	m
area	A	m^2
volume	V, v	m^3
density	ρ	$kg\,m^{-3}$
speed	u, v, w, c	$m\,s^{-1}$
velocity	u, v, w, c	$m\,s^{-1}$
acceleration	a	$m\,s^{-2}$
acceleration of free fall	g	$m\,s^{-2}$
force	F	N
weight	W	N
momentum	p	N s
work	w, W	J
energy	E, U, W	J
potential energy	E_p	J
kinetic energy	E_k	J
power	P	W
pressure	p	Pa
torque	T	N m
gravitational constant	G	$N\,kg^{-2}\,m^2$
gravitational field strength	g	$N\,kg^{-1}$
angle	θ	°, rad
angular displacement	θ	°, rad
angular speed	ω	$rad\,s^{-1}$
angular velocity	ω	$rad\,s^{-1}$
period	T	s
frequency	f	Hz
angular frequency	ω	$rad\,s^{-1}$
speed of electromagnetic waves	c	$m\,s^{-1}$
electric charge	Q	C
elementary charge	e	C
electric potential	V	V
electric potential difference	V	V
electromotive force	E	V
resistance	R	Ω
resistivity	ρ	Ω m
electric field strength	E	$N\,C^{-1}$, $V\,m^{-1}$
magnetic flux	Φ	Wb
magnetic flux density	B	T
force constant	k	$N\,m^{-1}$
Celsius temperature	θ	°C
Avogadro constant	N_A	mol^{-1}
number	N, n, m	
activity of radioactive source	A	Bq
half-life	$t_{1/2}$	s

Quantity	***Usual symbols***	***Usual unit***
relative atomic mass	A_r	
relative molecular mass	M_r	
atomic mass	m_a	kg, u
electron mass	m_e	kg, u
neutron mass	m_n	kg, u
proton mass	m_p	kg, u
molar mass	M	kg
proton number	Z	
nucleon number	A	
neutron number	N	

DATA AND FORMULAE

Data

speed of light in free space	c	=	$3.00 \times 10^{8}\,\text{m s}^{-1}$
elementary charge	e	=	$1.60 \times 10^{-19}\,\text{C}$
unified atomic mass constant	u	=	$1.66 \times 10^{-27}\,\text{kg}$
rest mass of electron	m_e	=	$9.11 \times 10^{-31}\,\text{kg}$
rest mass of proton	m_p	=	$1.67 \times 10^{-27}\,\text{kg}$
the Avogadro constant	N_A	=	$6.02 \times 10^{23}\,\text{mol}^{-1}$
gravitational constant	G	=	$6.67 \times 10^{-11}\,\text{N m}^2\,\text{kg}^{-2}$
acceleration of free fall	g	=	$9.81\,\text{m s}^{-2}$

Formulae

uniformly accelerated motion	s	=	$ut + \frac{1}{2}at^2$
	v^2	=	$u^2 + 2as$
resistors in series	R	=	$R_1 + R_2 + ...$
resistors in parallel	$1/R$	=	$1/R_1 + 1/R_2 + ...$